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**An Investigation of the Cross-Cultural Dimensions of Web 2.0 Acceptance
and Use for Self-Directed Learning: the Case of Moroccan and American
University Students**

**A dissertation submitted in partial fulfillment of the requirements
for the doctorate degree in English studies**

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Dedication

To my adorable family and inspiring supervisor, I dedicate this work.

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Abstract

With the increasing demands of today's globalized and technologically driven higher education, promoting students' self-directed learning readiness (SDL) has become a key element in educational discourse. This study examined, from a psycho-cultural comparative perspective, Moroccan and American university students' SDL readiness levels and web 2.0 acceptance profiles and use patterns. Based on a sequential triangulation design, the data were collected from two convenience samples of $n=229$ of Moroccan and $n=228$ of American undergraduate and graduate students from Sidi Mohamed Ben Abdallah University and The State University of New York at Buffalo. The findings have uncovered some interesting differences in SDL levels and web 2.0 acceptance profiles between the groups. In relation to the former, it was revealed that, compared to their American counterparts, Moroccan students lack some of the attributes associated with the domains of self-control and learning management, which negatively impacts their ability to self-direct their own learning. With regard to web 2.0 acceptance and use, the results have not only provided further validation for the Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003), but also shown that while social influence and facilitating conditions were the most important predictors of web 2.0 acceptance for Moroccans, American students' adoption of this technology is primarily determined by performance expectancy and behavioral intention. In relation to cultural values, the findings added empirical support for Hofstede's (1980, 2011) multi-dimensional matrix which described Moroccans and Americans as having divergent mindsets especially across his dimensions of individualism/collectivism, power distance and uncertainty avoidance. These differences had various implications on both SDL readiness and web technology acceptance, especially the individualism/collectivism dimension which was found to be a strong predictor of self-directed learning readiness and a moderator of the relationship between some of the UTAUT's constructs.

مقتضب

أضحى استعداد الطالب الجامعي للتعلم الذاتي عنصرا جوهريا في الخطاب التربوي الراهن، وخاصة في ظل تزايد التحديات المرتبطة بالعولمة ورقمنة التعليم العالي. في هذا الاطار، تبحث هذه الدراسة، من خلال مقارنة نفسية-ثقافية مقارنة، درجة استعداد كل من الطالب المغربي و الأمريكي للتعلم الذاتي، ومستويات قبولهما للويب 2.0، وكذا أنماط استخدام كل واحد منهما له. وتقوم الدراسة على منهجية علمية مزدوجة، تجمع في آن واحد بين طرائق البحث الكمية و الكيفية. وقد تم تجميع المعطيات من خلال دراسة عينتين من الطلبة؛ تتكون الأولى من 229 طالب مغربي من جامعة سيدي محمد بن عبد الله، فاس، فيما تتضمن الثانية 228 طالبا أمريكيا من جامعة ولاية نيويورك، بافلو. وقد كشفت النتائج عن بعض الاختلافات المثيرة للاهتمام في مستويات الاستعداد للتعلم الذاتي و عوامل قبول الويب 2.0 بين المجموعتين المبحوثتين. بالنسبة لمستويات الاستعداد للتعلم الذاتي، أظهرت الدراسة أن الطلاب المغاربة يفتقرون إلى بعض من السمات والخصائص المرتبطة بمجالات ضبط النفس وإدارة التعلم، بالمقارنة مع نظرائهم الأميركيين، الأمر الذي يؤثر سلبا في قدرتهم على إدارة تعلمهم بشكل ذاتي. أما بالنسبة لمستويات تبني الويب 2.0، فإن النتائج، بالإضافة إلى مساهمتها في إضفاء مزيد من التحقق الأمبريقي على النظرية الموحدة لقبول واستخدام التكنولوجيا (فانكاتش وزملائه، 2003)، بينت بشكل واضح أن التأثير المجتمعي والتسهيلات المتاحة يعتبران عاملين محددين لدرجة قبول الطلبة المغاربة للويب 2.0، في حين أن قبول الطلاب الأميركيين لهذه التكنولوجيا يبقى رهينا، في المقام الأول، بالأداء المتوقع و السلوك القسدي. و قد شكلت هذه النتائج، في مجملها، دعما أمبريقيا لصناعة "هوفستيد" المتعددة الأبعاد (1980-2012)، حيث أظهرت وجود اختلافات جوهرية في الثقافة النفسية بين الطلاب المغاربة والأميركيين وخاصة في الأبعاد المتعلقة بالفردية/الجماعي، التفاوت في السلطة، و تجنب الغموض. وقد أظهرت النتائج أيضا أن لهذه الاختلافات أثارا متعددة على مستويات الاستعداد للتعلم الذاتي و تبني الويب 2.0، وخاصة البعد الفردي/الجماعي الذي تبين أنه، من جهة أولى، مؤشر قوي في تحديد درجة الاستعداد لتدبير التعلم الذاتي، و من جهة ثانية، معدل مؤثر في بعض مكونات النظرية الموحدة لقبول واستخدام التكنولوجيا.

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List of abbreviations and acronyms

- BI: Behavioral Intention
- DL: Desire for Learning
- EE: Effort Expectancy
- FC: Facilitating Conditions
- FM: Femininity/Masculinity
- I/C: Individualism/Collectivism
- LTO: Long Term Orientation
- MM: Motivational Model
- MPCU: Model of PC Utilization
- PD: Power Distance
- PE: Performance Expectancy
- PRO: Personal Responsibility Orientation
- SC: Social Influence
- SCT: Social Cognitive Theory
- SDL: Self-Directed Learning
- SDLRS: Self-Directed Learning Readiness Scale
- SI: Social Influence
- SM: Self-Management
- TAM: Technology Acceptance Model
- TPB: Theory of Planned Behavior
- TRA: Theory of Reasoned Action
- UA: Uncertainty Avoidance
- UTAUT: Unified Theory of Acceptance and Use of Technology

Introduction

1. Rationale

There is little doubt that the technologically driven world within which modern higher education operates is becoming increasingly complex. The emergence and subsequent proliferation of web 2.0 technologies in educational contexts has resulted in a significant shift towards web-based learning becoming the main and most preferable mode of learning for many university students all over the world. Thus, recent reports indicate that web 2.0 applications, at the top of which are social networks, media sharing tools, wikis and blogs have gained explosive popularity and unprecedented uptake among university students globally. These new technologies come to be viewed as a giant opportunity to break up with the traditional top down conceptions of learning and move towards more engaging instructional paradigms that place the learners at the center of the learning process. Now more than ever, there seems to be a general consensus among scholars and educators that, if appropriately exploited, these applications can provide students with new avenues to a multiplicity of active, motivating and participatory learning opportunities capable of not only transforming higher education into an asynchronous 24/7 mode, but also, and more importantly, enabling learners to become active and responsible lifelong learners.

This heralded shift towards web-based learning has fueled a serious debate in the educational sector about the need for reconsidering the traditional top down pedagogy prevailing in higher education in a way that is congruent with the new and active learning opportunities made available by Web 2.0 technologies. In fact, there is a unanimous consensus in the literature that an effective educational deployment of these technologies is primarily contingent on students' ability to self-direct their own learning. In fact, there have been strong convictions and ongoing assertions, since the late 1970s, that the future generations of learners' greatest learning need will be the development of their self-directed learning readiness. Today,

with the new and increasing trend of online and networked learning, this need has become more evident, hence making of learning self-directedness a prerequisite and an imperative requirement for students to adequately face the speed and scope of the explosive growth of information characterizing this technologically driven era. Thus, now more than ever, there is converging support in the education sector for the primacy of promoting learners' self-directed learning endeavors so that they can be active and responsible agents capable of exercising considerable authority over their learning.

2. Statement of the problem

The increasing globalization and internalization of education resulting from students' continuous reliance on Web 2.0 technologies has led some enthusiastic scholars to start voicing some interesting and legitimate concerns about the potential role students' psycho-cultural background can play in influencing their acceptance and use of networked learning. Thus, as pointed by Gobbin (1998), technological tools, such as web 2.0 applications, are basically cultural artifacts and hence their suitability to a given culture is detrimental in their acceptance and use. In fact, web-based learning is considered by some cross-cultural psychologists as being culturally biased and unresponsive to cultural particularities in that it favors the cultural context where it first appeared. For example, Hannon and D'Netto (2007) stated that "online education appears to reflect the English speaking world's view of its design" (p. 419). Similar beliefs were voiced by Speece (2012) who has recently described online learning material as being an 'undifferentiated commodity' that is oriented mainly towards individualistic, small power distance, more uncertainty accepting, and low-context cultures. Likewise, Edmundson (2007) raised some serious questions about the theoretical foundations of e-learning especially in this globalized environment where the majority of e-learning producers are Westerners while the largest growing consumers are Easterners. In line with these arguments, Schneckenberg (2009)

considers cultural factors as one of the most underlying challenges to the acceptance and use of online learning.

Similar concerns have been raised in relation to the potential role cultural values can play in shaping the growth of self-directed learning readiness among learners from different cultural backgrounds. Thus, many scholars have argued that culture has a major influence on learning preferences and highlighted the fact that while learners in Western cultures prefer autonomy and control of learning, in other Eastern cultures, learners have opposite preferences (Nah, 2000; Rogers, 2002; Swierczek & Bechter, 2010). In fact, the literature seems to widely accept the idea that self-directed learning is a reflection of Western cultural values at the top of which is the celebration of the independence and freedom of the self (Brookfield, 1993 and Henderson, 1996). From this perspective, Brookfield (1993) described self-directed learning as the “adult education’s interpretation of individualism” (p.231), and hence implicitly questioned the possibility of generalizing this method of learning to other collectivistic cultures where cooperation and interdependence are of paramount value. In line with Brookfield’s point, Nah (2000) straightforwardly stated that “not every culture promotes independence and autonomy as virtues” (p. 18). In short, and as Henderson (1996) puts it, “instructional design cannot, and does not, exist outside of considerations of culture” (p.85). This implies that for learning to be effective, it must be adapted to the cultural context in which it takes place (Swierczek & Bechter, 2010).

Despite all the above arguments, to date, very little empirical cross-cultural comparative research specifically addressing the impact cultural differences can have on students’ self-directed learning readiness and their technology acceptance and use can be found in the literature globally. The dearth of such research is even more profound when narrowing the scope to web 2.0 acceptance and use in the Moroccan higher education context. Nevertheless, cross-cultural comparisons are indispensably needed to unravel the ways in which cultural

factors can influence students' self-directed learning readiness and Web 2.0 acceptance and use, especially between two entirely dissimilar cultures like Morocco and the United States, where people in general and students, in particular, are believed to subscribe to two substantially different world views and mindsets.

3. Purpose of the study

Driven by the need to address the above concerns, this dissertation has three major interrelated aims. First, it empirically investigates the cross-cultural dimensions of self-directed learning in the Moroccan and American higher education contexts. More precisely, it examines, from a psycho-cultural perspective, the relationship between Hofstede's (1980) cultural dimensions, namely Individualism/Collectivism, Power Distance and Uncertainty Avoidance, and Moroccan and American university students' self-directed learning readiness levels as measured by Fisher, King and Tague's (2001) Self-Directed Learning Readiness Scale (SDLRS). Second, it comparatively explores the relationship between Moroccan and American university students' psycho-cultural values and their Web 2.0 acceptance level and use patterns as conceptualized by the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). More specifically, it attempts to find out if and how Moroccan university students', as compared to their American counterparts, make use of web 2.0 technologies for educational purposes in general, and to self-direct their learning in particular. The rationale behind this aim is to unravel any potential linkage between students' cultural values and their acceptance and use of web 2.0. Third, this study also aims at exploring the interplay between students' self-directed learning readiness and their Web 2.0 use patterns by examining the potential association between students' actual SDL readiness scores and the ways in which they make use of web 2.0 technologies.

4. Research Questions:

In more operational terms, the study attempts to answer the following questions:

1. What is the level of self-directed learning readiness among Moroccan and American university students? Is there any statistically significant difference between the two groups?
2. Is there any statistically significant correlation between Moroccan and American university students' self-directed learning readiness scores and their cultural values scores as measured by Hofstede's cultural dimensions of Individualism/Collectivism, Power Distance and Uncertainty Avoidance?
3. What is the level of web 2.0 acceptance among Moroccan and American university students? Is there any statistically significant difference between the two groups?
4. Does Venkatesh et al's. (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) hold in the Moroccan context?
5. Do Moroccan and American university students use web 2.0 applications for educational purposes? If so, how do they use them? Are there any differences and or similarities in use patterns between the two groups?
6. Do Moroccan and American university students use web 2.0 for self-directed learning? If they do, how do they use them and to what extent do they believe in their effectiveness?
7. Do Hofstede's cultural dimensions moderate the association between each of the web 2.0 acceptance determinant factors and behavioral intention to use web 2.0 for learning as predicted by the conceptual model?
8. Can Hofstede's model empirically explain any potential difference in students' self-directed learning readiness scores and their Web 2.0 acceptance and use patterns in the Moroccan and American higher education settings?

5. Hypotheses

This study is based on the following hypotheses.

1. Given the fact that individualism and collectivism are two important and distinct aspects of American and Moroccan cultures respectively, and since individualism is associated with independence and autonomy, whereas collectivism is associated with interdependence and harmony, it is assumed that American university students are more likely to show higher levels of self-directed learning readiness than their Moroccan counterparts.
2. Given the fact that the Moroccan culture is ranked among large power distance and high uncertainty avoidance cultures while the American culture is ranked among low power distance and low uncertainty avoiding cultures, it is also hypothesized that Moroccan students are more likely to prefer a more teacher directed approach to learning than their American counterparts.
3. It is hypothesized that there will be a correlation between Moroccan and American students' cultural values scores of Individualism/collectivism, power distance and uncertainty avoidance and their self-directed learning readiness scores.
4. It is also hypothesized that there will be a correlation between Moroccan and American students' cultural values scores of Individualism/collectivism, power distance and uncertainty avoidance and their acceptance and use of Web 2.0 technologies.
5. Given the above cultural differences between the Moroccan and American cultures, it is also hypothesized that Moroccan and American university students will have different perceptions of web 2.0 based learning and hence use it differently.

It is worth noting that these hypotheses are further broken down into more operationalized and statistically measurable hypotheses in the second chapter providing the conceptual framework of the study.

6 Significance of the study

Given the cross-cultural comparative nature of this study and the important issues it is empirically addressing, its findings will be significant in many ways. First, by comparatively examining self-directed learning readiness among Moroccan and American university students, the study can answer some important questions of whether and the extent to which Moroccan university students possess the necessary dispositions to engage in self-directed learning which has unarguably become an imperative requirement for success. The results will also provide the stockholders with a general picture of whether the Moroccan higher education system, as compared to its American counterpart, is adequately preparing its students to face the increasing demands of today's technologically driven world. Second, as this study adopts a cross cultural perspective, involving two populations with entirely dissimilar cultural mindsets, its findings can contribute to the global understanding of the role cultural factors can play in influencing the growth of learning self-directedness. Third, by being based on established and tested conceptual models, especially in the field of educational technology acceptance, the results from this study can unravel the intricacies of educational acceptance and use of web 2.0 applications in the Moroccan and American higher education contexts. Thus, using an extended version of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) will allow the researcher to probe more into the Moroccan and American students web 2.0 acceptance and use profiles and thus provide a unified picture of what factors, if any, affect their use of technology. Fourth, the study's findings can contribute to knowledge by filling the gap created by lack of empirical research about the relationship between the use of web 2.0 and self-directed learning. Thus, by examining the interplay between students' self-directed learning readiness and their actual web 2.0 utilization patterns, the study's outcomes can raise the stakeholders' awareness to the importance of appropriately incorporating web 2.0 technologies in higher education. Last but not least, using a mixed triangulation research design,

which combines the strengths of quantitative and qualitative research paradigms, allows the issues under investigation to be treated from multiple perspectives and hence enhances the trustworthiness of the findings.

7. Organization of the study

The study is structured into five major chapters. The first provides an extensive review of the literature in the fields of cross-cultural comparative psychology, self-directed learning and web 2.0 acceptance and use in higher education. The second chapter operationalizes the review of the literature by establishing the conceptual framework for the study of the cross-cultural dimensions of self-directed learning readiness and web 2.0 acceptance and use in the Moroccan and American higher education contexts. Chapter three describes and discusses the different aspects of the research methodology used in the study. These include the design adopted, sampling, instrumentation, data collection process, the testing of the instrument's reliability and validity in addition to the data analysis procedures. The study's findings, both quantitative and qualitative are sequentially presented and described in chapter four. Chapter five discusses and interprets the data obtained and provides a summary of the study's findings in addition to the implications and recommendations for further research.

Chapter one: Review of the literature

Providing an extensive review of the literature has always been a daunting task especially for novice researchers. This task becomes even more challenging when the inquirer is faced with a multidisciplinary study combining elements from at least three different fields of study as complex as Cultural Psychology, Adult Cognitive Psychology and Educational Technology Acceptance (ETA). Nevertheless, this review, in its three major sections, provides a detailed account of the relevant literature. The first presents and discusses the different conceptual models underpinning cross-cultural comparative research along with providing a comparative analysis of the Moroccan and American psycho-cultural backgrounds. The second section provides an extensive review of the literature on self-directed learning by critically considering a number of issues relevant to adult education. These include, but are not limited to, the different conceptualizations developed to describe self-directed learning, its measurement and cross-cultural dimensions. The third and last section is devoted to an in-depth examination of previous research on the use of web 2.0 in higher education. Herein, the trendy concept of Web 2.0 is defined along with its various educationally promising Web 2.0 technologies, especially as they relate to promoting learning self-directedness. It also provides an extensive review of the theories and models underlying research on technology acceptance and use in addition to highlighting some of the ways in which cultural differences can have strong bearings on students' acceptance and use of web 2.0 technologies for learning.

1. 1. Culture and Cross-cultural differences

Despite the antiquity of human interest in understanding the impact of culture on human behavior, the last three decades or so have witnessed a remarkable increase in scholarly endeavor to uncover how culture affects human behavior. Thus, various and relatively insightful conceptual models have been proposed to specifically unravel the ways in which people's psycho-cultural background can influence or even determine their mental processes and overt

behavior. In the following three major sections, an attempt is made to provide a cross-cultural conceptual roof for the present study by reviewing relevant literature in the field of cultural psychology. The first section provides and briefly discusses a working definition of culture for the aims of this study. The second reviews the most influential conceptual paradigms underlying cross-cultural comparative research with a special emphasis on Hofstede's (1980) multidimensional schema which underpins this study. The third and last section provides a comparative analysis of the Moroccan and American psycho-cultural backgrounds and mindsets.

1.1.1 Definition of culture

There seems to be a general consensus among scholars about the difficulty of providing a unanimously agreed upon definition of culture (Stewart, 1972; Williams, 1976; Tayeb, 1994; Inglis, 2006 and Wang & Reeves, 2007). This difficulty is commonly associated with the elusive nature of the concept itself which according to Tayeb (1994) is too complex to be captured by tight definitions. Therefore, as stressed by Ajiferuke and Boddewyn (1970), culture as a concept is "one of those items that defy a single all-purpose definition" (p.154). Nevertheless, scholars from different disciplines have put forward various and relatively insightful definitions. One particularly useful and widely used definition in the field of cross-cultural psychology was proposed in 1980 by Geert Hofstede, a prominent cultural and organizational psychologist, who defined culture as "the collective programming of the mind which distinguishes the members of one group from the ones of another" (Hofstede, 1980, p. 24). Culture in this view is conceptualized as a shared mental system that people in a given community collectively internalize from birth onwards and which subsequently serves to distinguish them from other groups. A similar definition was provided by Geertz (1973) who defined culture as "the fabrics of meaning with which human beings interpret their experience and guide their actions" (Geertz, 1973, p. 42). In essence, both definitions seem to agree on at

least three major points. The first is associated with culture being seen as a system made up of a set of meaningful context bound parameters. The second relates to the fact that these parameters are meaningfully shared, interpreted, and transmitted over time. The third point, which is repeatedly emphasized, though implicitly in both definitions, is linked to the perceived influence culture exerts on individuals' mindset and behavior. Thus, as captured by Inglis (2006), "each person exists to a greater or lesser degree like a fish in their cultural water, generally taking for granted and regarding as simply 'natural' the cultural forces which are constantly present in their everyday thoughts and actions" (p.28). In other words, since "every cultural group gives its children a different set of instructions, each is equally valid in their own environment" (Lewis, 2006, p.17), it reasonably follows that people from different cultural backgrounds are prone to conceive, interpret and react differently to the same act or event, say Web 2.0 technologies, based on their different culturally shaped experiences.

1.1.2 Conceptual models of cross-cultural differences

An in-depth examination of the relevant literature has revealed that the overwhelming majority of cross-cultural comparative research conducted in the fields of cultural and educational psychology, within which this study falls, is based on Hofstede (1980) and Hall's (1976) conceptual paradigms (Van Dam & Rogers, 2002; Edmundson, 2007; Olaniran, 2007; Zaltsman, 2007; Chau, 2008; Vitkauskaite, 2010; Yoo & Huang, 2011). These models, especially Hofstede's, are by far the most frequently used conceptual frameworks in the field of educational cross-cultural comparative research. Thus, as reported by Vitkauskaite (2010),

most studies on cross-cultural difference impact on various online activities are based on G. Hofstede's (1980) culture dimensions (power distance, individualism / collectivism, masculinity / femininity, uncertainty avoidance, and Confucian dynamism), as well as E. T. Hall's (1976) dimensions (high/ low context and polychronic / monochronic cultures) (p. 845).

Similarly, Olaniran (2007) and Shau (2008) pointed that Hofstede's model is one of the most useful frameworks in the study of educational phenomena from a cultural perspective and can serve as a starting point for educational providers in global e-learning contexts. Capitalizing on these arguments, this chapter provides a detailed review of these models and their extensions, namely Triandis' (1983) Markus and Kitayama's (1991) models, along with their overall implications for understanding the issue under study.

1.1.2.1 Hofstede's cultural dimensions model

Historically, Hofstede first proposed his conceptual paradigm in 1980 in his book *Culture's Consequences: International Differences in Work-Related Values*. In this seminal work, Hofstede provided a broad cross-cultural comparison by empirically investigating the cultural values of 116,000 IBM employees from 40 different nations. The findings, according to the author, have shown that the most important cross-cultural differences between nations can be identified by exploring the extent to which cultures differ along four dimensions that he labeled Power Distance (PD), Masculinity/Femininity (MF), Individualism/Collectivism (IC), and Uncertainty Avoidance (UA). In a later work, Hofstede and Bond (1988) added a fifth dimension called Long Term Orientation (LTO).

As will be discussed shortly, Hofstede's multidimensional model is based on the assumption that comparing cultures along a set of dimensions "can serve to explain and understand observed similarities and differences between matched phenomena in different countries" (Hofstede, 1991, p.14). That is, cultural differences can be best understood by deconstructing culture into measurable dimensions. This idea is further articulated in the quotation below.

The main advantage of breaking down culture into its constituent characteristics is that it facilitates comparison across cultures; one looks

at the same trait and observes similarities or differences among the nations under investigation or even notes its absence from some cultures altogether (Tayeb, 2001, p. 93).

1.1.2.1.1 Power Distance

The Power Distance' (PD) dimension, defined as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that the power is distributed unequally" (Hofstede, 2001, p.98), measures if and the extent to which inequality is commonly accepted and reinforced in a given culture. In Kasaa and Vadi's (2008) terms, the Power Distance Index (PDI), i.e. the score of a given country on this dimension, uncovers the extent to which "power and hierarchical relations are considered essential in a given culture" (p.7). According to Hofstede (2011), the PDI scores "tend to be higher for East European, Latin, Asian and African countries and lower for Germanic and English-speaking Western countries" (p.9). Societies with a high PDI, Zhou (2008) argues, tend to see inequality as a basis for societal order and therefore show more tolerance of power hierarchies; societies with a low PDI, on the contrary, emphasize equality and strive to maximize it between their members.

In fact, the nature of the PD index, as usefully summarized by Hofstede in the table below, has various bearings on the society's social and organizational aspects. Thus, according to Hofstede, high power distance societies, where status and hierarchy are of paramount importance, are characterized by centralized decision-making structures and extensive use of rules (Hofstede, 1997, 2001, 2011). In such cultures, "everyone has his or her rightful place in a social hierarchy", and "one's social status must be clear so that others can show proper respect" (De Mooij & Hofstede, 2011, p.182). For instance, children are expected to show unquestionable obedience to their parents and elders in general. Teachers are viewed as authorities and are therefore automatically esteemed and listened to (Hofstede, 2011). Conversely, in low PD cultures, where "the hierarchical system is just an inequality of roles

that is established for convenience” (Hofstede, 1997, p.36), social and organizational relationships are based on equality. Thus, subordinate and superiors, parents and children, teachers and students may see each other as more or less equal. In this respect, Zhou (op.cit) pointed that unlike people in high power distance cultures, those who belong to low power distance cultures “tend to place more emphasis on personal competence rather than status, put value on independence and stress reward and legitimate and expert power” (p.122). Most importantly, as will be discussed in more detail later in section 2.2.9 and section 2.3.8, respectively, the nature of PDI has important implications on both students’ conceptions of self-directed learning and their acceptance and use of Web 2.0 technologies.

Table 1: Ten Differences between high and low power distance societies (Hofstede, 2011, p. 9)

Small Power Distance	Large Power Distance
Use of power should be legitimate and is subject to criteria of good and evil	Power is a basic fact of society antedating good or evil: its legitimacy is irrelevant
Parents treat children as equals	Parents teach children obedience
Older people are neither respected nor feared	Older people are both respected and feared
Student-centered education	Teacher-centered education
Hierarchy means inequality of roles, established for convenience	Hierarchy means existential inequality
Subordinates expect to be consulted	Subordinates expect to be told what to do
Pluralist governments based on majority vote and changed peacefully	Autocratic governments based on co-optation and changed by revolution
Corruption rare; scandals end political careers	Corruption frequent; scandals are covered up
Income distribution in society rather even	Income distribution in society very uneven
Religions stressing equality of believers	Religions with a hierarchy of priests

1.1.2.1.2 Uncertainty Avoidance

Hofstede (2001) defined the dimension of Uncertainty Avoidance (UA) as the “the extent to which the members of a culture feel threatened by uncertain or unknown situations” (Hofstede, 2001, p.161). In other words, this dimension measures if and the extent to which uncertainty is avoided across cultures. According to Hofstede’s findings, uncertainty avoidance tends to be higher in the Arab world, Central European countries, Latin countries, Japan and German speaking countries, and lower in English speaking, Nordic and Chinese culture

countries (Hofstede, 2011). Generally, as De Mooij and Hofstede (2011) argue, unlike people in high UA cultures, who value predictability and strive to avoid ambiguous and uncertain situations, those in low UA cultures show more tolerance of uncertainty, tend to be more risk taking and see all “what is different [as] curious” (Hofstede, 1991, p.119). In fact, as explicitly stated in the table below, the nature of UA index score has various implications for people’s personal and professional life. In low UA cultures, for example, unusual opinions and behaviors are commonly accepted; people find what is different as interesting, and hence tend to be more tolerant of deviant ideas and behaviors. In relation to education, teachers are not expected to have all the answers and statements like “I don’t know” are commonly accepted (Hofstede, 1997, 2011). In organizational aspects of life, these cultures are characterized by flexibility with a relatively low degree of structure and fewer rules. However, in high UA cultures, the opposite tends to prevail. Thus, individuals have a general tendency towards avoiding uncertain situations and untested paths; they tend to show a greater need for planning and predictability. For such people, what is different is dangerous and therefore to be avoided. Moreover, new and innovative ideas, deviant opinions and behaviors are resisted as people generally avoid taking risks. Organizational aspects of life are characterized by clearly delineated structures governed by many rules and standardized policies. Importantly, however, like the PD dimension, and indeed all the other forthcoming dimensions, the implications of UA for students’ self-directed learning readiness and their acceptance and use of web 2.0 are extensively discussed in sections 1.2.9 and 1.3.8, respectively.

Table 2: Ten differences between weak- and strong- uncertainty avoidance societies (Hofstede, 2011, p. 10)

Weak Uncertainty Avoidance	Strong Uncertainty Avoidance
The uncertainty inherent in life is accepted and each day is taken as it comes	The uncertainty inherent in life is felt as a continuous threat that must be fought
Ease, lower stress, self-control, low anxiety	Higher stress, emotionality, anxiety, neuroticism
Higher scores on subjective health and well-being	Lower scores on subjective health and well-being
Tolerance of deviant persons and ideas: what is different is curious	Intolerance of deviant persons and ideas: what is different is dangerous
Comfortable with ambiguity and chaos	Need for clarity and structure
Teachers may say 'I don't know'	Teachers supposed to have all the answers
Changing jobs no problem	Staying in jobs even if disliked
Dislike of rules - written or unwritten	Emotional need for rules – even if not obeyed
In politics, citizens feel and are seen as competent towards authorities	In politics, citizens feel and are seen as incompetent towards authorities
In religion, philosophy and science: relativism and empiricism	In religion, philosophy and science: belief in ultimate truths and grand theories

1.1.2.1.3 Masculinity/Femininity

The Masculinity/Femininity dimension measures the extent to which a given culture is “dominated by masculine values such as orientation towards achievement, competition, independence and career versus the extent to which a culture is dominated by feminine values and behavior such as modesty, tolerance and solidarity” (Kasaa & Vadi, 2008, p.10). Hofstede and Bond (1984) described as masculine cultures where “the dominant values in society are success, money and things”, and feminine those cultures "in which dominant values are caring for others and quality of life" (pp. 419-420). More recently, De Mooij and Hofstede (2011) highlighted a number of distinguishing characteristics associated with the two cultures:

The dominant values in a masculine society are achievement and success; the dominant values in a feminine society are caring for others and quality of life. In masculine societies, performance and achievement are highly valued; and achievement must be demonstrated...In masculine cultures male and female roles are differentiated, whereas in feminine cultures roles overlap. In masculine cultures, household work is less shared between husband and wife than in feminine cultures (De Mooij & Hofstede, 2011, p.182).

In simpler terms, masculinity as a concept is used to refer to societies where social and gender roles are clearly distinct and where assertiveness and material success are of paramount value. On the contrary, femininity is used to societies, where gender roles are not clearly defined, which place primary emphasis on human relationships and caring for others. From this perspective, Hofstede and Bond (1984) maintained that whereas masculinity describes cultures where “the dominant values in society are success, money and things”, femininity describes cultures "in which dominant values are caring for others and quality of life" (pp. 419-420). As was mentioned above, Olaniran (2007) explained that people in masculine cultures are work-focused and therefore “live to work” whereas those in feminine cultures are more “life-focused” and therefore “work to live” (p.21). According to Hofstede (2011), masculinity tends to be high in countries such as Japan, Germany, and Mexico and low in some Latin and Asian countries like France, Spain, Chile, Korea and Thailand. Interestingly, Hofstede (2011) provided a summary of the characteristics that he believes can differentiate between feminine and masculine cultures in the table below.

Table 3: Ten differences between feminine and masculine societies (Hofstede, 2011, p.12)

Femininity	Masculinity
Minimum emotional and social role differentiation between the genders	Maximum emotional and social role differentiation between the genders
Men and women should be modest and caring	Men should be and women may be assertive and ambitious
Balance between family and work	Work prevails over family
Sympathy for the weak	Admiration for the strong
Both fathers and mothers deal with facts and feelings	Fathers deal with facts, mothers with feelings
Both boys and girls may cry but neither should fight	Girls cry, boys don't; boys should fight back, girls shouldn't fight
Mothers decide on number of children	Fathers decide on family size
Many women in elected political positions	Few women in elected political positions
Religion focuses on fellow human beings	Religion focuses on God or gods
Matter-of-fact attitudes about sexuality; sex is a way of relating	Moralistic attitudes about sexuality; sex is a way of performing

1.1.2.1.4 Long-Term vs. Short-Term Orientation

According to Hofstede (1990), the Long Term Orientation (LTO) dimension was first proposed by a Michael Harris Bond in 1987 and was later adopted and popularized by Hofstede in his book *Cultures and Organizations: Software of the Mind* published in 1991. As its name may suggest, the LTO dimension uncovers “the extent to which a society exhibits a pragmatic future-oriented perspective rather than a conventional historic or short-term point of view” (De Mooij & Hofstede, 2011, p.182). Thus, as explicitly stated in the table below, unlike long term oriented people, who are seen as being more future-oriented, short term oriented people are present and past oriented in the sense that they believe that the most important events have already taken place or they are happening in the present. This tendency reflects a relatively tradition-oriented mentality characterized by high respect for tradition. These people emphasize personal steadiness and stability (“a good person is always the same” (Hofstede, 2011, p.15), and place great value on protecting one’s face and serving others. Conversely, people from long term oriented cultures have a future oriented mentality in that they tend to believe that the most important events will happen in the future. Therefore, they place greater value on persistence and thrift, and are generally more adaptive to different circumstances (“a good person adapts to circumstances” (ibid). In work related aspects, they believe in long-term commitment towards organizations and career and tend to be more concerned with long-term financial and psychological benefits. In line with this, Bik (2010) explained how future-oriented people have a general inclination “to plan and invest for the future” and how present and past oriented people tend to “show the capability to enjoy the moment and be spontaneous” (p.84). Importantly, the table below provides a selection of ten differences that Hofstede’s findings have shown to be associated with long and short term oriented cultures.

Table 4: Ten differences between short- and long-term-oriented societies (Hofstede, 2011, p.15)

Short-Term Orientation	Long-Term Orientation
Most important events in life occurred in the past or take place now	Most important events in life will occur in the future
Personal steadiness and stability: a good person is always the same	A good person adapts to the circumstances
There are universal guidelines about what is good and evil	What is good and evil depends upon the circumstances
Traditions are sacrosanct	Traditions are adaptable to changed circumstances
Family life guided by imperatives	Family life guided by shared tasks
Supposed to be proud of one's country	Trying to learn from other countries
Service to others is an important goal	Thrift and perseverance are important goals
Social spending and consumption	Large savings quote, funds available for investment
Students attribute success and failure to luck	Students attribute success to effort and failure to lack of effort
Slow or no economic growth of poor countries	Fast economic growth of countries up till a level of prosperity

1.1.2.1.5 Individualism /Collectivism

The Individualism/Collectivism (IC) is commonly considered as by far the most influential and overwhelmingly dominant cultural dimension in the field of cross-cultural psychology (Triandis, 2001; House et al., 2004; Green & Páez, 2005; Wang & Reeves, 2007 and Bik, 2010). Thus, as phrased by Harry C. Triandis, one of the prominent and pioneering figures in the field of cultural psychology, the IC is unarguably “the most important dimension of psychological culture to have emerged in the literature” (Triandis, 2001, p.35). According to Green and Páez (2005), it “has been used to describe, explain, and predict differences in attitudes, values, behaviors, cognition, communication, attribution, socialization, and self-concepts” (p.321). Similarly, Hui, Triandis, and Yee (1991) stressed that by using this dimension researchers can understand the way culture relates to social psychological phenomena in a systematic manner.

According to Hofstede (1991), individualism “pertains to societies in which the ties between individuals are loose” and where “everyone is expected to look after himself or herself and his or her immediate family” (p.51). Collectivism, on the contrary, “pertains to societies in

which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty” (ibid). In simpler terms, individualism is used to describe societies where interpersonal relationships are characterized by detachment and looseness. Collectivism, as its opposite, is used to refer to cultures where interpersonal relationships are characterized by connectedness and interdependence. Interestingly, Triandis (1995) proposed a more comprehensive definition of these constructs. For him, individualism can be defined as

a social pattern that consists of loosely linked individuals who view themselves as independent of collectives; are primarily motivated by their own preferences, needs, rights, and the contracts they have established with others; give priority to their personal goals over the goals of others; and emphasize rational analyses of the advantages and disadvantages to associating with others” (p. 2).

Conversely, collectivism is defined as

a social pattern consisting of closely linked individuals who see themselves as parts of one or more collectives (family, co-workers, tribe, nation); are primarily motivated by the norms of, and duties imposed by, those collectives; are willing to give priority to the goals of these collectives over their own personal goals; and emphasize their connectedness to members of these collectives (ibid).

As explicitly stated above, the main difference between individualistic and collectivistic cultures lies in the extent to which detachment or connectedness and individual versus collective interests are reinforced in a given society. Thus, while in individualistic cultures the individual’s self-interest is prioritized over that of the group, in collectivist cultures the opposite tends to prevail. In this respect, Hermans and Kempen (1998) explained that whereas individualists tend to prioritize their own personal goals and self-interests over those of their in-group, collectivists “either make no distinctions between personal and collective

aims or, if they do make such distinctions, they subordinate their personal aims to those of the collectivity to which they belong” (p.1112).

As will be discussed in what follows, the literature has uncovered various aspects in which individualistic and collectivistic societies substantially differ. One of the most salient of these is the nature of social relationships prevailing in the two cultures. Thus, as Triandis (2001) puts it,

collectivists usually have one or two in-groups and are deeply (intimately) interrelated to them; individualists have very many in-groups, but their relationships to them are superficial, and they keep them only as long as it pays to keep them, so they drop in-groups as soon as “better” in-groups are identified (p.38).

Obviously, the nature of personal relationships in individualistic cultures and collectivistic culture are clearly dissimilar. Thus, as explicitly stated above, while collectivists have a few social relationships characterized by intimacy, devotion, commitment and interrelatedness, individualists have many in-group relationships which are however characterized by superficiality and temporariness. In the same vein, Carpenter (2000) argued that unlike individualists, who base their behaviors on their personal attitudes and values, collectivists tend to shape their behavior on the basis of the norm of their in-group. These arguments resonate strongly with empirical findings reported by Ohbuchi, Fukushima, Tedeschi (1999), which have shown that, in case of conflict, collectivists preferred methods of conflict resolution that do not destroy relationships as they are concerned with maintaining social relationships. Individualists, on the contrary, were found to be primarily concerned with achieving justice, rather than maintaining relationships, and hence preferred going to the court to settle disputes.

Another important difference which can also help us differentiate between individualistic and collectivistic people relates to the level of self-concept consciousness. Thus,

as De Mooij and Hofstede (2011) explain, whereas individualists are “I” conscious, collectivists are “we” conscious (p.182). Similarly, Hetts, Sakuma and Pelham (1999) noted that whereas individualists are very positive about “me”, collectivists are sometimes ambivalent about “me,” but very positive about “we” (cited in De Mooij & Hofstede, 2011, p.182). In support of these arguments, Triandis (2001) stated that individualism is based on “the definition of the self as independent from the group, the primacy of individual goals, the emphasis on attitudes rather than norms, and the computation of profits and losses as determinants of social behaviors” (p.44). Collectivism, on the contrary, “is associated with a sense of duty towards one’s group, interdependence with others, a desire for social harmony, and conformity with group norms” (Green & Páez, 2005, p.322). This distinction is supported by other researchers like Skillman (2000) and Desai (2007) who maintained that whereas individualistic cultures emphasize values such as self-reliance, independence, autonomy, personal achievement, collectivists value family cohesion, cooperation, solidarity, and conformity.

The importance given to the context is another important difference characterizing individualistic and collectivistic cultures. Church (2000), for example, stressed that people in collectivistic cultures focus more on the context in predicting others’ behavior than individualists. As a case in point, Triandis (2001) stated that “one can either be a vegetarian or not a vegetarian, but my Indian friend says, I am a vegetarian, but when others eat meat, I eat meat” (37). Triandis, through this example, attempts to highlight the extent to which collectivists’ behavior, Indian this case, is determined by the context rather than their attitudes and personal values. Thus, unlike individualists, who would find the Indian’s behavior as impossible, nonsensical and cognitively inconsistent, collectivists tend to take the contextual factors into account and show more tolerance of cognitive inconsistency. In a similar study, Choi and Nisbett (2000) compared tolerance of contradictions among Asians and Americans and their findings indicate that Asians (collectivists) show higher levels of tolerance for

contradictions than Americans (individualists), and hence are less surprised when they are presented with inconsistencies than their American counterparts. Further distinguishing characteristics associated with individualism and collectivism are summarized in the table below

Table 5: Ten differences between collectivist and individualist societies (Hofstede, 2011, p.11)

Individualism	Collectivism
Everyone is supposed to take care of him- or herself and his or her immediate family only	People are born into extended families or clans which protect them in exchange for loyalty
"I" – consciousness	"We" –consciousness
Right of privacy	Stress on belonging
Speaking one's mind is healthy	Harmony should always be maintained
Others classified as individuals	Others classified as in-group or out-group
Personal opinion expected: one person one vote	Opinions and votes predetermined by in-group
Transgression of norms leads to guilt feelings	Transgression of norms leads to shame feelings
Languages in which the word "I" is indispensable	Languages in which the word "I" is avoided
Purpose of education is learning how to learn	Purpose of education is learning how to do
Task prevails over relationship	Relationship prevails over task

1.1.2.1.6 Critique of Hofstede's paradigm

Despite the unprecedented popularity Hofstede's (1980) model has enjoyed in the literature, it is not without limitations (McSweeney, 2002; Singelis & Brown, 1995; Ess & Sudaweeks, 2005). In fact, as mentioned earlier, Hofstede's study was limited to one single large multinational corporation (IBM) and some researchers such as McSweeney (2002) have questioned the possibility of generalizing its findings arguing that Hofstede's study was based on some false assumptions that an analysis of sub-national populations can represent the whole national culture. Another criticism was put forward by Ess and Sudaweeks (2005), Singelis and Brown (1995) and Sondergaard (2002) who claimed that Hofstede's findings are based on questionable presumptions of homogeneity basing their argument on the potential effect

globalization may have on cultural homogeneity. Sondergaard (2002), for example, explained that that process of modernization may have changed the type of cultural values which were dominant in the 1980s. Yet, Hofstede (2011) refuted this idea noting that “the fact that the world around us is changing does not need to affect the usefulness of the dimensional paradigm”; on the contrary, “the paradigm can help us understand the internal logic and the implications of the changes” (Hofstede, 2011, p. 21).

However, most of the above criticisms have been refuted by other researchers. For example, Wang and Reeves (2007) reported that

a Google Scholar (<http://scholar.google.com>) search for Hofstede’s book, *Culture’s Consequences: International Differences in Work-Related Values*, published in 1980, indicates that more than 2,000 articles and books cite his book. These citations are found in publications from many fields such as management, international marketing, social psychology, communication, and education (p.4).

Likewise, Søndergaard (2002) affirmed that Hofstede’s multidimensional paradigm is supported by hundreds of both qualitative and quantitative studies, and large replications in various disciplines. More recently, Yoo, Donthu and Lenartowicz (2011) made reference to findings reported by the Social Science Citation Index which show that Hofstede’s model has been cited in 2,700 refereed journal articles. Magala (2009), in his turn, consider Hofstede’s (1980) work as the most comprehensive cross-cultural comparative study in terms of both range of countries and the number of respondents involved. For him, “the robustness of [this] model, in spite of growing criticism, is being acknowledged far beyond the academic world” (cited in Bik 2010, p.74). In brief, as House et al. (2004) put it, Hofstede’s work is unarguably “the best known cross-cultural study to have emerged in the literature” (p.239).

1.1.2.2 Triandis' model of Horizontal and Vertical individualism and collectivism

In another conceptual attempt deconstructing the concept of culture and presenting it in the form of measurable dimensions, Triandis (1995), based on the assumption that cultural differences also exist within individualistic and collectivistic cultures, extended Hofstede's dimension of individualism collectivism into vertical and horizontal patterns. Thus, for him, the Chinese collectivism is different from the collectivism of Korea and the individualism of France is different from the American individualism (Triandis, 1995, 2001). Therefore, he speculated that both individualism and collectivism can be horizontal or vertical depending on the nature of the social and organizational hierarchy prevailing in a given culture. These speculations resulted in four different cultural dimensions: Horizontal Individualism (HI), Vertical Individualism (VI), Vertical Collectivism (VC) and Horizontal Collectivism (HC). Triandis (2001) defines Horizontal Individualism (HI) as a cultural pattern which emphasizes that "all people are equal" but "each person is unique" (Triandis, 2001, p.36). That is, the relationship between the self and the others is based on both equality and differentiation, as every single self strives to preserve his/her uniqueness. However, Vertical individualism, as Triandis (2001) puts it, "reflects both being 'distinct' and 'the best' in relation to others" (p.36). In other words, individuals with this cultural orientation tend to view each other as basically unequal in status, tend to be more competitive and show an obvious orientation towards achievement. Horizontal Collectivism (HC), as a third cultural pattern, is characterized by "merging the self into the in-group" (Triandis, 2001, p.36). That is, the individual defines himself or herself primarily in terms of his/her in-group and is equal with all the other selves. Such people, Triandis explains, tend to underplay competitiveness and instead value cooperation and interdependence. Vertical collectivists, on the contrary, accept hierarchy as some "in-group authorities have more status than ordinary members of the in-group" (p.36). This cultural pattern is based on the "sacrifice of the individual for the preservation of the in-group" (p.36). In other words, unlike horizontal

collectivists, vertical ones emphasize hierarchy and accept an unequal distribution of power and status and tend to sacrifice their interests for the preservation of a harmonious interconnected group. The table below provides further characteristics associated with the above different cultural orientations.

Table 6: Motives characterizing horizontal and vertical individualism and collectivism (adapted from Shavitt et al., 2006, p. 327)

	Horizontal (Self at the same level as others)	Vertical (Self in a hierarchy relative to others)
Individualism (Independent Self)	Being distinct and separate from others Being self-directed, self-reliant Modesty, not conspicuousness Expressing uniqueness	Improving individual status via competition Seeking achievement, power, prestige Standing out Display of success, status
Collectivism (Interdependent Self)	Maintaining benevolent relationships Common goals with others Social appropriateness Sociability Cooperation	Maintaining and protecting in-group status Deference to authorities and to in-groups Conformity Harmony

1.1.2.3 Idiocentrism and Allocentrism

The unprecedented popularity the individualism/collectivism dimension has enjoyed in the literature led some scholars to suggest using it to study cultural differences at the individual level. This call is based on the fact that cultures have become increasingly heterogeneous (Hermans, & Kempen, 1998; Singelis & Brown, 1995; Ess & Sudaweeks, 2005; Sondergaard, 2002; McSweeney, 2002). That is, not every person in an individualistic culture is an individualist, nor all individuals in a collectivistic culture are all collectivists (Lee & Choi, 2005). Based on this assumption, Triandis, Leung, Villareal, and Clark (1985) proposed that

just as the individualism/collectivism dimension is used to comparatively investigate the representation of cultural values at the societal level, it should also be used to compare individual psycho-cultural orientations within the same culture. As a result, these scholars proposed "idiocentrism" and "allocentrism" as new typologies to describe the manifestations of individualism and collectivism at individual level, respectively.

Generally, the literature conceptualizes these two concepts as being essentially dichotomous. Thus, while an allocentric individual is defined as "a person who is paying attention to other people", an idiocentric individual is defined as someone who pays "principal attention to internal attributes such as his/her own beliefs, emotions, and the like rather than to inputs from other people" (Triandis, 2001, p.39). In fact, these two different psycho-cultural orientations, just like their societal level manifestation of individualism and collectivism, differ in many respects. For instance, as argued by Triandis (1994), whereas idiocentric values are characterized by concepts like "pleasure," "achievement," "competition," "freedom," and "autonomy", allocentric values are described by terms such as "security," "obedience," "duty," and "hierarchy" (p. 47). Triandis and Suh (2002), in their turn, suggested that while Idiocentrics "emphasize self-reliance, competition, uniqueness, hedonism, and emotional distance from in-groups", allocentrics, on the contrary, "emphasize interdependence, sociability, and family integrity" (Triandis & Suh, 2002, p. 140). More specifically, Schwartz (1994) explained that unlike allocentrics who emphasize tradition and social conformity, idiocentrics value hedonism and self-direction. Similarly, Triandis (2001) added that whereas idiocentric people tend to select goals that match their personal needs, allocentrics individuals tend to pay more attention to the needs of others.

Importantly, however, the use of individualism and collectivism to investigate cultural differences at the individual level has triggered different reactions. Advocates such as Triandis and Suh (2002), Lee and Choi (2005), Schwartz (1994), Markus et al. (1997) believe that this

new typology can be used to explain differences that exist between people of the same culture. However, critiques, at the top of whom is Hofstede (2001, 2011) and Van de Vijver and Leung (1997), have criticized Triandis for splitting the individualism/collectivism dimension into vertical and horizontal patterns arguing that Hofstede's Power Distance dimension covers the horizontal and vertical distinction quite sufficiently. More specifically, Hofstede (2011) criticized Triandis et al. (1985) for using the individualism collectivism dimension to study cultural differences at the individual level asserting that, if used as such, "it is no longer a dimension of culture but an aspect of personality" (p.17). In this case, he continues, "there is no more reason why individualism and collectivism need to be opposite; they should rather be considered separate features of personality" (ibid). Similarly, Van de Vijver and Leung (1997) emphasized that when comparing cultures at the societal level, "the results obtained are characterizations of cultures but not of individuals" (p.124). However, Triandis (2001) explained that the horizontal and vertical patterns should be seen as tools that people utilize in different situations. That is, any person "may behave predominantly like a horizontal or vertical idiocentric or allocentric at any given moment depending on the situation" (p.39). In other words, regardless of whether a person is a collectivist or an individualist, s/he is not either idiocentric or allocentric since both personality orientations can be found within both individualistic and collectivistic cultures. Thus, it is "just a question of degree as in some cultures more situations are sampled allocentrically, and in other cultures more situations are sampled idiocentrically" (Triandis, 1994, p. 46).

1. 1.2.4 Markus and Kitayama's model

In another seminal work, examining the psycho-cultural implications of the self on human cognition, emotion and motivation, Markus and Kitayama (1991) distinguished between the independent and interdependent self-construals (Figure 1). According to these scholars,

these two construals, graphically illustrated below, are responsible for determining the nature of human experience.

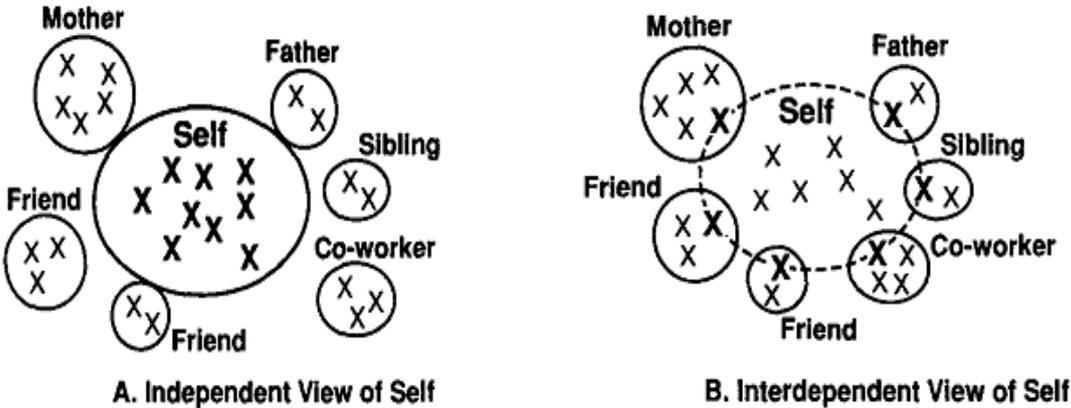


Figure 1: Conceptual representations of the self (Markus & Kitayama, 1991, p. 226).

By way of illustrating their paradigm, these researchers explained that the Xs in general are the various manifestations of the type of relationship existing between the self and others in general. The Xs within the circle of the self represent the unique aspects of the self that are not influenced by time or context and which can serve to define it from others. Most importantly, the bold Xs represent the most important self-relevant information and personal attributes that are ‘stable’ and ‘intrinsic’ to the self, and which make it different from other selves.

In an attempt to illustrate the differences between these two self-construals and to highlight their implications on human experience, Markus and Kitayama explained that the independent self is based on detachment and independence from others. Thus, as can be seen in figure 1A, the self is clearly separated from others as there is no overlap between it and other selves. Individuals with the independent self, these scholars argue, emphasize internal attributes, ability, intelligence, personal goals, preferences, autonomy and a continuous search for uniqueness and self-actualization. For them, concepts like “individualist”, “egocentric”, “separate”, “autonomous”, “idiocentric”, and “self-contained” are terms which have similar meanings with the independent self-construal” (p.227). The interdependent self, on the contrary, as shown by the substantial overlapping between the self and others (figure 1B), is

defined in terms of the degree of connectedness between it and the other relevant selves. Thus, as clearly shown by the bold **Xs** in the intersections, the most salient aspects of the self are defined in relationship with others. Markus and Kitayama emphasized that unlike the independent self, the interdependent self “features the person not as separate from the social context but as more connected and less differentiated from others”. Hence, people with this type of self “are motivated to find a way to fit in with relevant others, to fulfill and create obligation, and in general to become part of various interpersonal relationships” (p.227). These arguments strongly resonate with Sadiqi’s (2008) description of the Moroccan self. Thus, for her, “it is more appropriate to use the expression “collective self” instead of “self” when referring to individuality in the Moroccan socio-cultural context” (p.177) because it, i.e. the self, is deeply embedded in and defined by society, which makes it not easily “delineatable” or “autonomous”.

In fact, the independent and interdependent self-construals distinction has been associated with individualism and collectivism. Thus, as pointed by Chau (2008), individuals with the independent self, who are mostly found in individualistic cultures, give a minor importance to the social context as they have “unique internal attributes such as traits, abilities, motives, and values which provide the basic rationales for each individual’s cognition, emotion, and motivation” (p.ii). On the contrary, individuals with an interdependent self, mostly found in collectivistic cultures, define themselves in terms of the relationships with others “without whom the self could not be understood” (p. ii). In the same vein, Marsella (1985) stated that the Western self is characterized by "independence, autonomy, and differentiation" whereas a non-Western self is "extended to include a wide variety of significant others" (p.290). In support of these arguments, Sadiqi (2008) emphasized that whereas “the Western concept of self is based on the individual, the Moroccan concept of self is based on the community (jama’a) and is, thus, inherently plural” (Sadiqi, 2008, p.176). Interestingly, Markus and Kitayama (1991)

mentioned two famous proverbs, which according to them, capture some of the implications of these two different self-construals in individualistic and collectivistic cultures. In the American culture, in which the independent self prevails, "the squeaky wheel gets the grease". That is, in the American culture and indeed in most individualistic societies, standing out and asserting oneself is commonly seen as a virtue. However, in most non-Western culture, standing out and not fitting in is culturally undesirable. This is clearly depicted in the well-known Japanese proverb: "the nail that stands out gets pounded down". In line with this, and unlike the case in the American culture, in the Moroccan culture "individualism as a concept is not freely expressed and when it is, it is generally shunned and automatically categorized as "lack of modesty" (Sadiqi, op.cit, pp.170-171). Interestingly, Markus and Kitayama (1991) have usefully summarized the psycho-cultural characteristics that they believe to be associated with the independent and the dependent self-construals in the table below.

Table 7: Summary of key differences between an Independent and an Interdependent Construal of Self (Markus & Kitayama, 1991, p. 230)

Feature compared	Independent	Interdependent
Definition	Separate from social context	Connected with social context
Structure	Bounded, unitary, stable	Flexible, variable
Important features	Internal, private (abilities, thoughts, feelings)	External, public (statuses, roles, relationships)
Tasks	Be unique Express self Realize internal attributes Promote own goals	Belong, fit-in Occupy one's proper place Engage in appropriate action Promote others' goals
Role of others	Be direct; "say what's on your mind" <i>Self-evaluation:</i> others important for social comparison, reflected appraisal	Be indirect; "read other's mind" <i>Self-definition:</i> relationships with others in specific contexts define the self
Basis of self-esteem ^a	Ability to express self, validate internal attributes	Ability to adjust, restrain self, maintain harmony with social context

1.1.2.5. Hall's (1976) model of High -Low context communication styles

Historically, the High-Low context distinction was first advanced by the noted anthropologist Edward T. Hall in his book *Beyond Culture*, published in 1976. Since then, it has attracted a great deal of scholarly attention and has become one of the most influential theoretical frameworks underlying the study of intercultural communication (Wurtz, 2005; Söderholm, 2013; Kittler et al., 2011; Cardon, 2008; Dadfar, 2001). Thus, according to Cardon (2008), it has been cited over 3,300 times in intercultural scholarly articles in the last three decades. More recent research shows that Hall's model continues to attract more interest as a conceptual foundation for contemporary cultural studies (Wurtz, 2005; Zakaria & Cogburn, 2010; Söderholm, 2013). The High-Low context distinction, as its name may suggest, is based on Hall's (1976) findings that the importance given to the context of communication differs substantially across cultures. Thus, it was observed that while in some cultures, described as low context, people communicate mainly through explicit language, in others the act of communication relies on other contextual elements. Based on this observation, Hall (1976) proposed that all the cultures of the world can be classified on a continuum from high to low context.

Hall and Hall (1990) defined a high-context (HC) communication style as “one in which most of the information is already in the person, while very little is in the coded, explicit transmitted part of the message” (p.6). That is, this style of communication, as phrased by Wurtz (2005), “involves implying a message through that which is not uttered” such as “the situation, behavior and para-verbal cues” (p.1). In simpler terms, the communicated meaning is not only found in the spoken or written content but also embedded in the contextual elements such as body language, the situation and the type of relationships between the interlocutors. High context people include the Japanese, Arabs, and the Mediterranean people. These people, as pointed by Hall (1976), assume that most of the information is latent in the context of

communication and therefore take it for granted that their interlocutors understand most of what they want to communicate without being told directly.

A Low-Context (LC) communication style, on the contrary, is conceptualized as one where “the mass of the information is vested in the explicit code (Hall & Hall, 1990, p.6). That is, the communicated meaning, wants, needs, and desires of the speaker are embodied in the spoken or written message conveyed and very little is left to the intuition of the listener (Hall, 1976). Zakaria and Cogburn (2010) described this kind of communication as ‘context independent’. That is, the communicated meanings are not influenced by the context of communication. According to Hall and Hall (1990), low context people include Americans, Germans, Swiss, Scandinavians and northern Europeans. Unlike high context people, who tend to “have broad and extensive information networks and keep themselves informed about everything having to do with people who are important in their lives”, low context people tend to “compartmentalize their personal relationships, their work, and many aspects of day –to- day life. Consequently, each time they interact with others they need detailed background information” (p.7).

In fact, like the independent and interdependent self-construals, the high-low context communication styles have been associated with individualism and collectivism (Triandis, 1994; Gudykunst et al., 1996; Aydın, 2010). For example, as stated by Gudykunst (1989), “low-context communication predominates in individualistic cultures, and high-context communication is prevalent in collectivistic cultures” (p.329). In this respect, Triandis (1994) explains that whereas individualistic people tend to engage in low context communication that is straightforward and explicit in order to avoid differing interpretations, collectivistic people tend to engage in a highly context-dependent communication that is abstract, implicit, and indirect. Likewise, Aydın (2010) added that while high-context communication which typically prevails in Eastern cultures, “where the communicated messages are primarily derived from the

external environment, situational factors, and non-verbal behaviour”, low context communication typically prevails in Western cultures, where “the meaning of a given communication comes directly through verbal channels” (p.98). More importantly, however, Hall and Hall (1990) consider these differences, more precisely the amount of “contexting”, as a big challenge that can lead to cross-cultural problems between high and low context people. Thus, as phrased by these scholars, high context people “are apt to become impatient and irritated when low context people insist on giving them information they don’t need” (p.9). On the contrary, low-context people “are at a loss when high-context people do not provide enough information (p.9).

However, like Hofstede’s paradigm, Hall’s High–Low context model (1976), despite its great popularity and wide use, is not without limitations. Most of the criticisms addressed to it are linked to the methodological aspects of the study. For example, Kittler et al. (2011) argued that Hall’s high-low classification of countries is based on less established empirical evidence. A similar argument was made by Hermeking (2006), who indicated that the lack of quantitative comparative data and limited validation of Hall’s constructs makes them difficult to apply in academic research. Similarly, Söderholm (2013) recently suggested that Hall’s concepts are somewhat ambiguous, which makes them difficult to apply within the framework of quantitative research design with today’s rigorous research standards. However, as will be discussed in section (2.3.9), despite these criticisms, the high-low context paradigm was found to have some implications on students’ acceptance and use of technology (Vitkauskaite, 2010; Chau, 2008; Westbrook, 2013; Lustig & Koester 2006).

1.1.2.6. Hall’s Monochronic/Polychronic time use distinction

The polychronic/monochronic classification was first conceptualized by Hall in 1959 in his book *The Silent Language*. Thereafter, it has become a well-known and frequently used

paradigm in comparative cultural analysis (Lindquist & Kaufman-Scarborough, 2007). Historically, Hall (1959) studied the cultural dimensions of time management across different cultures and observed that while people in some cultures managed their time monochronically others managed it more polychronically.

Generally, the concept of monochronicity is used to refer to a general tendency towards engaging in activities in a sequential way (Hall, 1959). That is, “doing only one thing at a time” (Hall & Hall, *op.cit*, p.13). Thus, it has been observed that in some cultures such as Germans, Nordic and North Americans, people tend to concentrate on one activity within a given block of time. These people, labeled as monochronics, follow schedules religiously and prefer to finish what they have started before beginning anything new (Hall, 1959). Among such individuals, time is an important and scarce resource and is seen as comparable to money (Ackerson, 2004). According to Hall and Hall (*op.cit*), monochronic people view “time as something that can be spent, saved, wasted and lost” (p.13). These scholars listed a number of features that characterize monochronic people. These include emphasizing schedules, segmenting of activities ordering of activities, taking time commitments very seriously, and avoiding interruptions as they tend to believe that there is always an appropriate time and place for everything.

The concept of polychronicity, on the contrary, reflects a general tendency towards multitasking. Thus, as defined by Hall and Hall (*op.cit*), it means “being involved with many things at once” (p.13). In effect, Hall (1959) observed that people in some cultures, such as Arabs, Southern Europeans, Central and Southern Americans, tend to engage in multiple activities simultaneously (Hall, *op.cit*; Dadfar, 2001). In these cultures, people view time holistically and are therefore “prone to overlap and switch between activities (Ackerson, 2004, p.5). Similarly, Lindquist and Kaufman-Scarborough (2007) stated that in polychronic cultures “flexibility in time use and changes are common”, and “people are expected to flow

comfortably from one activity to another” (p.272). According to Hall and Hall (op.cit), unlike monochronics, polychronic people focus more on relationships than on scheduled events and consider people as their main concern. Besides, these people tend to show more willingness to change plans often and easily.

Accordingly, monochronic and polychronic people maintain different perceptions of time and how it should be managed. These differences, as argued by Hall can be very problematic and may cause frequent misunderstandings particularly in the case of interaction between these groups. However, what is worth noting is that unlike the high-low context model, the monochronic/polychronic classification is judged irrelevant to the study of the cross-cultural dimensions of self-directed learning and web 2.0 acceptance and use and hence will only be used in the comparative review of the Moroccan and American cultures.

1.1.3. The Moroccan and American psycho-cultural backgrounds compared

Given the highly recognizable scarcity of published cross-cultural comparative literature specifically addressing the Moroccan and American psycho-cultural values, it was found indispensable to review the literature found about the Arab culture as compared to the Western world and assume that, since “Arabs largely subscribe to the same tenets of morality” and “behave in a strikingly similar manner” (Lewis, 2006, p.401-406), the cultural characteristics associated with the Arab culture as a whole would also apply to the Moroccan culture. Therefore, before delving into the comparison of the Moroccan and the American psycho-cultural backgrounds, as conceptualized by Hofstede’s (1980, 2000) multidimensional paradigm, which underpins this study, an attempt was made to highlight some of most relevant and distinguishing cultural traits associated with the Arab and Western worlds.

In effect, it seems to be unanimously accepted in the literature that, despite belonging to many countries spreading over a large territory, people in the Arab world subscribe into the

same cultural mindset, shaped by many commonalities like language and religion. One of the advocates of this view is Lewis (2006), who believes that Arab countries constitute “a cultural unit, bound by a common language, Arabic, and a major religion, Islam” (Lewis, 2006, p.406). For him, Arabs “behave in a strikingly similar manner everywhere in the huge swath of territory stretching from Mauritania and Morocco in the west to Oman, Yemen and the Gulf States in the east” (ibid). Lewis’ point is particularly consistent with Ali and Wahabi’s (1995) belief that Morocco shares many common features with the rest of the Arab world such as the Islamic religion, Arabic language, social organizations and networks, traditions, and history. In support of these arguments, Bekkaoui, Larémont and Rddad (2011) have recently pointed that the “Arab identity among Moroccans constitutes a very important element in the definition of Moroccan identity” (p.50). Importantly, Wilson (1996) has usefully summarized the characteristics that he believes to be commonly shared by Arabs.

Everyone loves children; that age automatically confers wisdom; that men and women have vastly different personalities and characteristics; that a person’s dignity, honor, and reputation are of primary importance and must be protected at all costs; that one must always behave in a way that will create a good impression on others; that loyalty to one’s family takes precedence over personal needs; that piety is one of the most admirable traits in a person; and that there should be no separation between “church and state”—religion should pervade all aspects of life (p. 69).

While these characteristics can help us have a general picture about the cultural commonalities of Arabs, many researchers have highlighted the important role Islam plays in shaping the Arab culture. For example, Kalliny and Gentry (2007) pointed that “one of the most important facts about the Arab culture is the role of Islam in shaping it” (p.17). According to these scholars, almost all aspects of life of Arabs are deeply grounded in Islam, including the language, the type of prevailing social structure, and even the economic philosophy. Similar arguments have been put forward by Kavoussi (2000) and Lewis (2006), who asserted that the Arab culture

most, if not all, aspects the Arab culture are deeply rooted in the Islamic religion. In fact, as argued by Ali (1996), Muslims see their religion as a comprehensive system which governs all aspects of their life including the values they should hold and the way in which they should behave. As a case in point, Sadiqi (2008) highlighted the important place Islam occupies in the Moroccan culture noting that the “Islamic principles are translated into the Moroccan local culture and have become impregnated by it” (p.169).

While we have seen above how Arabs belong largely to the same cultural mindset, the cross-cultural comparative literature clearly indicates that the Arab and Western cultures differ considerably in most if all respects so much so that they have been arguably considered as two extremes (Stewart, 1972, Hofstede, 1980; Hall & Hall, 1990; Mouaid, 1992; Al Rasheed, 2001; Lewis, 2006; Sadiqi, 2008; Hamoud, 2011). Thus, as captured by Lewis (2006),

Westerners and Arabs have very different views about what is right and wrong, good and evil, logical and illogical, acceptable and unacceptable. They live in two different worlds, each organized in its own manner. Unless one gains a deeper understanding of how these two mindsets differ, one group will end up with an unfavorable impression of the other (p.400).

The central point from this quotation is that Arabs and Westerners belong into entirely dissimilar mindsets each of which is based on different world views. In effect, long before Lewis, Stewart (1972) highlighted the extent to which the American culture differs from the other Eastern cultures as he noted that the “American culture usually lies at one end of the dimensions and the cultures of non-western nations occupy positions proceeding in the opposite direction” (p.11).

One particularly important difference which can help us distinguish between the Arab and Western cultures is communication styles. As was previously mentioned, Arabs and Americans differ significantly in the importance they give to the context of communication

(Hall, 1976). Thus, while Americans tend to engage in low context communication that is predominantly explicit, Arabs tend to give paramount importance to contextual and para-verbal elements. This means that unlike Americans, Arabs assume that very much information is latent in the structure of messages and that their interlocutors understand most of what they want to communicate without being told directly (Hall & Hall, 1990). In support of this point, Dedausis (2004) stressed that Arabs score high in context as they rely more on implicit and indirect expressions. Therefore, the listener needs to read between the lines to understand and interpret what is being communicated. This idea is further articulated by Hamoud (2011) in the quotation below.

Indeed, it is customary for Arabs to use terms and phrases that have double meanings, descend from the very general to the specific, start a conversation with a small talk, go around and about an issue, call upon proverbs and poetic expressions and speak with their face, eyes and hands (Hamoud, 2011, p.147).

Temporal orientation, defined as “a person's preference to focus on the past, the present, or the future” (Ackerson, 2004, p.7), is another important cultural notion which can help us differentiate between Eastern and Western cultures. Bergadaa (1990), for example, argued that temporal orientation is a culturally determined phenomenon noting that “the ability to organize life within a framework of time is not innate in humans” and that the “role of parents in children's education greatly influences their temporal orientation” (p.291). This scholar proposed three different temporal orientations: past, present and future. Future oriented people, such as Northern Americans and Northern Europeans, tend to base their decisions on future expectations. Present oriented people, like Latin Americans, tend to focus more on what is happening in the present. Past orientation, according to Bergadaa, prevails in Eastern countries where people base their decisions on standards developed in the past and see life circumstances of the past as better than those in the present or future. Bergadaa’s classification of Eastern

cultures as past oriented is consistent with Hofstede's (2001) findings which classified Arabs as being more traditional and past-oriented. In line with these scholars' arguments, Al Rasheed (2001) asserted that Arabs tend to rely on past experience and resist change. Interestingly, Hamoud (2011) ventured an explanation for this past orientation tendency as he noted that,

past orientation in the time and space outlook of Arabs shows the most as they reconsider their view of themselves in comparison with others in the face of current crises they face. Having stopped short in their march toward modernization, Arabs have been having difficulty coping with globalization and its associated rapid pace of change... Accordingly, Arabs turn to their past where they find comfort in their ancestors' glories and achievements (p.147).

Unlike Arabs, Americans, who have been classified by Hofstede as future-oriented, view time as "a flow in one direction, proceeding from the past, barely slowing for the present and rushing to the future (Stewart, 1972, p.67). In short, Arabs and Americans have different temporal orientations whose implications are still in need of further scholarly effort.

In addition to the temporal orientation classification discussed above, differences in time management is another cultural trait that research finds relevant in distinguishing between the Western and the Arab cultures. As was discussed previously, while Westerners tend to use their time monochronically, Arabs, on the contrary, manage it more polychronically (Hall & Hall, 1990). Thus, according to Lewis (2006), Arabs and Americans are at the two extremes of the monochronic-polychronic scale. This difference, according to him, can influence interaction between the two groups. More specifically, in one of the few studies undertaken in the Moroccan context, Mouaid (1992) explained how time management varies considerably between the Moroccan, polychronic (event-centered), culture and the American, monochronic (time-centered), culture. Thus, according to her, if a scheduled issue was found in need of more treatment time than had been previously planned for it, "the Moroccans would most probably proceed and finish the issue at hand before going to the next one, while the Americans are more

likely to postpone it and go to other things which were scheduled for treatment right after it” (p.34). This, according to her, can be attributed to the fact that time is more important than the event for Americans whereas it is the other way around for Moroccans.

This section has thus far discussed some of the cultural aspects that the literature finds relevant in distinguishing between the Arab and Western cultures. What remains of this section, however, is devoted to a comparative analysis of the Moroccan and American psycho-cultural values as conceptualized by Hofstede’s multidimensional paradigm. As can be seen in the graph below, Hofstede (n.d) has comparatively presented the Moroccan and American index scores for his four dimensions, namely Power Distance, Individualism, Masculinity and Uncertainty Avoidance. Yet, he did not provide the Moroccan index score for Long Term Orientation (LTO) as it exists only for 23 countries. Therefore, this dimension is excluded from the analysis.

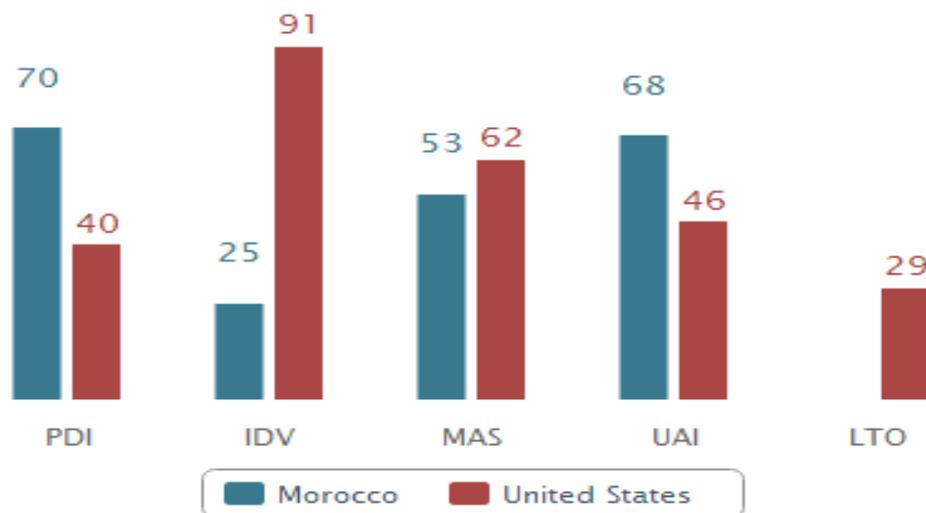


Figure 2: Cultural dimensions’ scores of Morocco and the United States (Hofstede’s Center, n.d)

As graphically shown above and based on Hofstede’s analysis, Morocco and the United States substantially differ along all the four cultural dimensions. Thus, with a score of 70 in the Power Distance Index (PDI), an unequal distribution of power and hierarchical relations are clearly important characteristics of the Moroccan culture. That is, Moroccans accept the uneven

distribution of power and thus “one’s status must be clear so that others can show proper respect” (Mooij & Hofstede, 2011, p.182). As was discussed previously, high power distance cultures are characterized by a clear dominance of the division between classes. In such cultures, Hofstede argues, centralization of power is very common if not the norm and subordinates expect to be told what to do. In relation to education and based on Hofstede’s interpretation of the Moroccan index of PD, a more teacher-centered approach to education tends to be the norm in the Moroccan educational context. Thus, in high PD cultures, teachers possess knowledge and hence the power and are therefore automatically esteemed and listened to. On the contrary, with a score of 40, which is significantly lower than the Moroccan PDI score, hierarchy is not very important for Americans and it is thus established only for convenience. That is, power and hierarchical relations are not essentially important for Americans. Thus, according to Hofstede, in the American culture, superiors are always accessible and communication between them and their subordinates is more or less informal, direct and participative. In relation to education, a more student-centered approach to education tends to prevail in the American educational system as students expect to be consulted and involved when decisions are made about their learning.

Uncertainty avoidance is another distinguishing aspect of the Moroccan culture. Thus, with a score of 68 on this dimension, Morocco is ranked among high uncertainty avoiding cultures. According to Hofstede’s interpretation of this score, Moroccans strive to avoid uncertainty, resist innovative ideas and methods, avoid unfamiliar situations, and show preference for tested paths. As was discussed earlier, high uncertainty avoidance cultures tend to see all what is new as dangerous and, therefore, adopt strict rules to minimize uncertainty. However, with a score of 46 on this dimension, the American culture is ranked among low uncertainty avoiding cultures. This means that Americans tend show more tolerance of

ambiguity, accept new and innovative ideas, are more risk-taking and have a general tendency to see all that is different as curious.

Concerning the masculinity/femininity dimension, Morocco's score is 53 which is lower than that of 62 of the United States. According to the Hofstedian view, a high score on this dimension means that the society is masculine and therefore is driven by competition, achievement, and material success. A low score on the dimension means that the society is feminine and therefore the dominant values in the society are modesty and caring for others. With a score of 53 on this dimension, Morocco as a nation is masculine, but compared to the American score of 62, Moroccans are less competitive and are therefore more modest and caring. In masculine countries, such as the US, people are expected to be decisive and assertive since competition and performance are highly emphasized. In line with this, Stewart (1972) emphasized how Americans hold the assumption that the world "is mechanistic and the things worthy of efforts are material" (p.35).

More importantly, with a score of 25 on the individualism/collectivism dimension, Morocco is considered a highly collectivistic society. This means that Moroccans emphasize connectedness and interdependence and a long-term commitment to their immediate and the extended family. However, with a score of 91 on this dimension, which is significantly higher than the Moroccan individualism index, the US is a highly individualistic culture. In fact, it has the highest score of individualism in the world. As we have seen, in individualistic cultures there is a widespread belief that each person is an independent entity from others. In support of this idea, Stewart (1972) explained that unlike other non-western cultures, social relationships among Americans are characterized by "equality, informality, impermanence and personal detachment in social interaction" (p.49). He continues, in the American culture "each individual strives for his own goals" (Stewart, 1972, p.56). However, in collectivistic cultures, such as the Moroccan society, the opposite tends to prevail. For example, as argued by Hamoud (2011), in

the Arab world the family remains the strongest and fundamental unit and “belonging extends beyond the immediate family to include relatives” (p.147). According to him, while in the American culture pursuing one’s individual interest is the normal mode of life, in the Arab culture pursuing one’s own individual goals is often regarded with suspicion. These differences can be attributed to the nature of child rearing in the two cultures. Thus, while in the Arab culture “children are taught to listen when adults talk, take part in social ceremonies, respect older persons and obey authority” (ibid), in the American culture, the “child is encouraged to decide for himself- to make up his own mind; he is encouraged to believe he himself is the best judge of what he wants and should do” (Stewart, op.cit, p. 32).

Based on the above discussion, it can be said that Moroccan and American people belong to two substantially different cultural mindsets. Thus, as was just outlined, unlike the Moroccan culture, which is classified as being highly collectivistic, more feminine, large in power distance and high in uncertainty avoidance, the American culture is described as being very individualistic, more masculine, small in power distance and low in uncertainty avoidance. Most importantly, as will be discussed in more detail in the conceptual framework chapter, these differences are expected to have some strong bearings on Moroccan and American university students’ self-directed leaning readiness and web 2.0 acceptance and use.

1.1.4 Summary

This review has presented what the literature perceives as the most fundamental theories and models underlying cross-cultural comparative research. It has also made it clear that cultural differences are a fact and highlighted some of the ways in which people’s cultural background implant in them different world views. This review has equally highlighted the extent to which the literature emphasizes a rather dichotomous conceptualization of cultural differences especially between the East and the West. Thus, we have seen how Hofstede’s (1980) conceptualization is based on splitting cultures into a collectivist East vs. a more

individualistic West, high vs. low power distant cultures, masculine vs. feminine, uncertainty avoiding vs. uncertainty accepting cultures and long vs. short term oriented ones. Likewise, Triandis' (1995) model of vertical vs. horizontal individualism and collectivism rests on the same dichotomous stand, and so does Markus and Kitayama's (1991) distinction between the independent and the interdependent self-construals prevailing in the Western and Eastern worlds, respectively. This very same dichotomous conception of cultural differences was also proposed by Hall (1976) through his famous distinction between high and low context communication styles and monochronic/ polychronic cultural orientations. However, despite these different typologies, the notions and ideas described by all these scholars are clearly married to one another and in many cases very interrelated. This review has also provided a cultural comparison of the Arab and Western cultures in general and the Moroccan and the American psycho-cultural backgrounds in particular based on Hofstede's cultural paradigm, which is believed to offer a valuable framework for the study of the effect of culture on students' self-directed learning readiness in web 2.0 environments.

1.2 Self-directed learning

1.2.1 Introduction

Attempting an extensive review of the literature found about self-directed learning is undeniably a real challenge, given the voluminous body of research found about it and the constant increase of publications in the field of human educational psychology with all its complexity and intricacies. Nevertheless, an attempt is made to provide a summary of the growing body of literature relating to self-direction in learning. This part of the review is made up of eight sections. The first introduces the concept of self-directed learning from a historical perspective by providing a general overview of its origin and development overtime to our present day. The second section presents and discusses several definitions put forward by different scholars. Various conceptual models of self-directed learning suggested by researchers, along with their conceptual underpinnings are presented in the third section. The fourth one is devoted to reviewing the conceptual frameworks used for measuring students' readiness for self-direction. The fifth, however, is concerned with reviewing the heralded theory of andragogy as opposed to pedagogy, and the ongoing debate concerning the perceived differences between adult education and pre-adult schooling. The sixth section is meant to uncover the criticism addressed to andragogy as a theory of adult learning in general and self-directed learning in particular. The factors believed to influence learners' conceptions and their overall readiness for self-directed learning are described and discussed in the seventh section. The last section reviews the literature dealing with the relationship between cultural differences and self-directed learning.

1.2.2 History

A great deal of research indicates that the field of Educational Psychology has witnessed important changes over the last five decades especially with the advent and propulsion of self-directed learning as one of the most widely researched areas. In fact, a quick examination of

the existing body of research on self-directed learning conducted within the last fifty years reveals an ongoing increase of attention and an unquestionable interest of scholars in providing a more informed and research-based understanding of this type of learning as one of the most essential and current axes of educational practice. To account for this special focus on self-directed learning and to explain its recent popularity, Harris (1989) listed six major factors:

...increasing recognition of individual needs; a focus on empowerment of individuals and social action; the development of the concept of lifelong education; rapid social and technological change which necessitates recurrent education; its close relationship with open and distance education; and the idea that self-direction accords adults dignity and worth (cited in Leach, 2000, p. 28).

Clearly stated is the idea that the proliferation of self-directed learning in research is a result of many interrelated factors, varying from the ongoing social and technological change to the importance of lifelong learning, especially in an era characterized by a great recognition of individual needs and interests, in addition to the learning opportunities made available by the explosively growing educational technologies. These factors, among others, contributed to a significant shift of attention that recognizes the prominence of lifelong learning as an evident and urgent need in the present educational era. This new educational philosophy is based on the importance of self-directed learning as the major way through which individuals continue to learn throughout their lifetime. Similarly, Candy (1991) highlighted this continuing interest in studying self-directed learning stating that

although self-direction has been ... a recurring preoccupation of educators throughout the ages, it seems particularly to have dominated the thinking, and hence to have captured the imagination, of many adult educators in recent years (p.5).

Candy's point is not different from Harris's argument. Thus, he has also stressed the primacy of self-directed learning research in the eyes of adult educators to the extent that it "captured

their imagination” in Candy’s own words. Yet, what is left unstated so far is the secret behind all this interest. The answer may be found in Alvin Toffler’s (1973) famous argument about the new role of education, which according to him,

must teach the individual how to classify and reclassify information, how to evaluate its veracity, how to change categories when necessary, how to move from the concrete to the abstract and back, how to look at problems from a new direction--how to teach himself. Tomorrow's illiterate will not be the man who can't read; he will be the man who has not learned how to learn (cited in Dunlap & Lowenthal, 2011, p.3).

Explicit in this citation is the idea that lifelong learning is seen as a critical educational goal that the modern education should aspire to achieve. The writer surprisingly foresaw the crucial role of self-directed learning and gave a new dimension to the concept of literacy by arguing that the future’s illiterate will no more be someone who cannot read but rather one who cannot self-direct his/her own learning.

Before delving into what self-directed learning means to different writers, a brief historical overview of the term is judged necessary. Thus, having a relatively clear picture of the concept entails placing it within its historical context, which would be incomplete otherwise. In effect, there is a general consensus among researchers that self-directed learning is by no means a newcomer. Thus, many writers like Cooper (1932), Borcket and Hiesmtra (1994) and Candy (1991), among others, argue that it dates back to the Greek philosophers like Plato and Aristotle pointing out that self-direction was the usual way of learning prior to the development of schools. For example, Cooper (1932) traced back the origin of self-directed learning to Aristotle who argues that

Learning, ... and wonder, as a rule, are pleasant; for wonder implies the desire to learn, so that the wonderful is something desired, and desire is always for the pleasant; while learning implies a settlement into our normal state. All men

desire to know; complete knowledge is the settled state to which we tend; and by definition pleasure is a settling into our normal nature (cited in Hynes 2005, p.9).

In this quote Aristotle asserts that all men are lifelong learners by nature, maintaining that it is basically a human nature for people to seek knowledge as something good and pleasant. Thus, for him, it is this human tendency towards what is good and the desire for all what is pleasant that make personal development and growth possible. Hiemstra (1994), in his turn, believed that early scholarly efforts to understand self-directed learning date back to late 1850s, precisely to Smiles' book *Self Help* (1858) in which he highlighted the value of personal development and responsibility.

Yet, according to Long (1991), the origins of self-directed learning as known today can be traced back to the late thirties when John Dewey (1938) believed that all people are born with limitless potential for development and growth. For him, education is the agency that paves the way for this growth. In this respect, Long (op.cit) maintains that Dewey (op.cit) and Lindeman (1927) were the first advocates of adult education who emphasized the role of human experience in learning. They were equally the first to suggest that the teacher's role is to guide but not control the process of learning, suggesting that teachers should be more facilitators of learning than transmitters of content.

As a matter of fact, it is only in the 1960s that self-directed learning received considerable attention and hence became one of the most researched areas. Cyril Houle is often cited as the real forerunner of adult education as he was the first to study how and why adults learn, in his book *The Inquiring Mind* in 1961. He concluded that learners fall into three categories based on their reasons and motives for learning and how learners in the first category are 'goal-oriented'. That is, they learn to achieve a certain objective or a specific goal. The second category is described as 'activity-oriented' learners, who choose to learn for social or

fellowship reasons. The third type of learners, however, is learning-oriented in that they seek learning for its own sake and intrinsic value. It is this last type of learners who are more associated with self-directed learning, as defined in subsequent research (Cited in Hiemstra, 1994).

According to Leach (2000), another pioneering work was carried out by Allen Tough, one of Houle's doctorate students, in his book *The Adult Learning Projects* (1979). Tough built on Houle's work and studied the degree of learners' responsibility acceptance outside the formal institution among Canadian adult learners. He concluded that 90% of his interviewed subjects have already carried out at least one major project work in their life and that 80% of these projects were self-planned and carried out by the learners themselves.

Even so, the vast majority of the literature celebrates Malcolm Knowles' prominent efforts in understanding self-directed learning. Thus, his works are always cited as having established the foundations of adult education. Knowles (1970) proposed a new theory of adult learning that he called andragogy in his work *The Modern Practice of Adult Education: Andragogy Versus Pedagogy*, which he defined as "the art and science of helping adults learn," and distinguished it from pedagogy, "the art and science of helping children learn" (Knowles, 1980, p. 43) (a detailed review of andragogy is provided in the fifth section). Hiemstra (1994), for example, acknowledges Knowles' efforts in understanding self-directed learning pointing out that he has significantly contributed to knowledge in the field and further argued that he has provided a foundational understanding of self-directed learning through his publication, *Self-Directed Learning* (1975), which has become the guide to much subsequent research into this area.

1.2.3 Definition

Although the term self-directed learning may seem simple and self-explanatory to some people, a great deal of literature indicates that such perception may be deceiving. Thus, many writers admit that there is no one single, accepted definition of self-directed learning, rather there seems to be an inevitable overlap between self-directed learning and a plethora of other terminologies. For example, Brockett and Hiemstra (1991) noted that terms such as “self-planned learning, self-teaching, autonomous learning, independent study, and distance education” (p. 18) are often used interchangeably with self-directed learning. They added that “These terms offer varied, though often subtly different, emphases” (p. 18). Similarly, Gerstner (1992) identified 20 different terms being used interchangeably with self-direction, including self-instruction, self-initiated learning, self-propelled and individual learning. Candy (1991) also articulated this conceivable confusion of terms stating that self-directed learning is

a versatile concept, it has been co-opted to every purpose that adult educators espouse and pursue. The consequence of this is that the literature on self-direction is extensive, but it is also confusing. The lack of internal consistency precludes the possibility of developing a coherent theory of self-direction, or even of self-directed learning, from within the literature itself (p.411).

Regardless of all the confusion surrounding self-directed learning as a concept due to the potential overlap between it and other terms and the resulting difficulty from lack of a demarcation line between these terms, various definitions of self-directed learning have been nevertheless put forward. One of the most frequently cited is the one offered by Knowles (1975):

Self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p. 18).

A respectable volume of the literature suggests that this definition is widely accepted as it is cited by many authors as the basis of other Self- Directed Learning (SDL) definitions (the acronym SDL will be used henceforth, where necessary, to avoid redundancy). As can be understood from this rather broad definition, Knowles sees SDL as a process initiated either by the learner alone or with the help of others to diagnose his/her learning needs, set goals, identify resources, select and use appropriate strategies, and evaluate the final learning outcomes.

Iwasiw (1987) proposed a rather similar definition of self-directed learning, by listing what he thinks to be characteristics of self-directed learners, arguing that a self-directing learner is someone who assumes responsibility for identifying his/her own learning needs, determining his/her own learning objectives and deciding how to evaluate his/her learning outcomes. Clearly, both researchers stress the idea of independent learning in its different facets, including but not limited to formulating goals, selecting learning strategies and resources, implementing these strategies while carrying out a given task and finally deciding on the nature of the results achieved. Yet, Knowles did not say in his definition whether the learners actually work in isolation or in association with others and hence the ambiguity remains in this respect.

While these two scholars adopt a process-oriented perspective in their definition of SDL, Guglielmino (1977), however, views self-directed learning as basically relating to the individual personality characteristics and ability. She emphasized the idea that self-directing learners have certain personal attributes related not only to their attitudes towards SDL but also their abilities which she judged not only necessary, but rather as a prerequisite for the SDL process. She further stated that these attributes “ultimately determine whether self-directed learning will take place in a given situation” (p.34). Accordingly, the focus of attention in defining SDL for her should be on learners’ personal characteristics rather than process related

aspects. (This idea is further articulated in section (1.2.5.1) discussing her SDL readiness measurement conceptualization)

Zimmerman (1990) provided a new conceptualization of SDL based on learning strategies relating to three major processes: metacognitive, motivational, and behavioral processes. He defined self-directed learning as

a self-directive process by which learners monitor personal, behavioral, and environmental situations to establish effective learning strategies, set goals, observe, reflect, and alter mental aptitude into academic aptitude (cited in Farajollahi & Moenikia, 2011, p.30).

The role of these processes is later explained in a rather recent study. He pointed out that “students are self-regulated to the degree that they are metacognitively, motivationally, and behaviorally active participants in their own learning” (Zimmerman, 2001, p.5). In simple terms, learners’ degree of self-direction and acceptance of responsibility for their learning depends on the degree to which they manage and monitor their cognitive, motivational, behavioral and environmental aspects of their learning.

Based on the previously cited definitions, Brockett and Hiesmtra (1991), provided a two-level definition of SDL based on a combination of both Knowles’ and Guglielmino’s different conceptions of SDL. Their definition can be seen as a middle ground between the two extremes, namely the process oriented conception proposed by Knowles and the personality characteristic conception by Guglielmino. Thus, they conceive SDL as a combination of both a learner’ personality characteristics and the instructional process. In fact, they used two different terms to distinguish between these two levels. They used the term ‘self-directed learning’ to refer to the instructional process, and ‘learner self-direction to refer to personality characteristics. They defined the former as “the process that a learner assumes primary responsibility for planning, implementing and evaluating the learning process” (p.24), and the latter, that is, learner self-direction as “a learner’s desire or preference for assuming responsibility for learning” (ibid).

They combined these two dimensions in one definition and stated that SDL refers to “both the external characteristics of an instructional process and the internal characteristics of the learners, where the individual assumes primary responsibility for the learning experience (p.24). Huang (2008) makes reference to this definition and explains that the two dimensions, personality characteristics and instructional process, have a reciprocal influence, which can influence the entire process either positively or negatively. In other words, when learners are taught using appropriate instructional processes that promote self-direction, learner’s attributes can be improved automatically, which can eventually help learners to take more responsibility for their own learning.

For Candy (1991), Self-directed learning is both a method and an outcome. Thus, he provided a multi-level definition of self-directed learning by making a distinction between self-direction as both a method and an outcome of learning. For him, self-direction as a method is comprised of two separate entities: learner control and autodidaxy (self-teaching). Self-direction as an outcome, on the other hand, is composed of two elements, namely personal autonomy and self-management skills, which he uses to refer to a learner’s characteristics and abilities to assume one’s responsibility for learning. Following this stream of thought, Candy believes that appropriate implementation of teaching methods will certainly enhance learners’ ability to manage the self-direction process.

Grow (1991) views SDL as the extent to which learners have a say in their learning. It is “the degree of choice that learners have within an instructional situation” (p.128). He argues that SDL exists in a continuum and that “learners advance through stages of increasing self-direction and that teachers can either help or impede that development” (p. 125). For him, good teaching involves having a clear image of students' levels of self-direction and matching them with appropriate teaching strategies and materials to consequently help learners advance to greater self-direction levels and eventually to more readiness and acceptance of more responsibility for one’s learning.

Wolters, Pintrich and Karabenick (2003) provided one of the most recent, yet very comprehensive, definitions in that it accounts for various aspects of learning suggested by all the preciously discussed definitions. SDL for them is

an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment. These self-regulatory activities can mediate the relations between individuals and the context and their overall achievement (p.2).

From the various definitions discussed above, it is clear that self-directed learning means different things to different people. This point is highlighted by Grow (1991) in the following quotation.

Faced with a concept like self-directed learning, one can either conclude that it appears messy merely because it has been inadequately defined, or one can realize that beneath all our indispensable labels for basic human activities (e.g., “behavior” , “perception”, “thought”, “experience”, “communication”) lie the roots of similar complexity. The idea of self-directed learning continues to fascinate partly because it embraces so many credible inconsistencies (p.128).

1.2.4 Models of self-directed learning

As previously noted, scholars differ considerably in their conception of self-directed learning as there are those who view it as a linear instructional process and those on their other extreme, who see it in terms of learners’ personal attributes or personality characteristics. Yet, a third category believes that self-directed learning is not an either/or notion but basically an amalgam of both instructional processes and learners’ attributes. For better or worse, these conceptual differences resulted in various and different models of self-directed learning, which have been developed to explain how learners take an actively responsible and reflective role in their own learning. These proposed models, however deeply based on different views and conceptions, provide a wide range of ideas about how self-directed learning is conceived both

in theory and practice and more importantly provide a clear picture of the overall implications of SDL for adult educational practice. A critical examination of these models will also certainly serve as a basic and solid theoretical background for the present thesis. The models discussed herein, though sequenced according to their date of publication, they are also classified and discussed in the light of their advocated stands. In this respect, Merriam and Caffarella (1999) argue that most suggested models can be seen as falling into at least three categories: linear, interactive and instructional. Therefore, an attempt will be made to discuss all these models in the light of these three classification criteria.

1.2.4.1 Knowles' and Tough's linear Models

The earliest models proposed by Knowles (1975) and Tough (1979) are viewed as the most linear and process-oriented in the sense that they describe learners as moving through a series of steps to reach the targeted outcomes. According to this view, learning is seen as moving from different stages, starting from diagnosing needs to identifying resources to evaluating outcomes. One of these models is proposed by Knowles (1975). He suggested six steps for self-directed learning namely, climate setting, diagnosing learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and finally evaluating learning outcomes as was previously clarified through his definition. Additionally, Tough (1979) proposed another process oriented model based on similar conceptions. For him, self-directed learning process includes four major steps: purposing, planning, executing, and judging. Obviously, these two models conceptualize SDL as a set of sequenced and interrelated learning activities. Brockett and Hiemstra (1991) articulated the proliferation of this conceptual orientation and stated that most efforts to understand self-direction in learning to date have centered on the notion of an instructional process in which the learner assumes a primary role in planning, implementing, and evaluating the experience (p. 22).

Yet, these models received serious criticism because of their over emphasis of process related aspects of learning and neglecting other factors like learners' personality attributes in terms of their ability and willingness to take more responsibility for their own learning and failing to recognize the effect of other factors like the cultural background of the learners.

1.2.4.2 The Personal Responsibility Orientation (PRO) Model

Unlike linear models, those models developed in the late 1980s and the early 1990s are less linear and more interactive. As noted earlier, self-directed learning is also conceived as a combination of two different dimensions, namely learners' personal attributes and the instructional process. In this respect, Marriam and Caffarella (1999) argue that these two dimensions "interact to form episodes of self-directed learning" (p.295). Researchers like Brockett and Hiemstra (1991), Candy (1991) and Garrison (1997) among others are staunch advocates of this rather multi-dimensional interactive conception of self-directed learning. Conceptually, in such models different aspects of learning are accounted for in the sense that they give prime importance not only to the learner and his/her personal attributes, the instructional process, but also the context of learning itself, considering learners' characteristics as central to the SDL process. In other words, SLD is not merely a series of learning activities but one that is basically influenced by learners' abilities and willingness to accept and assume more responsibility for their own learning.

One of the most frequently cited interactive models is Brockett and Hiemstra's (1991) Personal Responsibility Orientation (PRO) model, which is largely based on the assumptions of humanistic philosophy which emphasizes and values personal responsibility. The major components of the PRO model are illustrated in the figure below

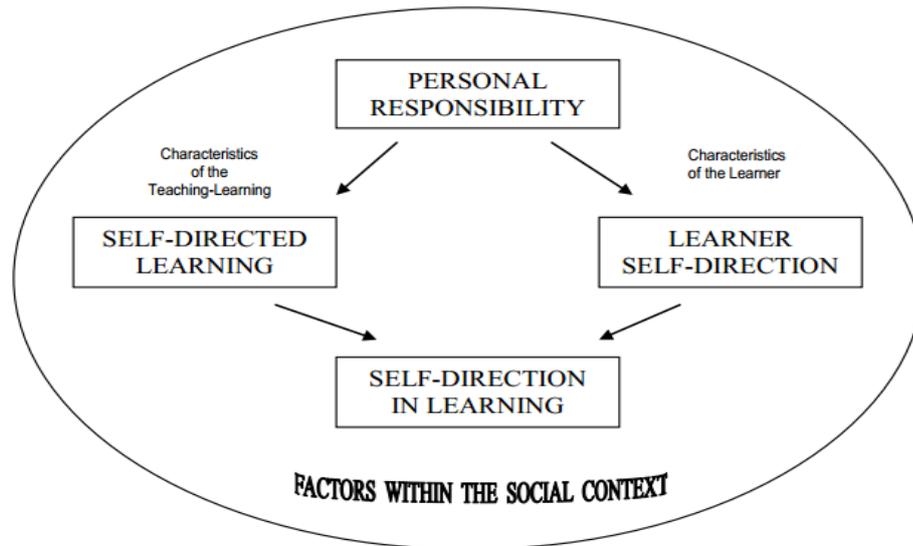


Figure 3: The Personal Responsibility Orientation (PRO) Model (Brockett & Hiemstra, 1991, p. 25)

As can be seen in this figure, the personal responsibility orientation model (PRO) is designed to recognize the differences between two different dimensions namely ‘self-directed learning’ and ‘learner self-direction’. In fact, the starting point in understanding self-direction in adult learning in this model lies in the notion of personal responsibility, which according to Brockett and Hiemstra (op.cit) refers to a “learners’ ownership of their thoughts and actions, their control over how they respond to a particular learning situation”(p.26). In short, personal responsibility means that people have certain control over how to respond to a particular situation. As a way of illustrating this model, these scholars distinguished between two different external and internal dimensions. The external dimension or what they refer to as *self-directed learning* -the instructional method- relates to the learners willingness and ability to take control of their learning. The internal dimension, however, pertains to the personal characteristics that predispose a person to be in command of his/her learning. They refer to this dimension as *learner self-direction*. These two dimensions are then integrated as self-direction in learning. As can be seen in the above figure, they added social context as a component in their model. Furthermore, Brockett and Hiemstra highlighted the idea that an informed

understanding of SDL entails viewing self-directed learning in terms of two basic orientations. In the first one, SDL is seen as a process “in which a learner assumes primary responsibility for planning, implementing, and evaluating the learning process” (p.24). In the second orientation, SDL is conceived as a goal, which focuses on “a learner’s desire or preference for assuming responsibility for learning” (ibid).

Though these scholars stressed the importance of personal responsibility in their model, they argued that it is of paramount importance to take three major related points into account. First, personal responsibility should be seen as a continuum, and that each individual assumes some degree of responsibility. For them, assuming one’s responsibility is not an either/or characteristic. Thus, “adult learners will possess different degrees of willingness to accept responsibility for themselves as learners” (p.27). They, therefore, emphasized that it is a misconception to assume that learners necessarily start a learning task with a high level of self-direction. Second, personal responsibility implies that the primary focus of the learning process should be on the individual rather than the larger society without neglecting, however, the social context in which the learning takes place. Third, they pointed out that while taking responsibility for one’s thoughts and actions, one also assumes responsibility for the consequences of those actions. In this regard, they referred to Rogers (1961) who stated that to be “self-directing means that one chooses-and then learns from the consequences (cited in Brockett & Hiemstra, op.cit, and p.27). This notion of choice in relation to assuming responsible roles for learning is further discussed in section 7. In fact, Brockett’s and Hiemstra’s model has opened new horizons and provided new insights about SDL. According to Song and Hill (2007), the PRO model has made an important contribution to knowledge and a significant addition to other SDL models.

1.2.4.3 Candy's Four-Dimensional Model

Another model conceptualizing self-direction as both an instructional process and a personal characteristic was developed by Philip C. Candy in 1991, who posited that SDL should be viewed as an umbrella concept with four dimensions. The first is concerned with “self-direction as a personal quality or attribute” (motivation to take responsibility) or what he also called *personal autonomy*. The second dimension is self-direction as *self-management* referring to “the willingness and ability to conduct one’s own education” (p.23). The third dimension, however, pertains to self-direction as “a way of organizing instruction in formal settings”, which he named *learner-control*, and finally, self-direction as the individual, rather than the institutional pursuit. He refers to this final dimension as *autodidaxy*. Candy (1991) concluded that self-directed learning should be generally seen as a continuum and that it does not exist in “pure” form. For him, it is a “matter of degree.” In other words, learners may be low in self-direction in one situation and highly self-directed in another. He also believed that the self-directed process is serendipitous and non-linear. In fact, though Candy's model also provided a new conceptual dimension to our understanding of SDL, it also received some criticism. Song and Hill (2007) argue that “there are elements missing from this model. For example, the model does not describe how SDL is relevant in different learning contexts such as classroom learning or online learning (p.29).

1.2.4.4 Grow's Staged Self-Directed Learning Model

As the dates of publication of these models suggest, the 1990s remain by all standards the era of conceptual search for understanding self-directed learning. Unlike the PRO model, Grow (1991) developed another model which conceives of self-directed learning as an instructional process that he labeled the Staged Self-Directed learning Model (SSDL). Grow, through this model, attempted to explain the idea of learners’ progression from a state of dependency to another state of complete self-direction through stressing the variability of self-

directedness along the different stages of learning. He revealed that self-direction varies significantly along a continuum. Accordingly, learners' needs will significantly differ from one stage to the other, which also suggests that teachers' roles will also differ to match learners' every learning stage. Grow's arguments are illustrated in the table below.

Table 8: Grow's Staged Self-Directed Learning Model (Grow, 1991, p. 129)

Stage	Student	Teacher	Examples
Stage 1	Dependent	Authority Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.
Stage 2	Interested	Motivator Guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects.
Stage 4	Self-directed	Consultant, delegator	Internship, dissertation, individual work or self-directed study group.

As can be seen in this table, the Staged Self-Directed Learning model illustrates that learners in stage one (dependent) are totally dependent on the teacher and are therefore low in self-direction. Grow explains that at this stage learning is teacher-directed, and that students “either treat teachers as experts who know what the students need to do” (p.129) or even worse they “passively slide down the educational system, responding mainly to teachers who make them learn” (ibid). According to him, they need an ‘authority coach’ to give them immediate and explicit directions on what to do and when. At this stage, teachers should devise activities likely to motivate learners and enhance their ability to overcome the potential resistance they may have. He also pointed out that the dependency on teachers is subject related. That is, students may be dependent on the teacher in one subject but not in others. As can be seen in the above table, learners at stage two (interested) have a relatively moderate level of self-direction in learning. Hence, the teacher's role is no more an ‘authority coach’ but rather a ‘motivator and a guide’. Accordingly, what learners need at this stage is more praise and encouragement.

Grow asserts that teachers should respond to such needs by providing inspiring lectures which can foster learners' ability to assume more responsibility and help them become more active in their learning. Intermediate self-direction happens in stage three (involved) in which learners have become active agents. Grow further explains that learners at this stage view themselves as active participants in their own education but are relatively still in need of guidance. The teacher's role is therefore to initiate discussion and to encourage project work, and to offer resources and methods of gaining and building knowledge. Students who are in stage four have reached the final stage and are eventually self-directed learners. Grows explained that learners at this stage consult experts but are "able and willing to take responsibility for their learning, direction and productivity" (p.134). The teacher at this final stage as can be seen in the table is merely a consultant or delegator. Consequently, the "progression is now complete" (p.135). Accordingly, the teaching operation at this stage should be completely learner- directed.

Grow through this model shows how learners can locate themselves in terms of their degree of readiness with being self-directed. According to him, teachers can help their students become more self-directed in their learning by appropriate teaching strategies and materials to match learners' needs along the different stages. In this regard, Rothwell and Sensenig (1999) listed three different roles teachers should play to promote self-directed learning: a facilitator, enabling agent, and resource agent. As a facilitator, the teacher helps learners identify and use appropriate strategies and techniques to carry out their learning and achieve their goals. By adopting the role of enabling agent, they provide students with the necessary means for pursuing learning, and help them locate learning problems and find solutions to them. As a resource agent, the teacher connects learners who have problems in carrying out SDL projects with resources that can help them overcome these problems.

1.2.4.5 The Pintrich Model

Pintrich (2000) proposed a more recent and very comprehensive model for understanding self-directed learning, or self-regulated learning as he prefers to call it. This model is more or less similar to Grow's models in the sense that it is also four-staged, yet, much more detailed especially with respect to the different stages leading to self-direction. By way of illustration, this model views self-direction as an interaction of different personal, behavioral and contextual processes. These processes, according to him, fit into four major phases, namely planning, self-monitoring, control and evaluation. Within each of these phases, self-regulatory activities are structured into four areas, namely cognitive, motivational/ affective, behavioral and contextual. He argues that these phases are not hierarchically or linearly structured he states that

the four phases do represent a general time-ordered sequence that individuals would go through as they perform a task, but there is no strong assumption that the phases are hierarchically or linearly structured such that earlier phases must always occur before later phases (cited in Pintrich, 2004, p.389)

In other words, the four phases do not necessarily occur in every self-regulated learning process, and that they do not always happen in the suggested sequential order, and that they may “overlap, occur simultaneously with multiple interactions among the different processes and components” (2000, p. 456). The components of this model are illustrated in the figure below.

Table 9: Pintrich's Model of Phases and Areas of Self-Regulated Learning (Pintrich, 2004, p. 390)

Phases and relevant scales	Areas for regulation			
	Cognition	Motivation/Affect	Behavior	Context
<i>Phase 1</i> Forethought, planning, and activation	Target goal setting Prior content knowledge activation Metacognitive knowledge activation	Goal orientation adoption Efficacy judgments Perceptions of task difficulty Task value activation Interest activation	Time and effort planning Planning for self-observations of behavior	Perceptions of task Perceptions of context
<i>Phase 2</i> Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help Self-observation of behavior	Monitoring changing task and context conditions
<i>Phase 3</i> Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing, motivation, and affect	Increase/decrease effort Persist, give up Help-seeking behavior	Change or renegotiate task Change or leave context
<i>Phase 4</i> Reaction and reflection	Cognitive judgments Attributions	Affective reactions Attributions	Choice behavior	Evaluation of task Evaluation of context
<i>Relevant MSLQ Scales</i>	Rehearsal Elaboration Organization Critical Thinking Metacognition	Intrinsic Goals Extrinsic Goals Task Value Control Beliefs Self-Efficacy Test Anxiety	Effort Regulation Help-Seeking Time/Study Environment	Peer Learning Time/Study Environment

As can be seen in this figure, the first phase of self-regulatory processes is referred to as *forethought, planning and activation*. This phase comprises four different areas for self-direction in which we find initial self-regulatory activities like target goal setting, activation of previously acquired cognitive and metacognitive knowledge (cognition area). Additionally, in the second area, other aspects of self-regulation related to motivational and affective beliefs are activated. Pintrich explains that “in the same manner that learners can regulate their cognition,

they can regulate their motivation and affect” (Pintrich, 2004, p.395). The regulation of motivational aspects of learning includes

goal orientation (purposes for doing task), self-efficacy (judgments of competence to perform a task), perceptions of task difficulty, task value beliefs (beliefs about the importance, utility, and relevance of the task), and personal interest in the task (liking of content area) (ibid).

In the behavioral area, learners plan and identify both the time and effort needed to carry out the task. The last aspect of learning that is activated at the planning phase is students’ perceptions of both the task at hand and the class context in which the learning takes place (contextual area).

The second *monitoring* phase according to Pintrich (op.cit) “concerns various monitoring processes that represent metacognitive awareness of different aspects of the self and task or context” (p.389) In fact, it is within this monitoring phase that we find important activities that enhance learners’ awareness of their cognitive, emotional and behavioral abilities. These activities include but are not limited to monitoring cognitive and metacognitive awareness located in the cognition area; awareness and monitoring of emotion and motivation by articulating particular reasons and motives for wanting to complete the activity in which learners are engaged (motivational area). Within the third and fourth behavioral areas respectively, learners can monitor their time, effort and their overt behavior in addition to monitoring the task and the context conditions. Pintrich (2000b) pointed out that these processes increase learners’ awareness of their own state of cognition, emotion, motivation and ability or difficulty to perform the task at hand. They can similarly enable the learner to adjust their learning materials, strategies to serve the targeted learning outcomes.

The *control* phase involves efforts to control and regulate different aspects of learning relating to the self, task and context. It can be assumed that this phase is somehow a continuity

to the previous, self-monitoring phase. Thus, it is at this point that the awareness the learner has previously accumulated (in cognition, emotional/ affective, behavioral and contextual areas) will be utilized while he/she is actually carrying out the task. In relation to control of cognition, Pintrich explains that

one of the central aspects of the control and regulation of cognition is the actual selection and use of various cognitive strategies for memory, learning, reasoning, problem solving, and thinking (Pintrich, 2004, p.393).

In effect, the control phase is the stage where learners make use of the cognitive, metacognitive, motivational and affective strategies in addition to time and effort management strategies which are necessary for carrying out the task. The last aspect that is controlled in this phase is related to the contextual atmosphere and structure of the class. In this respect, Pintrich (op.cit) argues that contextual control “involves efforts to control and regulate the tasks and context the college student confronts in the classroom” (p.399). Compared with other areas, he argues that “control of the tasks or context may be more difficult because they are not always under direct control of the individual learner” (ibid)

The fourth and final phase is *reflection* as it accounts for various types of reflections on the self, the task and context. In simple terms, it is at this phase that learners evaluate the learning process in its different phases and make judgments about its outcomes. This is achieved through comparing the attained results against the previously set goals in the planning phase. After such comparison is done, the learner decides about the success or the failure of the process as a whole. As a result, he/she may have emotional reactions to the outcome like happiness at success or sadness at failure and can also reflect on the reasons for the outcome (Pintrich, 2004).

Having presented all these conceptual attempts explaining self-directed learning with all their differences, similarities and in many cases their inconsistencies, it remains to be said

that some writers like Pintrich (2000b) argue that no matter how conceptually different these models may seem, they all have at least four major common assumptions. The first is referred to as the *active, constructive assumption*, viewing “learners as active constructive participants in the learning process” (p. 452). As may be noticed, all the models discussed thus far view the learner as an active agent in most of the aspects of his learning, including setting goals, choosing from a repertoire of learning strategies, and assessing progress toward the targeted outcomes. The second assumption is called the *potential for control assumption*, which assumes that “learners can potentially monitor, control, and regulate certain aspects of their own cognition, motivation, and behavior as well as some features of their environment” (p. 454). The *goal, criterion, or standard assumption* is the third common point of all the suggested models. It assumes that “there is some type of criterion or standard against which comparisons are made in order to assess whether the process should continue as is or if some type of change is necessary” (p. 452). What this means is that there is always a criterion against which the progress is measured to determine the nature of outcomes of the learning process. The fourth assumption, however, concerns the fact that self-regulatory activities are linked to personal and contextual characteristics and actual achievement or performance. It is called the *mediation assumption* which stresses that “self-regulatory activities are *mediators* between personal and contextual characteristics and actual achievement and performance” (p. 453). This emphasizes the idea that self-directed learning is a result of many interrelated factors as is clearly articulated in the following quotation:

It is not just individuals' cultural, demographic, or personality characteristics that influence achievement and learning directly, nor just the contextual characteristics of the classroom environment that shape achievement, but the individuals' self-regulation of their cognition, motivation, and behavior that mediate the relations between the person, context, and eventual achievement (Wolters, Pintrich & Karabenick, 2003, p.4).

As was already mentioned in the beginning of this review, there is no one single definition or conception of self-directed learning in the sense that the models presented and discussed offer a wide range of insightful ways of conceptualizing self-directed learning. Whether seen as a process, a personality characteristic or both; or similarly whether viewed as a linear activity or seen in terms of an interactive process or even in terms of instructional processes, accounting for the stages or transitions learners may go through as they adjust to learning, or stressing the roles teachers should take when self-directed learning is used in formal education. Be that as it may, and as Leach argues: “models cannot describe ‘reality’ or prescribe what will happen. They are no more than tentative representations of possibilities” (Leach, 2000, p.44).

1.2.5 Measuring self-directed learning

A respectable volume of literature suggests that measuring self-directed learning is a real challenge. Given the various intricacies and inconsistencies accompanying both the multi-dimensional definitions and the complex conceptual models developed by different scholars, it is thus no wonder that many researchers face a great deal of difficulty while trying to see how SDL can accurately be measured. In this respect, Leach (2000) explains how the differences in defining self-directed learning inevitably impede designing a reliable and valid measurement instruments. As she puts it,

even if an instrument is designed to incorporate these dimensions, we still have the issue of whether self-direction is an abstract quality that is transferable across different situations or whether it has subject and context specific elements that make it difficult, if not impossible to measure (p.37).

The idea that Leach puts across in this quotation is that even though one manages to incorporate the different dimensions of self-regulated learning (the instructional process and the learners’ personal attributes dimensions) in one measurement instrument, he or she is still faced with

an insolvable problem related to the questionable possibility of transferring self-direction across situations. Similarly, Candy (1991) shares the same belief about measuring self-directed learning and comments that studies relating to it are based on the “questionable notion that self-direction is a measurable attribute” (p.7).

Despite all these rather skeptical views regarding the possibility of an accurate measurement of self-directed learning, much effort has been invested to develop instruments measuring its readiness among learners; in this section a review of the most well-known, frequently cited, and widely used ones is attempted.

1.2.5.1 Guglielmino’s Self -Directed Learning Readiness Scale (SDLRS)

There is a general consensus among writers that Lucy M. Guglielmino was among the first scholars who developed an instrument to measure individuals’ readiness for self-direction in 1977 in her doctoral dissertation, entitled the Self-Directed Learning Readiness Scale (SDLRS). This instrument is also referred to as the Learning Preference Assessment (LPA). Wiley (1983) defines a learner readiness for self-direction as “the degree to which the individual possesses the attitudes, abilities and personality characteristics necessary for self-directed learning” (p.182). Guglielmino’s instrument is a 58 item on a 5 point- Likert scale, utilizing a 1 as “almost never” response to a 5 with “almost always” with closed-ended prompts. It is based on self-reported responses designed to assess the degree to which learners see themselves as having the skills and attitudes associated with self-directed learning. According to Guglielmino (1977), this instrument was developed through a Delphi process and that proponents of self-regulated learning like Cyril O. Houle, Malcolm S. Knowles, Allen Tough were members of the panel that developed the questionnaire. According to her, a factor analysis of the instrument yielded the relevance of the following eight factors: self-concept as an effective learner; openness to learning opportunities; initiative and independence in learning; acceptance of responsibility for one’s own learning; love of learning; creativity; ability to use basic study

skills and problem-solving skills; and positive orientation to the future (cited in Leach, 2000). In a later work, Guglielmino (1989) suggested that this instrument is meant to measure a person's 'current readiness' for self-direction rather than his or her 'actual self-direction'.

As a matter of fact, even though Guglielmino's (SDLRS) is one of the most widely used instruments to measure learners' self-direction readiness, it is not without criticism. Some researchers like Oddi (1987), Field (1989) and Candy (1991) raised some different concerns about its validity and reliability. Likewise, Field (1989) claimed that SDLRS has no proper validation and is conceptually as well as methodologically flawed. In an attempt to defend her scale, Guglielmino (1989), replied to Field's criticism addressed to the SDLRS, arguing that while SDLRS "may not be the perfect measurement tool, it is the best that we have in this area of study" (p.240). Oddi (1987), in her turn, makes the point that the SDLRS focuses on the process of self-directed learning and overlooks the personality aspects and hence should not be taken as measuring self-directed learning.

Yet, the vast majority of studies measuring self-directed learners' readiness refute the criticism leveled against the SDLRS and support the reliability and validity of the instrument (Wiley, 1981; Finestone, 1984; McCune, 1988; Brocket & Hiesmtra, 1991; Delahay & Smith 1995; Merriam & Caffarella, 1999; Maltby, Lewis & Hill, 2000). Previous reported results of many empirical studies examining the construct validity and reliability of SDLRS over more than 20 years have shown relatively consistent results confirming validity and reliability of the instrument. Finestone (1983) for example, tested the SDLRS and reported a reliability coefficient of 0.82. Similarly, Wiley (1981) reported an internal coefficient reliability of 0.79. Additionally, more recently, Delahay and Choy (2000) made reference to Maltby, Lewis & Hill (2000), who reviewed the reliability and validity of SDLRS. They reported reliability data for internal consistency coefficient alpha between 0.67 and 0.96, and test-retest reliability of 0.79 and 0.82. Besides, several scholars clearly acknowledge the contribution the SDLRS instrument

has made to broaden our understanding of SDL. To account for the frequency of use of this instrument among researchers, McCune (1988) examined studies done on self-directed learning between 1977 / 1987 and concluded that SDLRS was by all standards the most frequently used instrument. Moreover, Brocket (1985) concluded that “SDLRS has helped to move the self-directed learning research beyond description toward a great understanding of the relationship between self-directedness and certain personological variables” (p. 56).

Similarly, Long (1991) maintains that it is more likely that “the greatest boost to the study of self-directed learning was provided by Lucy Guglielmino’s SDLRS’ (p.12). Besides, Brocket and Hiemistra (1991) stressed that despite the several methodological concerns leveled against SDLRS, it has contributed to our understanding of self-directed learning; in their own words,

the SDLRS has made it possible to advance the knowledge base of self-direction in ways that otherwise would not have been possible. Guglielmino is to be commended for her willingness to help us become better able to explain what lies beneath the surface of adult learning iceberg (p.75).

Whilst these scholars think that Guglielmino’s contribution to knowledge “ultimately outweighs the limitations that seem to be inherent within the instrument” (p.7), Merriam and Caffarella (1991) believe that more research is needed to “put to rest these major differences of opinion” (p.217).

1.2.5.2 Oddi’s Continuing Learning Inventory (OCLI)

As a reaction to Guglielmino’s SDLRS, Oddi (1984) proposed another self-directed learning measurement instrument, labeled Oddi’s Continuing Learning Inventory (OCLI). Thus, as argued by Oddi, self-directed learning should be seen in terms of the learner’s personality characteristics, rather than a process of instruction. Based on this view, she developed an instrument, which focuses on personality characteristics of individuals who

initiate and persist in self-directed learning (cited in Brockett & Hiemstra, 1991). Oddi (1985) used three related dimensions to identify and group personality traits that she believed related to self-directed learning. These dimensions include:

- 1- Proactive drive versus reactive drive, which she defines as “the ability to initiate and persist in learning without immediate or obvious external reinforcement” (p.98)
- 2- Cognitive openness versus defensiveness, defined as the “openness to new ideas and activities, ability to adapt to change, and tolerance of ambiguity”; as opposed to “rigidity, fear of failure and avoidance of new ideas and activities” (p.99)
- 3- Commitment to learning versus apathy or aversion to learning. Through this dimension, she argues that there are two types of learners: those who are intrinsically committed to learning for its own sake, and those who are not interested in being involved in learning (Oddi, op.cit)

Based on the above conceptual orientation, Oddi designed her OCLI instrument which was 100 items in its initial stage. These items were then subject to a content validation of a panel of experts and a group of graduate students. Sixty-five items were selected from this process. These 65 items were then organized in a seven-point Likert scale instrument. The refined group of items was put together into a pre-pilot instrument that was then administered to a group of 30 volunteers in the pilot study. The final 31 items, which remained after piloting, were assembled into another instrument that was administered to a group of 287 graduate students in law, nursing and education. The results showed that 6 items lowered the reliability of the instrument and so they were deleted. The 26 remaining items yielded a reliability coefficient alpha of 0.75. In order to validate and support the validity and reliability coefficient results of her new instrument, Oddi administered it to a new sample of 271 graduate students in law, nursing and education. She found out that two items correlated negatively with the total score so they were eliminated. The standardized coefficient alpha for the 24-item OCLI was 0.88. Oddi (1984) added that this 24 item instrument was further retested with 34 participants. The test/retest analysis yielded coefficient alpha of 0.89. The final results made of Oddi's Continuing Learning Inventory a 24 items Likert scale. Yet, compared to the SDLRS, Oddi's

instrument has less literature foundation, and very little evidence of its construct, content and criterion reliability and validity can be found in the literature (Delahaye & Smith 1995; Maltby et al., 2000).

1.2.5.3 Fisher et al's. Self-Directed Learning Readiness Scale

In a much more recent attempt quantifying self-directed learning readiness, Fisher, King and Tague (2001) developed a new version of SDLRS, based on the works of prominent scholars in the area of SDL such as Knowles (1975), (1990); Guglielmino (1977), Candy (1991) and Brocket and Hiemstra (1991). As was discussed previously, Guglielmino's (1977) SDLRS, despite its widely recognizable merits, has been criticized for having inherent problems relating to its construct validity and reliability (Oddi, 1987; Filed, 1989, 1991; Candy, 1991; Fisher et al., 2001). As a response to the growing need for a more valid and reliable SDL readiness measurement scale, Fisher and his colleagues (2001) developed a bank of 93 items which, for them, "were deemed to reflect perceived attributes, skills and motivational factors required of self-directed learners" (Fisher et al., 2001, p. 518). These items, during two Delphi rounds, were further evaluated by 11 nurse academics and educators with previous research and teaching experience in the area of self-directed learning. In the first round, each expert panel independently evaluated each item to determine the extent to which it measures the attributes associated with self-directed learning. In the second round, the construct validity and internal consistency of the scale were tested with a piloting sample of 201 undergraduate nursing students in Sydney. The overall results of the piloting study, according to these scholars, have identified three factors with a total number of 40 items, namely self-management, desire for learning and self-control. Self-management as a first factor captures the characteristics associated with learner's ability to manage their own learning. Desire for learning measures learners' motivation and desire for learning. Self-control, as a third factor, is defined in terms

of learners' ability to control and self-evaluate different aspects of their own learning (Fisher et al., 2001).

In relation to the validity and the reliability of this new instrument, these scholars stated that "the computed values of Cronbach's coefficient alpha for the whole 40 items scale was 0.924 while the computed values of Cronbach's coefficient alpha for self-management subscale, the desire for learning subscale and the self-control subscale were 0.857, 0.847 and 0.830 respectively" (p.520). The final scale consists of a 40-item on a five-point Likert scale (1–5) of strongly disagree, disagree, undecided, agree and strongly agree. According to Fisher et al. (2001), a score of 150 or greater from a maximum of 200 was indicative of student readiness for SDL. It is worth noting that a detailed review of this instrument is provided in the conceptual framework chapter.

1.2.6 Andragogy and pedagogy defined

Although there is a general tendency in the literature to consider Knowles as the father of andragogy, as his name is often associated with it, Knowles (1989) himself denies having coined this term and admits that it was first used for more than a century before he did. He cited the German school teacher Alexander Kapp, as the first to use it in 1833. It was then used by Eugen Rosenstock in 1921. Subsequently, the term andragogy was used by Eduard Lindeman (1927), John Dewey (1938), and finally by Malcolm Knowles (1968).

Having traced back the concept of andragogy to its origins, it remains to mention that in the past five decades there has been much debate among researchers about andragogy, its underlying underpinnings, and its relation with pedagogy or pre-adult education, especially the perceived differences that may exist between them. One of the first attempts to discuss these differences came from Malcolm Knowles in his work *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* in 1970. As already stated, he defined andragogy as "the art and

science of helping adults learn" (Knowles, 1980, p.43). He contrasted this concept with that of pedagogy that he defined as "the art and science of helping children learn" (ibid). Knowles strongly believed that adults learn differently from children. He advocated the idea that adults have a strong sense of self- direction that allows them to progress from a state of complete dependency on the teacher to another state of self-direction as they mature, considering this as the most important characteristic of adult education.

Very recently, Pew (2007), however, distinguished between the two concepts at the practice level, by arguing that, the focus in the pedagogical practice is on the teacher transmitting the content subject matter, in a very teacher-directed environment. In andragogy, the educational focus is more on facilitating the acquisition of knowledge that is meaningful to the learner and enhancing critical thinking about the content. In this respect, Rachal (2002), one of Knowles doctorate students, added that the andragogical practice calls for learner control and the voluntary involvement of students in the learning activity. He emphasized that one of the most important tenets of andragogy is that learning is pursued for its intrinsic value.

According to Conner (1997), in the pedagogical model, instruction is teacher-centered. In other terms, learners assume no responsibility for making decisions about what is learned, how and when something will be learned. He stated that "Teacher-directed learning has its roots in Calvinism, and the belief that wisdom is evil, and that adults should direct, control, and ultimately limit children's learning to keep them innocent" (cited in Pew, 2007, p.17). Knowles et al. (1998) explain how the pedagogical model is focused on the teacher:

The pedagogical model assigns to the teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned. It is teacher-directed education, leaving to the learner only the submissive role of following a teacher's instructions (p. 62).

Unlike the pedagogical practice, Knowles (1970) claimed that adults are basically different in the sense that they are innately self-directing, learn in a way that is substantially different from the way children learn and therefore need a different learning environment. To explain his arguments more, he built his andragogical model on six major assumptions. The first underlying assumption relates to adults intrinsic need for learning in the sense that, in the andragogical model, adult learners need to know why they need to learn something before they actually learn it. In the pedagogical model, however, instructors determine what students need to know and children have no say in this respect. The second assumption describes the adult learner as someone who has an independent self-concept, capable of directing his own learning. What this means, according to Knowles, is that adults progress from a state of dependency on the teacher to a state of self-direction with increasing age. According to this principle, adults have a deep psychological need to be treated by others as being capable of self-direction. The third assumption is built on the role of experience that adults possess and bring to the classroom, which Knowles believes should be exploited while learning. In effect, Knowles et al. (1998) argue that while adult learners' experience is valued in the andragogical model, the students' experience is usually of little value in a pedagogical setting. The fourth assumption is built on the notion that younger learners have learning needs that are closely related to their conceived social roles. That is, the andragogical practice "assumes that learners become ready to learn when they experience a need to know something that connects to their life situations" (Knowles et al., op.cit, p.67). By way of illustration, adults show more readiness to learn those things they need to know and be able to do in order to deal effectively with real-life situations. The pedagogical model however assumes that "learners become ready to learn what the teacher tells them", which they "must learn if they want to pass and get promoted" (p.63). The fifth assumption views adults as problem-centered. Knowles (1970) argues that while children tend to have a subject-centered orientation to learning, adults however, are problem-centered in their

orientation. He made the point that adults are more motivated to devote energy to learn things that will help them perform tasks or deal with problems more likely to be confronted in their real-life situations. Knowles (op.cit) based the sixth assumption underlying andragogy on the notion of motivation. He thinks that adults are more motivated to learn by internal factors like the desire for increased self-esteem and quality of life rather than external motivators like better jobs, promotions, higher salaries and the like (Knowles, 1990, pp.57-63; Knowles et al, 1998 pp. 63-67).

Based on the above assumptions, Knowles (1970) developed a program for designing, implementing and evaluating adult educational outcomes. He listed seven principles for an andragogical style of instruction. For instance, in relation to the second assumption discussed above, Knowles suggested that teachers should set a classroom climate of “adulthood” both physically and psychologically. According to him, in an adult classroom atmosphere, learners “feel accepted, respected and supported. He emphasized that in such an atmosphere there also exists “a spirit of mutuality between teachers and students as joint inquirers” (Knowles, op.cit, p.47). In short, the physical and psychological climate should encourage retention and contribute to learning. The teacher's role is seen as facilitator, engaging in a process of mutual enquiry with students rather than transmitting specific content. The second principle highlighted the importance of students’ involvement in making decisions about all aspects of their learning. As a matter of fact, individuals tend to be more committed to decisions they were themselves involved in drafting and making. Through his third principle, Knowles argues that the instructor should involve the learners in diagnosing their learning needs and deciding what they need to learn so as to reconcile their own learning needs with what the institution wants. The fourth and fifth principles maintain the importance of involving learners in formulating not only their learning objectives but also in designing the learning plans respectively. The sixth principle centers on the importance of teachers assisting learners in the

implementation of their learning plans. The seventh and last principle stresses the importance of involving learners in evaluating the quality and worthiness of their learning outcomes (Feuer & Geber, 1988, p.33).

1.2.7 A critique of andragogy

The theory of andragogy, if we may call it so, has received a versatile amount of criticism especially the heralded dichotomy between andragogy and pedagogy put forward by Knowles (1970). Thus, the first criticism addressed to him concerned the distinction he made between the way children and adults learn; it came from his own teacher Houle, who argued that children and adults learning processes are basically the same (cited in Feuer & Geber, 1988). Moreover, Tennant (1986) believed that it is a myth to think that "adult learning is fundamentally different from child learning" (p.121). In another work, Candy (1991) makes this point clear by stating that "the development of self-directed learning capabilities is not the exclusive preserve of adult education" (p.416). Wang and Sarbo, (2004) also explained that since learning is dependent on subjective factors life experiences, culture, and readiness to learn; one can therefore develop a sense of interest strong enough to compel one to learn regardless of whether one is a child or an adult. What this means is that both adults and children can exhibit dependence or independence in learning as they are both influenced by various factors such as personality traits, previous experience, culture, etc., which research has proved influential in affecting a person's ability to be self-directing.

In fact, the ongoing criticism addressed to Knowles made him reconsider his assumptions about andragogy in his book *The Modern Practice of Adult Education: from Pedagogy to Andragogy* published in 1980, admitting that rather than being in opposition to pedagogy, it was simply another model of learning. Consequently, andragogy and pedagogy are now seen at two different ends of a continuum and teachers would tailor their instructional processes to match learners' levels at different positions of the continuum, regardless of their

age. Accordingly, as Feuer and Geber argue, andragogy is no more an adult learning theory but rather a "situational model of human learning" (p.39).

Knowles' assumptions that adults are innately self-directing have also been widely criticized. Candy (1987) argued that a great body of literature indicates that they are not. He emphasized that there is empirical evidence that many adults are syllabus bound, externally controlled, seek help from teachers, show helplessness, have a rather fragile self-concept, and are generally "docile, passive and acquiescent learners who prefer . . . other directedness to self-direction"(cited in Leach 2000, p.22). In another study, Burnard and Morrison's (1992) also revealed that adult students favor a teacher-led learning experience to individualized learning projects. In other terms, adult learners are not necessarily self-directed as Knowles claimed. Other writers like Hartree (1984) argued that "the view of the adult learner as self-directing is often more pious hope than a description of his or her learning" (p. 206). Darbyshire (1993) also indicated that the differences between adults and children are insufficient grounds for two distinct instructional approaches. Merriam (2001) also criticized Knowles's version of andragogy, in its aspect of viewing the individual learner as someone who is autonomous, free and growth-oriented by nature, and for undermining the fact that individuals are also shaped by their society and culture.

In fact, many other scholars have criticized self-direction from a cultural perspective. This criticism is based on cultural differences between nations. In effect, as we extensively discussed in the first part of this review, individualistic and collectivistic cultures tend to have different conceptions of independence and autonomy. As will be clearly illustrated in section (8), self-direction has grown in the Western individualistic world with its over emphasis of individuality and independence. Edwards (1997) explained some aspects of this issue:

Particular discourses of andragogy, with a set of assumptions based in American/Anglo culture, have marginalized alternative perspectives within

these countries and have dominated the field of adult education internationally (p.73).

According to Foley (1993), self-directed learning is criticized for failing to recognize the complex relationship between the individual and society and for ignoring the social, political, cultural and historical forces that constrain individual action. Flannery (1994) also addressed some rather straightforward criticism to self-directed learning arguing that

in reality, learning theories based on individualism and autonomy reflect values and attributes that are primarily Western, middle class and male ... Clearly, to continue to promote learning theories that have individual achievement as a universal goal is to continue everyday racism in adult education (p.22).

1.2.8 Factors affecting Learners' readiness for self-directedness

A substantial amount of empirical research examining learners' readiness for self-directed learning suggests that it is highly individualized. That is, learners tend to show varying degrees of readiness for self-direction in learning, which is somehow consistent with what Candy (1991) and Grow (1991) have stressed in their conceptual models. In this respect, Pratt (1988) emphasized that adults vary considerably in their desire, capability and in their readiness to assume more responsibility for their learning. For him, self-direction is influenced by "the learners' competence, commitment and confidence at any given moment in time" (p.162). Conceptually, learners who are self-determined, with high self-esteem and who see themselves as capable agents are more likely to show higher degrees of readiness. Previous research also indicates that there is a definite correlation between self-directed learning readiness and learners preferences for different approaches of instruction. Wiley (1983), for example, found out that learners who have low readiness for SDL exhibit high levels of anxiety once they are exposed to SDL projects. Similarly, learners with high readiness and who are exposed to increasing levels of teacher direction also show high anxiety levels. Similar findings have been reported

in other studies. Thus, O’Kell’s (1988) results revealed that there is an important relationship between learning preferences and readiness. He concluded that students who scored low in SDL readiness preferred more teacher-led discussion rather than independent projects. These findings support Dyck’s (1986) beliefs that self-directed learning projects are not for everyone and that they may cause extreme anxiety and frustration to some students. Accordingly, these results among other findings suggest that there is a definite correlation and powerful relationship between SDL readiness and students’ instructional and learning preferences.

Norzaini (2007) examined Malay undergraduate students’ SDL readiness and her research revealed some important findings. An important relationship between learners’ levels of readiness and work experience was identified as her results have shown a positive association between readiness for SDL and work experience. As for the age factor, her findings suggested that there is no relationship between the SDL readiness scores and the age of the respondents, which is contradictory with Knowles’ (1980) assumptions about SDL which stressed that as an individual matures and ages, his or her concept moves from dependent to being a self-directed learner.

According to Winne (1995), self-regulated learning is not only a deliberate and volitional activity. It also contains inherent, non-deliberate features that are grounded in experientially developed knowledge and beliefs. That is, despite being based on personal choice and volition, self-directed learning is equally influenced by other elements which are imposed on the self by previous experiential knowledge and more importantly by one’s beliefs. Yet, Cheng (2001) asserts that learners who have stronger inclination to assume more responsibility for their own learning are easier to achieve SDL. Contrarily, learners who have weaker self-directed learning inclinations are more likely to experience difficulty while assuming more active roles for their learning. Other researchers like Pew (2007) stress the impact of learners’ previous learning experiences on their readiness stating that

students entering the realm of higher education bring with them a lifetime of experiences and baggage. Some who have acquired a propensity for the richness of adult-to-adult relationships and learning will thrive in an environment of andragogy. Students who still look to others to be responsible for their learning will find a pedagogical environment more comfortable (p.19)

In addition to learning styles and previous experiences, many researchers suggested the relevance of choice as an influential factor in determining learners' readiness for self-direction. Rogers (1961) once suggested that to be "self-directing means that one chooses—and then learns from the consequences" (p. 171). This emphasis of individual choice has also been suggested by other scholars. For instance, Tough (1979), through his research on adults' learning projects, also emphasized that the freedom of choice is essential to self-direction. Similarly, Pratt (1988) explained that learners' readiness for self-direction is determined by "the ability and predisposition to consider alternatives, to reflect on likely consequences and, ultimately, to choose when to exercise or abdicate control over valued functions" (p.170). In this respect, Schwartz (2004) draws our attention to the problematic implications of overemphasizing individual choice that may result from what he called individuals' "choice overload". He explained that "the fact that *some* choice is good does not necessarily mean that *more* choice is even better" (p. 3). In other words, when too much uncontrolled choice is emphasized, it can reduce the likelihood of making a good choice. He argues that such choice overload can cause confusion, frustration, and even depression to some learners. In such cases "choice no longer liberates, but debilitates" (Schwartz, op.cit, p.2). These findings suggest that despite the fact that the freedom of choice is inherently an important characteristic of self-directed learners, when it is overemphasized, it can result in many problems and even frustration. In addition, as already noted, learners are different in the sense that just as there are those who enjoy the freedom of choice, there may also be those who consider it as a burden that cannot be endured, either because they are unable to choose for themselves, or they are unwilling to assume

responsibility for their choices. This type of students often lack self-confidence and have low self-esteem. In this respect, Taylor (1997) found that some students are even concerned about the utility value of the results of their learning choices, especially in relation to the adequacy of the knowledge that they acquire using self-directed learning. Day (1988), however, believes that adults are "decision-making beings" who are "ultimately responsible" for the decisions they make, and that the "results of our learning experiences may as likely lead to discontent as to a state of well-being," and that in general "learning produces consequences" (cited in Brockett & Hiemstra, 1991, p. 28).

1.2.9 Self-directed learning and culture

While a great body of literature has revealed the existence of an important correlation between learners' readiness for self-directedness and their learning preferences, previous learning experience and choice, in general, a little empirical research examining the relationship between self-directed learning and culture can be found in the literature. The dearth of such research is even more profound when narrowing the scope to the Moroccan context, which still remains a virgin territory. Nevertheless, the few published studies found on this issue commonly suggest that cultural factors play a major role in determining SDL readiness (Joblin, 1988; Brockett & Hiemstra, 1991; Brookfield, 1993; Brookfield, 1995; Azimi, 1998; Nah, 2000; Rogers, 2002). Thus, as Nah (2000) puts it, "not every culture promotes independence and autonomy as virtues" (p.18). That is, "instructional design cannot, and does not, exist outside of considerations of culture" (Henderson, 1996, p. 85). This implies that learning self-direction "will not just happen naturally" (Joblin, 1988, p.120) and that we are more likely to become self-directed if we are born into cultures which nurture it. Similarly, Brockett and Hiemstra (1991) proclaimed that SDL should not be extricated from the social context in which it occurs because it provides the arena in which the activity of self-direction is played out. This idea has also been stressed by many other researchers like Candy (1991) and Rogers (2002),

who emphasized that adults are strongly influenced by aspects of their backgrounds in ways that can shape, constrain and even limit their ability to take charge of their learning.

In fact, as will be discussed in more detail in the conceptual framework chapter, Hofstede's (1980, 2001) multidimensional paradigm has some strong implications on how self-directed learning is perceived across cultures. For instance, in relation to the implications of the Power Distance dimension, Hofstede (1997) argued that while teachers in low power distance cultures are perceived as equals whose role is to facilitate learning, they tend to be seen as authorities and experts whose knowledge is seldom if ever questioned in high power distance. For example, whereas in Afghan schools, for example, "teachers are treated with respect, students may have to stand up when they enter" (Azimi, 1998, para. 5), in the United States they "are supposed to treat the students as basic equals and are expected to be treated as equals by the students" (para. 8). Students in the United States, Azimi further argues, "may make uninvited interventions in class and argue with teachers, express disagreement and criticism in front of the teachers" (para.8). However, in Eastern cultures "students have a difficult time asking questions in the classroom for fear that they may insult the teacher" (Kuwahara, 2005, para. 9). Similar arguments have been made by Biggs and Watkins (1996) who stressed that students in high power distance cultures are discouraged to question or challenge their teachers' knowledge. In support of these arguments, Holtbrugge and Mohr (2010) have recently argued that high power distance cultures strive to maintain "the competency differential" between the teacher and the students by discouraging active learning and experimentation for fear that the outcome would "contradict or put into question the information that is being provided by the teacher" (p. 226). These arguments explicitly indicate that unlike the case in low power distance cultures, where students perceive teachers as equals and agents whose role is to facilitate learning, learners from high power distance cultures tend to see their teachers as experts and

authority figures and hence prefer those learning styles that allow them to maintain their dependence on them.

In fact, the literature provides converging support for the assumption that self-directed learning is a reflection of Western cultural values at the top of which is individualism (Tennant, 1986). Brookfield (1993), for example, considers self-directed learning as the “adult education’s interpretation of individualism” (p.231). Thus, according to Hofstede (1997), whereas students in individualistic cultures place greater value on individual achievement, follow personal goals, show preference for independent work and expect to be given the chance to assert themselves, learners in collectivistic cultures tend to depend more on their teachers, prefer collaboration with peers and give minor importance to independent work. In support of this argument, Holtbrugge and Mohr (2010) emphasized that unlike individualist students who “prefer those forms of learning for which input from and interaction with others are least important” (p.626), students in collectivist cultures are more likely “to tap into the knowledge of others” and thus “show inability, or even unwillingness to rely on concrete experience” (Holtbrugge & Mohr, 2010, p.623). In the same vein, Parker et al. (1986) pointed that students in the Middle East “have learned primarily by memorization and imitation rather than by independent research and original work” (p.95), noting that in such a cultural context, “the individual’s academic choices will often reflect his father’s desires rather his own wishes or capabilities” (p.95- 96). Similar arguments have been put forward by Liu (2007) who stressed that unlike Western students, who tend to be more active, innovative and creative, “Eastern students are expected to follow rules and to memorize learning content” (p.80). Accordingly, individualistic and collectivistic cultures maintain very different views of what learning should be like and what roles learners and teachers should assume. These differences, however, questions the universality of self-directed learning readiness and suggest, though implicitly, that

an independent and responsible approach to learning may be specific to students from more individualistic cultures.

The uncertainty avoidance dimension has also been found to have some implications on students' perceptions of autonomy. Thus, as argued by Hofstede (1997), in cultures with a high uncertainty avoidance index, students prefer a structured learning environment, precise objectives, strict timetables, precise answers, and rewards for accuracy. On the contrary, students from more uncertainty accepting cultures "are comfortable with vague objectives, loose timetables, and multiple solutions to problems, and prefer to be rewarded for originality" (Edmundson, 2007, p. 272). In line with this, Pinpathomrat, Gilbert and Wills (2013) have recently pointed that students from high uncertainty avoidance cultures are comfortable with a structured learning environments like lectures and prefer tasks with a definite outcome and clear guidelines more than unstructured and active learning processes which involve a certain level of uncertainty. Likewise, Jaju et al. (2002) emphasized that unlike learners from low uncertainty avoidance cultures who value independent work and originality, students from high uncertainty avoidance "value the information and knowledge delivered by the instructor and consider it as the best explanation to the problem" (cited in Holtbrugge & Mohr, 2010, p.627).

In effect, there is some empirical evidence about the existence of a significant relationship between the prevalent educational systems in different part of the world and learners' readiness for self-direction. Thus, as asserted by Zhang (2007), the literature provides consistent arguments depicting the Eastern educational system as teacher-dominated, group-based, pedagogically oriented and focusing on examinations as the sole way to judge performance. Thus, as reported by Biggs and Watkins (1996), unlike Western education where interaction with teachers is an integral part of the self-development process, in Eastern educational systems teachers have absolute authority and students are not encouraged to question or challenge their knowledge. In such a system, teachers are often seen as having the

authority and power to decide what will be taught and how it will be taught. In support of this, Liang and McQueen (1999) found that Eastern students preferred to have more direction from their teachers while most of Western learners desired more interaction among their peers. Consistent with these findings is Liu's (2007) point that

Eastern students tend to wait for the assignments or project requirements; they normally do not initiate activities on their own, do not respond to or involve themselves actively in learning activities unless such activities are required and given credit...They think that the activities are less awarding than lectures; while in Western culture, teamwork and collaboration are promoted. Students are encouraged to be innovative and creative. Eastern students are expected to follow rules and to memorize learning content (p.80).

In addition, Catterick (2007) refers to Ryan's (1991) idea that while autonomous learning may be seen as a desirable trait in some cultures, elsewhere in the world it may be viewed as a destabilizing force, noting for example that, "for Chinese learners, autonomous learning may be seen as an abdication of responsibility by the teacher (Catterick, 2007, p.126). For instance, Cortazzi and Jin (2001) compared Chinese and British students' conception of what constitutes a good teaching. Their findings suggest that unlike the British students, the Chinese see the teacher as the main source of knowledge and expect to be taught by the teacher. According to these scholars, the Chinese students exhibited lower expectations of participating in different individual learning activities in the classroom than did their British counterparts. In another similar study, Cheng (2001) examined learning styles of 666 university students in Taiwan. The results have shown that most students preferred an auditory style of learning like lectures and considered the freedom of selecting and self-managing their learning through individual styles like project work their least preferred style. In brief, these findings indicate that cultural difference can play an influential role in determining how students view learning in general and their role in directing it in particular.

1.2.10 Summary

This part of the review has introduced the concept of self-directed learning from a historical perspective and outlined the different ways in which it has been defined. It has also presented the various conceptual models developed to explain self-directed learning in addition to a discussion of the measurement scales proposed to quantify SDL readiness. It has equally presented the heralded theory of andragogy as opposed to pedagogy, and the ongoing debate concerning the perceived differences between the two. Moreover, an attempt was made to shed some light on the factors that are believed to influence learners' readiness for learning self-directedness. Towards the end of this review, an extensive account of the literature dealing with the relationship between cultural differences and self-directed learning was provided. Most importantly, this review was meant to highlight the importance of self-directed learning as one of the ultimate aims of higher education, especially in this globalized technologically- driven world where change is the only constant.

1.3 The use of web 2.0 in higher education

Introduction

There is little doubt that the rapid proliferation and the subsequent ubiquitous uptake of web 2.0 technologies in higher education will broadly impact the nature of learning as never before. Recent research shows that the advent of Web 2.0 has resulted in a powerful shift towards networked learning being the normal mode of learning for many university students all over the world. Thus, it has been reported in a number of recent studies that Web 2.0 tools such as social networks, wikis, and blogs, among many others, are gaining unprecedented popularity among higher education students in both formal and informal learning settings (Redecker, et al., 2009; Vitkauskaitė, 2010; Selwyn, 2008; McLoughlin & Lee, 2010). These technologies are making possible new kinds of active, open and critical participatory learning in a wide range of formal and informal contexts, which have the potential to help higher education students become innovative knowledge creators rather than passive consumers of readymade content (Chih, 2011; Crook, 2008; Summers, 2009; Conole & Alevisou, 2010; Collins, 2010; Maughan & Mupinga, 2010, to cite but a few). Importantly, however, making the best use of these technologies primarily depends on students' acceptance to use them for learning purposes (Göğüş, Nistor, Riley & Lerche, 2012).

In eight sections, an attempt was made to provide a detailed review of the literature related to web 2.0 acceptance and use in higher education. In so doing, the first section provides a brief overview of the emergence of web 2.0 along with its definition and typology. The second highlights what researchers have recognized as a shift in the nature of learners as a result of the uptake of technology. The third section outlines the various educational affordances accounted for by web 2.0 tools at the top of which are social networking, blogging, and wikis, with a special focus on how they can promote self-directed learning. The fourth section is devoted to reviewing the different theories and models developed to explain the intricacies of technology

acceptance and use, with a special focus on the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis, 2003), which underpins this study. The fifth section reports research findings on students' web 2.0 use patterns in higher education settings. The implications of this uptake and the resulting changing roles of teachers and learners are discussed in the sixth section. Section seven highlights the major challenges and obstacles believed to impede an effective implementation of web-based learning in higher education. The last section provides an in-depth analysis of the ways in which cultural factors can play a key role in influencing students' acceptance and use of web 2.0 tools for educational purposes.

1.3.1 Web 2.0 defined

The term Web 2.0 was originally coined by Tim O'Reilly, an expert in the field of information technologies, in the first Web 2.0 conference in 2004 (O'Reilly, 2005). Since then, it has become unarguably one of the most revolutionary concepts in the current digital technology landscape (Yoo & Huang, 2011; Farmer, 2010; Terrell, Richardson & Hamilton, 2011; Gray et al., 2009). O'Reilly (2005) used Web 2.0 to describe the shift from the read only web into a more participatory platform in internet users have become active content generators rather than passive consumers. Put simply, Web 2.0 describes the change from a static web into what O' Reilly (2005) terms the "architecture of participation" (p.6), which is based on the notion of harnessing the collective intelligence of web users. In this regard, Selwyn (2008) articulated how Web 2.0 marks a transition from mere consumption of others' content into a more participatory and productive role of internet users. Thus, as he puts it,

web 2.0 marks a distinct break from the internet applications of the 1990s and early 2000s, facilitating 'interactive' rather than 'broadcast' forms of exchange, in which information is shared 'many-to-many' rather than being transmitted from one to many. Web 2.0 applications are built around the appropriation and sharing of content amongst communities of users, resulting in various forms of

user-driven communication, collaboration and content creation and recreation (p.4).

Accordingly, Web 2.0 exemplifies a shift from internet users being passive consumers into active agents. Thus, unlike the old 1.0 version of the web, in which websites are merely repositories, Web 2.0 sites are more open and interactive, allowing users to easily create their own content as well as consuming content produced by others (Ullrich et al., 2008; Gray et al., 2009; Nica & Chair, 2011). In this sense, web 2.0 can be seen as “both a platform on which innovative technologies have been built and a space where users are as important as the content they upload and share with others” (Robelia & Hughes, 2009, p. 347). More specifically, Gray et al. (2009) defined web 2.0 as an umbrella term for a broad range of recent internet applications such as “web-based communities, hosted services, social-networking sites, video-sharing sites, wikis, blogs, mashups and folksonomies” (Gray et al., 2009, p.6). Interestingly, in a review of the literature on web 2.0 use in higher education, Conole and Alevizou (2010) proposed the following typologies:

- **Social networking:** websites that structure social interaction between members who form subgroups of ‘friends’.
- **Blogging:** an internet- based journal or diary in which a user can post text and digital material while others can comment.
- **Social bookmarking:** users submit their bookmarked web pages to a central site where they can be tagged and found by other users.
- **Wikis and collaborative editing tools:** web-based services that allow users unrestricted access to create, edit and link pages.
- **Media sharing:** creating and exchanging media with peers or wide audiences.
- **Media manipulation and data /web mash ups:** using web-accessible tools to design and edit digital media files and combining data from multiple sources to create a new application, tools or service.
- **Instant messaging, chat and conversational arenas:** one –to- one or one- to- many conversations between internet users.

- **Online games and virtual worlds:** rule- governed games or themed environments that invite live interaction with other internet users.
- **Recommender systems:** websites that aggregate and tag user preferences for items in some domain and thereby make novel recommendations.
- **Syndication:** Users can subscribe to RSS feed enabled websites so that they are automatically notified of any changes or updates in content via an aggregator (Conole & Alevizou, 2010, p.11).

1.3.2 The changing learners

In fact, it seems to be unanimously accepted in the literature that the rapid development of digital technologies and their subsequent proliferation has led to a significant shift in the nature of contemporary learners (Redecker, Ala-Mutka, Bacigalup, Ferrari & Punie 2009; Lai, 2011; Prensky, 2001; Pedró, 2006; Lam & Ritzen, 2008). For example, as pointed by Redecker et al. (2009), the new generation of learners, referring to those who have grown up in a world of computers and the internet, “displays significantly different learning styles from previous cohorts” (p.23). This new generation of learners, as further stressed by Selwyn (2008), stands in “stark contrast” to older generations of ‘digital immigrants’ who adopted digital media later in their lives. In fact, various terms, such as “Digital Natives”, “Net Generation”, “New Millennium Learners” and “Neomillennial Learners”, have been proposed to describe this new generation of learners (Prensky, 2001; Redecker et al., 2009; Selwyn, 2008; Pedró, 2006). In line with this, McLoughlin and Lee (2010) make reference to an argument by The UK-Based Committee of Inquiry into the Changing Learner Experience (2009) which suggests that

Web 2.0, the Social Web, has had a profound effect on behaviors, particularly those of young people whose medium and métier it is. They inhabit it with ease and it has led them to a strong sense of communities of interest linked in their own web spaces, and to a disposition to share and participate (p. 9).

In fact, whether we admit or not, recent research clearly shows that web 2.0 technologies have become an integral part in the current learners’ everyday life and how they are increasingly

becoming their main and preferred mode of learning. For instance, Selwyn (2008) pointed that a central feature of these learners is their extensive and increasing reliance upon digital media. Lai (2011) added that they expect technology to be widely used in their learning, want more flexible and personalized type of learning that takes into consideration their pace, time and place. Similarly, Pedró (2006) emphasized that, compared to previous generations, these learners are shaped by quick and easy access and exploitation of digital resources, display complex learning styles, are more digitally literate, think more visually, practice multitasking and prefer multimedia environments. They also “have high expectations of how they should learn, selecting the technologies and learning environments that best meet their needs with a sophisticated understanding of how to manipulate these to their advantage” (Conole & Creanor 2007, p.11). Likewise, McLoughlin and Lee (2010) stated that they “expect constant Internet connectivity and web based services, and view social networking tools as being central to their lives” (p.32). Accordingly, web 2.0 technologies have become naturalized in the current learners’ everyday life and, for better or worse, their main and preferred mode of learning. In short, as Prensky (2001) phrases the point, “our students have changed radically. Today’s students are no longer the people our educational system was designed to teach” (p.1).

1.3.3. Educational affordances of web 2.0 technologies

Although research on web 2.0 use in higher education is still in the embryonic stage (Gaffar, Singh & Thomas, 2011), there is enough scholarly evidence that web 2.0 technologies, at the top of which are social networks (e.g. Facebook), blog and micro-blog (e.g. Twitter, Blogger), Wikis (e.g. Wikipedia) and other media sharing tools (e.g. YouTube, Flickr), can contribute to a significant shift towards a more student-directed approach to learning in which learners can act as active producers of content rather than mere passive consumers of others’ material. Thus, these technologies are viewed as capable of providing new avenues for learners to express their personal experience and to exercise more authority over their learning (Terrell,

Richardson & Hamilton, 2011). With these new tools, Auvinen (2010) argues, user-generated content has become an important element in modern e-learning in which “the learner has an important role as active constructor of learning materials (co-creator), and initiator of his or her own learning processes” (p.39). Thanks to these technologies, the barriers to publication have fallen making it possible for students to create and publish their content with less effort and with immediate results, and hence giving new dimensions to media authorship (Chang, Kennedy & Petrovic, 2008).

1.3.3.1. Social networks

Social networking is commonly considered as one of the most pervasive and influential Web 2.0 tool in today’s technological landscape (Chih, 2011; Redecker, et al., 2009; Vitkauskaitė, 2010; Crook, 2008; McLoughlin & Lee, 2010). Selwyn (2008) defines social networks as “spaces for online conversations and content sharing” where “individual users can represent themselves to other users through the display of personal information, interests, photographs, and so on” (p.18). One particularly good example of social networking site, which has witnessed a remarkable uptake among internet users, is Facebook (<http://Facebook.com>). According to statistics reported by the Facebook News Room (2014), this site has currently more than 829 million daily active users and over than 1.32 billion monthly active users. The secret behind this explosive uptake of Facebook, according to Crook (2008) and Selwyn (2008), lies in its various and stimulating services which enable users, among other things, to personalize their online spaces (in accordance with their own needs and interests), control access to their profile information (by specifying the ‘friends’ who can access their web space), build personal identity, establish new relationships, share different types of digital material, play online games, establish connections, join groups of common interests and keep abreast of current information. Shih (2011) added that Facebook features such as “wall”, “info”, “blog”, “friends”, “like”, “unlike”, “comment”, “poke”, “send message”, “share photos”, “links”,

and “video” provide users with the power to share all form of digital media, to communicate, interact, and socialize with each other users worldwide in various and innovative ways (p.329).

The rapid proliferation of social networks, especially among young users, has fueled a great interest among researchers to explore its educational potential. Generally, the findings reported in many studies suggest that, if appropriately used, the social software can enhance learning in various and unprecedented ways (Redecker, et al., 2009; Summers, 2009; Selwyn, 2008; McLoughlin & Lee, 2010; Chih, 2011). For instance, as stated by Selwyn (2008), social media services can account for “interests and affinities not catered for in their immediate educational environment” (p.18). More specifically, Redecker, et al. (2009) suggested a number of ways in which social networking can account for a more engaging and purposeful approach to learning. According to them, this tool can allow for the production of dynamic learning resources, support individualized learning processes, equip learners and teachers with versatile tools for knowledge exchange and collaboration in addition to overcoming the limitations of face-to-face instruction and provide learners with new and innovative formats to creatively articulate their thoughts and ideas. For them, Facebook, MySpace (<http://MySpace.com>), and Ning (<http://ning.com>) are very good examples of spaces where students can easily connect with practicing professionals and teachers and discuss matters of common interest. Likewise, Summers (2009) noted that Ning has emerged as a more professionally-oriented social networking forum that educators use as a "space for students to ask questions about common issues, vendor choices, favorite books, and instructional practices within a trusted, monitored community of peers and...faculty" (p.50). Wankel (2009), in his turn, sees Twitter (<http://Twitter.com>) as a very promising educational tool especially when it comes to unstructured collaboration of ideas, links and resources noting that “in a large class section of

perhaps hundreds of learners, tweeting enables an immense amount of interactivity, ideally enriching the session in which it occurs” (p. 254).

Most importantly, other scholars have specifically highlighted some of the ways in which social media can promote self-directed learning. For example, McLoughlin and Lee (2010) described the learning experiences that are made possible by social software tools as “active, process based, anchored in and driven by learners’ interests, and therefore have the potential to cultivate self-regulated, independent learning” (p. 29). Likewise, Dunlap and Lowenthal (2011) emphasized that students who participate in online social networks like Twitter and Facebook can develop and practice self-directed learning through making posted claims, collecting evidence in support of these claims, evaluating and responding to counterarguments from others in the network. If used in this way, these scholars believe, there is great potential for students to reflect on specific aspects of their learning, and hence develop the dispositions necessary for self-directed learning. Similarly, Chih (2011) argued that the use of social networks can promote learners autonomy by allowing users to manage their own interactions, share their ideas, negotiate meaning and get feedback from various people including teachers and experts. Such activities, according to him, are different manifestations of a more purposeful and active approach to learning.

1.3.3.2 Blogs

Blogs as defined by Anderson (2007), are online spaces “consisting of brief paragraphs of opinion, information, personal diary entries, or links, called *posts*, arranged chronologically with the most recent first, in the style of an online journal” (p.7). In simpler terms, a blog can be defined as a chronologically threaded webpage enabling its users to easily post different types of digital media, such as conversations, visual graphics, audio and video files, links to other blogs, information about the author, and comments from readers, among other things

(Redecker et al., 2009; Collins, 2010). These posts can subsequently “become visible online to others who can engage with them by posting comments in response to the author’s entries” (Crook, 2008, p.8). Interestingly, Duffy and Bruns (2006) summarized what they see as the most important features which distinguish blogs from traditional websites. First, they allow an easy creation and editing of new pages without any prior technical background so much so that they have been considered as “the novice’s web authoring tool” (p.32). Second, they allow the principal administrator to invite and add other bloggers, whose access is easily managed. Third, blogs provide their users with a personal writing space that is sharable and automatically archived. Fourth, they make it easy for users to inter-link with other blogs and websites to form larger communities.

From an educational perspective, blogging is commonly viewed, among researchers and educators alike, as another educationally promising web 2.0 tool capable of supporting a more student-centered approach to learning (Weyant & Gardner, 2010; Maughan & Mupinga, 2010; Alexander, 2008). For example, as pointed by Berg (2010), blogging is better suited for independent studies, ongoing reading assignments and student journals. For example, blogs are seen as excellent platforms for course announcement and as mechanisms to generate feedback and collective peer support among students (Conole & Alevisou, 2010). In fact, it was reported in a number of studies that blogs are being used for a variety of educational purposes including syllabi distribution, digital portfolios, collaborative writing, and discussion group assignments (Ellison & Wu, 2008; Berg, 2010; Weyant & Gardner, 2010). The results from these studies have revealed that blogging can account for a number of educational benefits such as encouraging students to read more critically, provide reflective feedback and to enhance their higher-order thinking skills. Moreover, blogging enables students and faculty to share their thoughts with the wider world or just with their class (Berg, 2010), which can allow outside professionals and experts to be “brought into the mix”, and hence enable students to get

information directly from experts in the field (Maughan & Mupinga, 2010). This can, in turn, have a positive emotional effect on students especially when professionals appear in their blog (Berg, 2010).

Specifically, some enthusiastic scholars have focused on the ways in which blogging can enhance active and reflective learning. Duffy and Bruns (2006), for example, believes that blogging can promote critical and analytical thinking as students learn to react to and reflect on ideas by commenting on their peers' or teachers' blogs. Similarly, Collins (2010) explained that blogging can enhance critical thinking skills by allowing learners to “access to contradictory and supporting opinions” (p.162). In line with these arguments, Dunlap and Lowenthal (2011) explained that in order to create and maintain a blog, users first need to identify and define a focus for their blog, establish goals and objectives for how and when they will contribute to it. They also have to identify, find, use, and critique content and ideas to include in it. These mental activities, according to these scholars, are at the heart of reflective learning and hence enable learners to develop the necessary dispositions for self-directed and lifelong learning.

1.3.3.3- Wikis

A Wiki is another Web 2.0 tool which particularly exemplifies the participatory nature of Web 2.0 (Redcker et al., 2009). Wikis are based on the Hawaiian term “wiki wiki” meaning “fast” (Farmer, 2010, p.178). A wiki is generally defined as a website that allows users to collaboratively add, remove, edit and change available content without the need for registration (Yoo & Huang, 2011). The most classic and prominent example of wikis is Wikipedia (O'Reilly & Battelle, 2009; Gaffar, Singh & Thomas, 2011). According to O'Reilly (2005), the underlying assumption behind wikis is the notion of the wisdom of the group or what he has termed ‘harnessing the collective intelligence’. This notion, as O'Reilly & Battelle (2009) put it, rests on the conviction that “a large group of people can create a collective work whose value far

exceeds that provided by any of the individual participants” (p.2). Interestingly, Duffy and Bruns (2006) listed what they consider to be typical characteristics of wikis:

- Wikis can be personal, but are usually open to collaboration.
- They involve the creation of documents (individual pages as well as the entire wiki) without a detailed technical knowledge of HTML being required by the user.
- They tend towards expressing ideas as relationships between pages, thus creating a network of interrelated topics that is based on a ‘topical’ approach.
- Wikis are time-independent; that is, the interlinking textual references change not according to time, but by way of development of the evolving and edited text.
- They track the changes to individual pages over time and allow users to browse the development history of a page.
- They encourage cross-linking and are dominantly spatial in structure.
- They provide a space where knowledge becomes networked (situated, contextualized) but remains ephemeral: it changes, and can be changed and mediated by the community (as summarized from Duffy & Bruns, 2006, p.36).

In brief, wikis can be described as applications which make it possible for internet users to not only collaboratively create, delete and edit online content but also to track revisions. As mentioned earlier, such an active role of internet users was not possible with the old web 1.0 version in which contribution to the web was limited to experts in the field of HTML (Gaffar, Singh & Thomas, 2011). In fact, as argued by Ullrich et al. (2008), it is this active participation of internet users that distinguishes Web 2.0 from traditional Web 1.0 “where users read Web pages and solve exercises but cannot contribute” (p.707).

From a broader perspective, the literature has shown that the use of wikis in educational settings is capable of providing learners with a number of active and intrinsically motivating learning opportunities (Collins, 2010; Dunlap & Lowenthal, 2011; Framer, 2010; Dron, 2007; Redcker et al., 2009; Weyant & Gardner, 2010; Ehlers, 2009). In fact, it was reported in a number of studies that the use of wikis can not only improve students’ writing skills but also

promote collaborative knowledge construction as students actively interact with one another to create content (Dunlap & Lowenthal, 2011; Gaffar, Singh & Thomas, 2011; Berg, 2010; Malhiwsky, 2010). For example, it was suggested that when it comes to the collaborative production of content, wikis have much to offer to learners as they enable anyone “to co -create and add and delete to the document”, and more importantly, “enable contributors to discuss and co-create as well as to track revisions” (Dunlap & Lowenthal, 2011, pp.11-12). Duffy and Bruns (2006) highlighted how wikis can offer “the ability to interact with an evolving document over time by allowing “teachers and learners to see the evolution of a written task, and to continually comment on it, rather than offering comments only on the final draft” (p.36). In short, as Ehlers (2009) asserted, thanks to wikis, “learning is no longer the transfer and consumption of content and knowledge but also an independent production” (p.298).

More specifically, some researchers believe that the use of wikis can play a major in helping learners assume more responsibility for their learning. Thus, as suggested by Weyant and Gardner (2010), wikis “support the constructivist and collaborative learning models by engaging students in the learning process” (p.70). For example, scholars such as Dron (2007) and Collins (2010) have suggested that wikis can lead to some surprising and very learner-centered outcomes as they can provide innovative ways for students to co-create content for a course, enable students to evaluate and analyze the work of others, foster their sense of responsibility as they feel responsible for the content they contribute to the Wiki (Collins, 2010). Moreover, and in line with these arguments, Redcker et al. (2009) asserted that contributing to wiki can enhance metacognitive and self-reflexive skills as learners usually exercise much caution about the content they are contributing to the wiki, through considering the reader’s potential feedback. This idea is further articulated by Dunlap and Lowenthal (2011) in the quotation below.

The "publicness" of students' contributions encourages them to carefully select, evaluate, and judge the content they upload for community use. Once uploaded, to fully realize the potential usefulness of the new and existing content, students must explore other uploaded resources, looking for and establishing new connections and enriching the knowledge base of resources for the community as a whole (p.13).

As clearly stated above, by being actively and collaboratively involved in deciding what content needs to be created, and by judging the value of the content contributed to the wiki, students demonstrate high levels of critical thinking, which in turn, can foster their self-directed learning readiness.

1.3.4 Educational technology acceptance theories and Models

This section briefly presents and discusses nine of the most prominent and influential conceptual attempts underlying the field of technology acceptance with a focus on the Unified theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) which underpins this study. These theories are namely the Innovation Diffusion Theory (IDT) (Rogers, 1962, 2003), Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Theory of Planned Behaviour (TPB) (Ajzen, 1985), Technology Acceptance Model (TAM) (Davis, 1989), Technology Acceptance Model2 (TAM2) (Venkatesh & Davis, 2000), Model of PC Utilization (MPCU) (Thompson et al., 1991), Social Cognitive Theory (SCT) (Bandura, 1986; Compeau & Higgins, 1995), Motivational Model (MM) (Davis et al., 1992) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatsh et al., 2003). These conceptual attempts draw from different scientific disciplines such as cognitive psychology, sociology and information systems and thus can provide a sound theoretical basis for understanding Web 2.0 acceptance in higher education.

1.3.4.1 The Innovations Diffusion Theory (IDT)

The Innovations Diffusion Theory (IDT), developed by Rogers in 1962, is one of the first conceptual attempts explaining the process of adoption of technology (Vankatsh, Davis and Davis, 2003; Kripanont, 2007, Sahin 2006). According to this theory, the process of adoption, defined as “full use of an innovation as the best course of action available” (Rogers, 2003, p. 177), involves five consecutive stages, namely *Knowledge*, *Persuasion*, *Decision*, *Implementation*, and *Confirmation*. In the *knowledge* stage the person first becomes aware that a certain technological tool exists. In the *Persuasion* stage s/he begins to show interest in the new technology and starts considering being a potential user. In the *decision* stage the person, after considering the advantages and drawbacks of the innovation, actually decides to accept or reject the innovation. Once accepted, the new innovation moves to the *implementation* stage where it is actually tested by the adopter to see if it meets his or her expectation. In the last, *confirmation* stage, the person makes his final decision to adopt the new innovation in his daily life. However, Rogers (2003) explains that, even after adopting the new innovation, the user may later decide to discontinue its use.

In addition to the five stages discussed above, the IDT theorized that five attributes of the innovation influence the rate of adoption. These are namely *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*. Rogers (2003) defines relative advantage as “the degree to which an innovation is perceived as being better than the idea it supersedes” (p.229). That is, it is associated with the perceived benefits that the new innovation may offer to its adopters. *Compatibility*, as a second attribute, is defined as the extent to which an innovation is “consistent with the existing values, past experiences, and needs of potential adopters” (p. 15). In this regard, Rogers theorized that innovations which are not compatible with the prevailing values and norms of the social system will not be adopted as rapidly as the ones which are compatible. *Complexity*, as a third predictor of the rate of adoption, is associated

with “the degree to which an innovation is perceived as relatively difficult to understand and use” (ibid). This implies that innovations which are seen as complex will not be adopted as fast as simpler ones. *Trialability*, defined as “the degree to which an innovation may be experimented with on a limited basis” (p. 16), is believed to have an important role in the adoption process. Thus, as argued by Rogers, an innovation which is “trialable” represents less uncertainty than an innovation which does not lend itself into trialability, and therefore its rate of adoption will be much quicker. *Observability*, as the fifth and last influential attribute, is defined as “the degree to which the results of an innovation are visible to others” (p. 16). Rogers explains that the easier it is for people to see the results of the innovation, the more likely they are to adopt it. In short, Rogers based his Innovation Diffusion Theory on the assumption that innovations characterized by more relative advantage, compatibility, simplicity, trialability, and observability will be adopted faster than those which are not.

1.3.4.2. The Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1975), is another fundamental conceptual attempt underpinning the study of human behavior (Vankatesh, et al., 2003). This theory, graphically presented below (figure 4), is based on two major and core constructs: *Attitudes towards Behavior* (AB) and *Subjective Norm* (SN). Fishbein and Ajzen (1975) defined the former as “an individual’s positive or negative feelings (evaluative affect) about performing the target behavior” (p.216). A subjective norm, as a second determinant factor of behavior, refers to “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein & Ajzen 1975, p.302). According to this theory, people’s intention to perform any given behavior is jointly influenced by these two constructs i.e. their attitudes and subjective norms. In relation to the first, i.e. people’s attitudes, these scholars theorized that before making any decision about performing any given behavior, the individual thinks about the possible outcomes of

his/her actions. This means that an individual who strongly believes that positive outcomes will result from performing a particular behaviour will have positive attitudes towards that behaviour and vice versa (Kripanont, 2007). Likewise, in relation to the second construct i.e. subjective norm, Fishbein and Ajzen theorized that people’s choice to perform or not to perform a certain behavior is also determined by their social surroundings. In simple terms, an individual's behavior, say adoption or rejection of technology, is determined by the extent to which relevant others, such as family members, friends, colleagues, co-workers etc, approve or disprove this act.

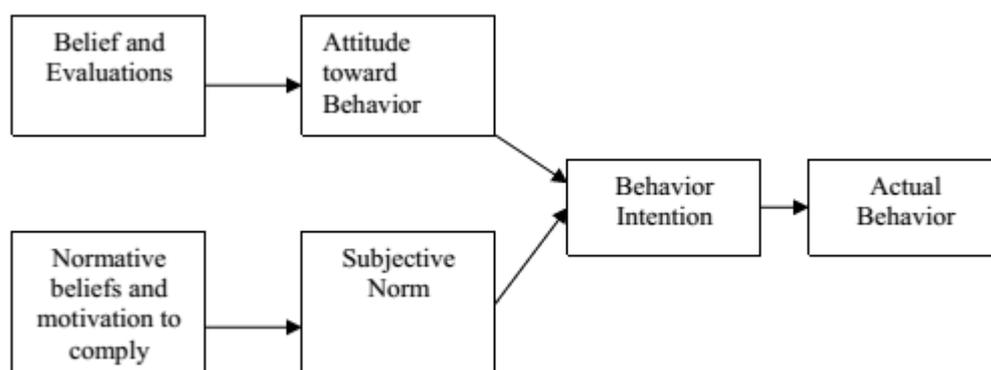


Figure 4: The Theory of Reasoned Action (Fishbein & Ajzen, 1975)

The Theory of Reasoned Action was, however, criticized for its limited predictive power in mandatory settings (Chen & Huang, 2012; Kripanont, 2007). Chen and Huang (2012), for example, argued that an obvious weakness in TRA is that it was limited to predicting individual’s behavior in voluntary contexts rather than mandatory ones. In an attempt to account for this weakness, Ajzen (1985) added *Behavioral Control* as third construct and hence developed the Theory of Planned Behavior (TPB).

1.3.4.3. Theory of Planned Behaviour (TPB)

As was just mentioned, the Theory of Planned Behavior (TPB) (figure 5) was developed by Ajzen in 1985 as an extension of TRA to account for behaviors over which individuals have

no complete volitional control (Ajzen, 1991; Vankatsh et al., 2003; Kripanont, 2007; Cheng & Huang, 2012). According to Ajzen (1991), his new theory is somewhat similar to TRA in that it is also based on the assumption that the best predictor of people’s behaviour is their own intention, which he defines as “indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior” (p.181). Yet, in addition to the two original behavior predictors of TRA (.i.e. Attitude towards Behavior and Subject Norm), Ajzen (1991) added *Behavioral Control (BC)* as a third antecedent of intention, which he defined as the individual’s perception of his or her ability to perform a given behaviour. In its final form, the TPB theorized that the more favorable the attitude and subjective norm are, the greater the perceived behaviour control, the stronger the individual’s intention to perform the target behavior will be, and that “the stronger the intention to engage in a behavior, the more likely should be its performance”(Ajzen, 1991, p.181).

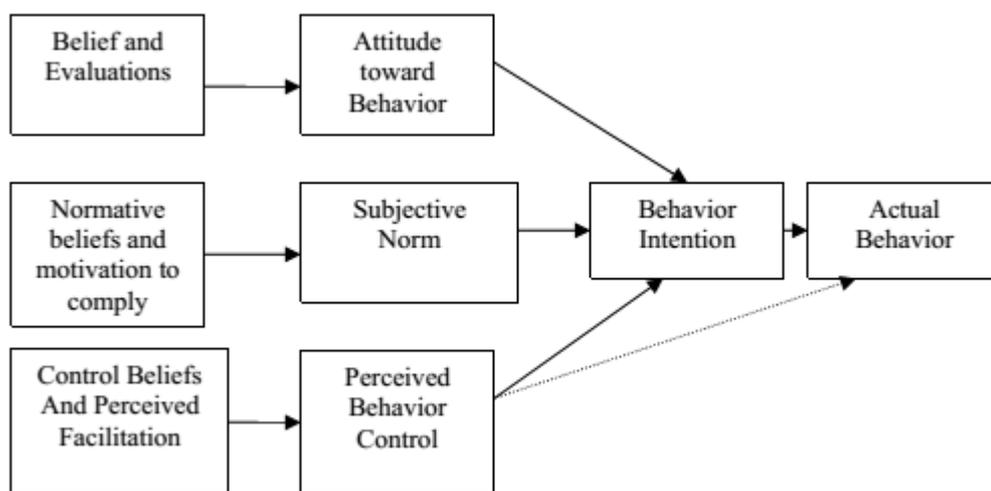


Figure 5: The Theory of Planned Behavior (Ajzen, 1991)

1.3.4.4. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) by Davis (1989) is commonly considered as one of the most popular models underlying the study of technology acceptance (Davis &

Venkatsh, 2000; Teo, Su, Luan & Sing 2008; Vankatsh et al., 2003; Tselios, Daskalakis & Papadopoulou, 2011). The origins of TAM, according to Davis (1989), can be traced back to the Theory of Reason Action (TRA) by Ajzen and Fishbein (1975). However, Davis (1989) replaced the determinants of intention proposed in TRA (i.e., *Attitudes towards behavior* and *subjective norms*) by two new constructs that he theorized that the fundamental determinants of user acceptance. These new constructs are *Perceived Ease of Use* (PEOU) and *Perceived Usefulness* (PU). Davis defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his/her job performance” and perceived ease of use as “the degree to which a person believes that using a particular system would be free of physical and mental effort” (Davis, 1989, p. 320). As graphically shown below (figure 6), TAM is based on the assumption that the actual usage of technology is determined by the individual’s intention to use the technology which is, in turn, determined by the nature of his/her attitude towards that technology. This attitude, in its own turn, is jointly determined by the technology’s perceived usefulness and perceived ease of use. Davis explains that the level of PU and PEOU can lead to either favorable or unfavorable attitudes towards acceptance and use of technology, concluding that people’s actual level of acceptance of technology can be assessed by examining the levels of these two constructs.

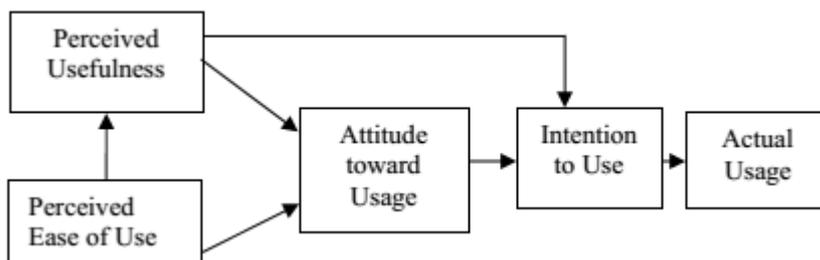


Figure 6: The Technology Acceptance Model (TAM) (Davis, 1989)

However, despite the popularity and wide use TAM has enjoyed in the literature, like the Theory of Reasoned Action, it was criticized for not accounting for mandatory use of technology. In fact, as argued by Kripanont (2007), TAM was based on questionable

assumptions that when an individual forms an intention to act, say adopt technology, s/he will be free to act without limitation. In support of this argument, Bagozzi (1992) explained that many constraints such as limited ability, time constraints, environmental or organizational limits will affect the individual's freedom and willingness to act.

1.3.4.5. The Technology Acceptance Model 2 (TAM2)

As a response to the criticism addressed to TAM and in an attempt to increase its predictive power, Venkatesh and Davis (2000) developed TAM2. As can be seen in figure 7, TAM2 kept *Perceived Ease of Use* from the original TAM, adopted *subjective norm* from TRA (Fishbein & Ajzen, 1975) and TPB (Ajzen, 1985), and added four new determinants of perceived usefulness, namely *Job Relevance*, *Output Quality*, *Result Demonstrability* and *Image* as direct determinants of *perceived usefulness*. The main aim behind adding these key determinants, according to these scholars, is to understand how their effects “change with increasing user experience over time with the target system” (p.187).

Venkatesh and Davis (2000) defined job relevance as “an individual's perception regarding the degree to which the target system is applicable to his or her job” (p.191). TAM2 posits that job relevance has a direct positive effect on perceived usefulness, which, in its own turn, impacts positively individuals' intention to use technology. Output quality, as a second key determinant of perceived usefulness, relates to the individual's perception of how well the system can perform the targeted tasks. Thus, it is assumed that, before deciding to use a particular technological item, “one would be inclined to choose a system that delivers the highest output quality” (p.192). Result demonstrability as fourth predictor of perceived usefulness describes the extent to which an innovation can bring about tangible results. These two constructs, .i.e. output quality and result demonstrability, are theorized to have a direct positive influence on perceived usefulness.

In addition to the above cognitive and instrumental factors, TAM2 also theorized that social factors, sampled in *Subject norm* and *image*, have a direct or an indirect effect on intention to use a particular technological system depending on whether the context of use is mandatory or voluntary. For example, as these scholars explain, in mandatory settings, subject norm can have a direct effect through the mechanism of compliance. This can occur “whenever an individual perceives that a social actor wants him or her to perform a specific behavior, and the social actor has the ability to reward the behavior or punish nonbehavior” (Venkatesh & Davis, 2000, p.188). Besides, as clearly visualized below, the effect of subject norm on both perceived usefulness and intention to use technology is theorized to be mediated by voluntariness of use and user experience.

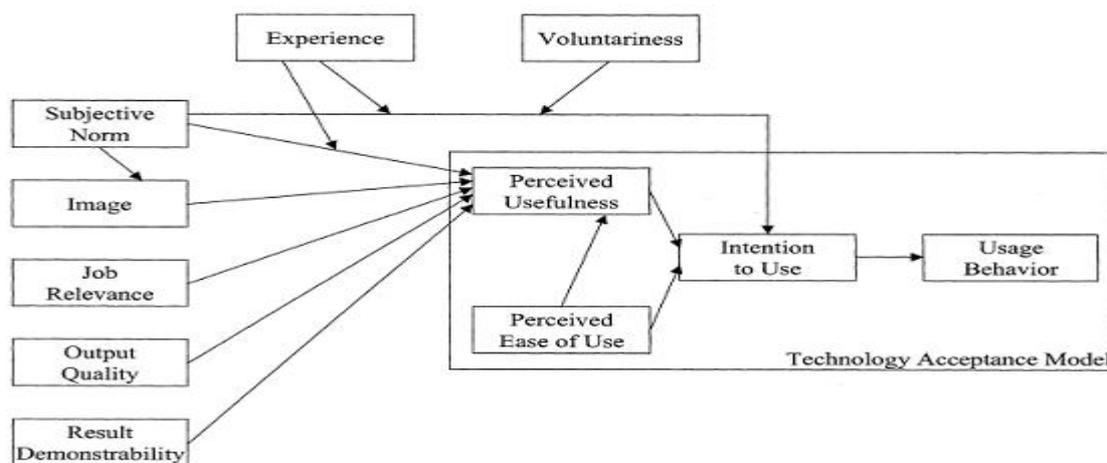


Figure 7: Technology Acceptance Model 2 - Extension of TAM (Venkatesh & Davis, 2000)

1.3.4.6. Model of PC Utilization (MPCU)

Thompson, Higgins and Howell’s (1991) Model of PC Utilization (MPCU) is another model that has substantially contributed to the unraveling of the intricacies of technology acceptance and use (Venkatsh et al., 2003). Thompson and his colleagues, based on the theory of human behavior proposed by Triandis (1977), postulated that human behavior, say technology adoption, is “determined by what people would like to do (attitudes), what they

think they should do (social norms), what they have usually done (habits), and by the expected consequences of their behavior” (Thompson et al., 1991, p.126). This view resulted in six core constructs namely *Job-fit*, *Complexity*, *Long-term Consequences*, *Affect towards Use*, *Social Factors*, and *Facilitating Conditions*. As can be seen in the figure 8, these constructs are theorized to be direct determinants of the nature of PC adoption and usage.

Thompson et al. (1991) defined Job-fit as “the extent to which an individual believes that using [a given technology] can enhance the performance of his or her job” (p.129). This construct, as argued by Hakkarainen (2013), is somewhat similar to TAM’s perceived usefulness in that it describes the extent to which users believe that using the system increases their performance and satisfies their needs. Complexity as a second determinant of behavior refers to “the degree to which an innovation is perceived as relatively difficult to understand and use” (p.128). Similar to the Innovation diffusion theory and TAM, through their respective concepts of complexity and Perceived Ease of Use, MPCU also theorized that the more complex the system is, the slower its rate of adoption will be.

Long-term Consequences as third predictor of PC utilization is associated with the “outcomes that have a pay-off in the future” (p.129). Thompson and his associates posited that long term outcomes, such as more career flexibility in terms of changing jobs or better performance, may affect positively the adoption of computers. Thus, according to them, for some individuals “the motivation to adopt and use PCs may relate more to building or planning for the future than to addressing current needs” (p.129). Affect towards Use, as its name clearly suggests, refers to “feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act” (Thompson et al., 1991, p. 127). In relation to technology acceptance, this means that those systems which generate more positive emotions and pleasure among its users are more likely to enjoy higher adoption rate and vice versa. Social factors, as a fifth predictor, is defined as “the individual’s

internalization of the reference group’s subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations” (Thompson et al., 1991, p.126). Thus, it is believed that social surroundings may exercise considerable influence on the individual to either adopt or reject a particular system. The last core construct theorized to influence PC adoption is facilitating conditions. This describes the extent to which the potential user believes he/she will get the necessary assistance when needed. Thus, as argued by Thompson et al., the availability of technical support and training would affect positively the adoption of personal computers.

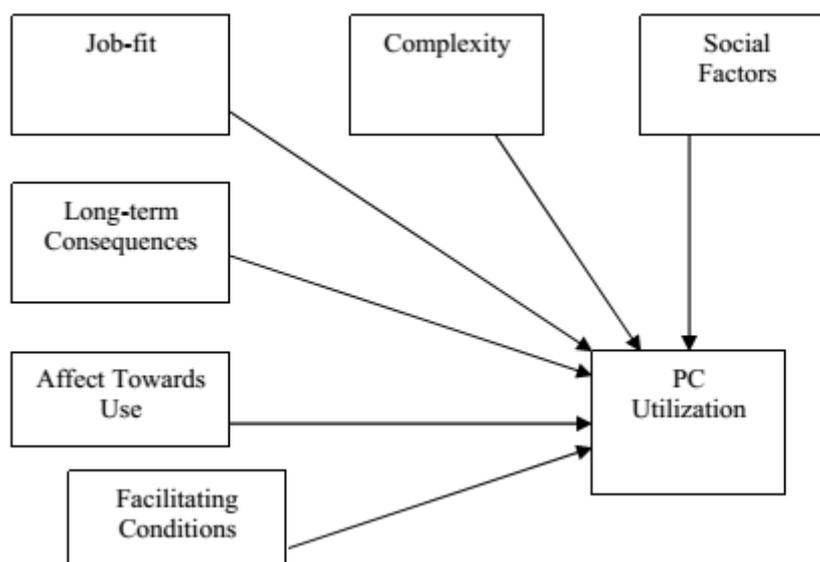


Figure 8: The Model of PC Utilization (Thompson et al., 1991, p. 131)

1.3.4.7. The Social Cognitive Theory

The Social Cognitive Theory (SCT), originally developed by Bandura in 1986, came as a reaction to the theory of behaviorism, which according to Bandura (1999), is based on false assumptions underlying human behavior. Thus, unlike the theory of behaviorism which explains human behavior in terms of “unidirectional causation”, and in which “behavior is depicted as either being shaped and controlled by environmental influences or driven by internal

dispositions” (Bandura, 1999, p.23), the social cognitive theory is based on a triadic reciprocal causality between three different elements: individuals’ internal personal factors (in the form of cognitive, affective and biological variables), behavioral patterns, and environmental events. These factors together “operate as interacting determinants” and “influence each other bidirectionally” (ibid). In simpler terms, the social cognitive theory is built on a reciprocal, rather than unidirectional, interaction or causation between personal, behavioral and environmental or situational factors.

As can be seen in the figure below, Compeau and Higgins (1995) adapted Bandura’s assumptions to the study of computer acceptance and utilization. In so doing, they theorized that two main cognitive core constructs determine individuals’ acceptance and usage of computers. These are namely *self-efficacy* and *outcome expectation*. Compeau and Higgins defined self-efficacy as “people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Compeau and Higgins, op.cit, p.191). This construct is theorized to play an important role in determining people’s rate of adoption in the sense that individuals with high self-efficacy would use computers more. Outcome expectations, as a second predictor of technology usage, is defined as an individual’s estimate or belief that a certain behavior will result in a given outcome. As graphically visualized below, these two constructs were not only theorized to influence usage both directly and indirectly through the affect construct, but also and more importantly, be influenced by other situational and affective factors such as others’ encouragement and support.

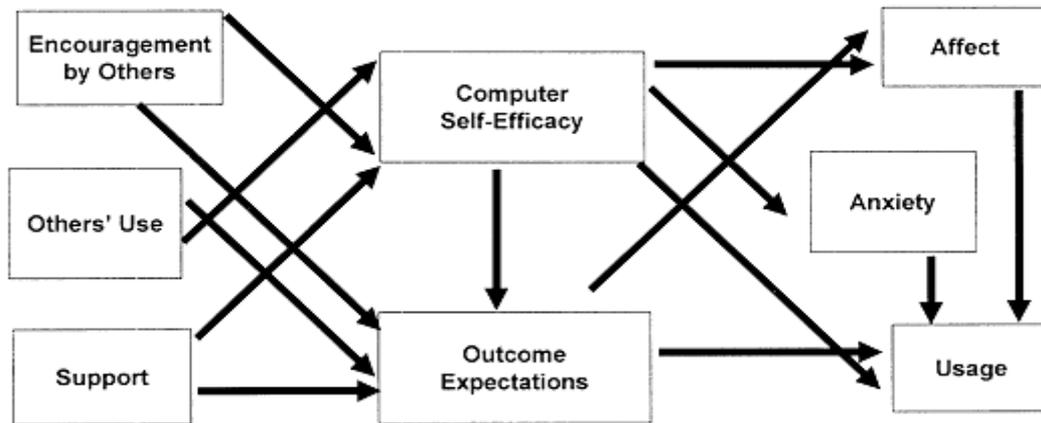


Figure 9: Social Cognitive Theory (SCT) (Compeau and Higgins, 1999, p.194)

1.3.4.8. The Motivational Model (MM)

Davis, Bagozzi and Warshaw (1992) developed their Motivational Model (MM) to compensate for the lack of research specifically addressing the effect of usefulness versus enjoyment on computer use (Venkatesh et al., 2003). The Motivational Model (MM) as its name clearly suggests is based on the assumption that human behavior is driven by people's extrinsic (usefulness) and or intrinsic motivation (enjoyment) (Davis et al., 1992). These scholars defined the former as an orientation towards performing an activity "because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself" (Davis et al. 1992, p. 1112). Examples of these include "improved job performance, pay, or promotions" (ibid). In fact, it was reported by these scholars that the workers' intention to use computers was largely determined by the extent to which they believe it will improve their performance, and hence argued that computers' perceived usefulness influences positively their use. Intrinsic Motivation, on the contrary, is defined as an orientation towards performing an activity "for no apparent reinforcement other than the process of performing the activity per se" (Davis et al. 1992, p. 1112). That is, the act of performing a given action is driven solely by the enjoyment resulting from the activity itself. In fact, it was revealed that enjoyment has a significantly positive influence on computer use and that this influence becomes even larger when the system

is perceived to be useful for carrying out job related activities. Hence, it was concluded that the use of computers is driven by both intrinsic and extrinsic motivations and that the rate of adoption and use becomes greater when computers are perceived as both useful and enjoyable.

1.3.4.9. The Unified Theory of Acceptance and Use of Technology (UTAUT)

To date, the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) is unarguably one of the most dominant and influential conceptual frameworks underpinning the study of technology acceptance and use (Marchewka, Liu & Kostiwa, 2007; Göğüş et al., 2012; Latif et al., 2011; Nassuora, 2012; Chang, 2013; Cheng et al., 2011). According to Venkatesh et al. (2003), the aim behind developing their theory was to form a unified theory that combines all the previously validated models so that researchers will no more have to make a choice, among a magnitude of models, especially if their choice “will largely and inevitably ignore the contributions from alternative models” (p.426). In so doing, these researchers conducted a comprehensive empirical synthesis of all the constructs which were found to be strong predictors on intention in all the previously discussed models. As graphically presented in figure 10, the results have shown that four constructs namely, *Performance Expectancy (PE)*, *Effort Expectancy (PE)*, *Social Influence (SI)* and *Facilitating Conditions (FC)*, played a major role as direct determinants of user acceptance and use. These determinants are moderated by four other key moderators namely gender, age, voluntariness, and experience.

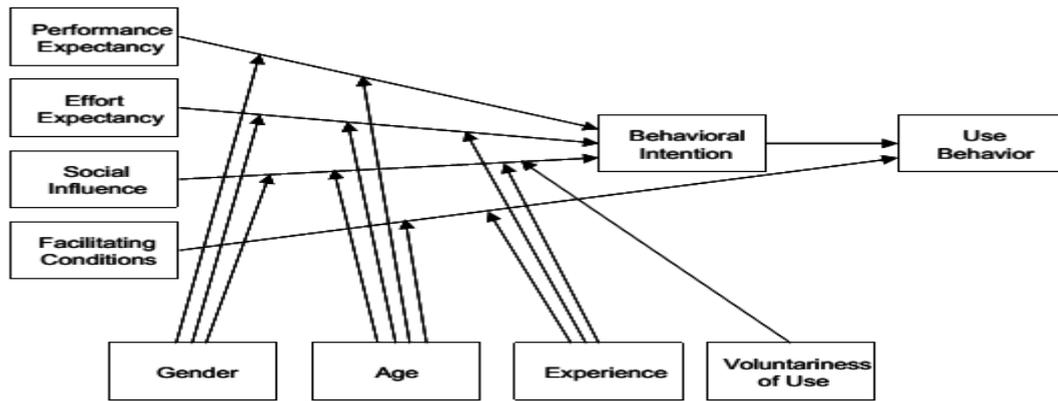


Figure 10: The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003, p. 447)

UTAUT's determinants

Venkatesh et al. (2003) defined Performance Expectancy (PE) as the “degree to which an individual believes that using the system will help him or her to attain gains in job performance” (p.447). That is, it describes the extent to which the use of a given system will bring about tangible gains in terms of performance. According to Venkatesh et al. (2003), PE captures five constructs from previous models namely perceived usefulness (TPB, TAM, and TAM2), extrinsic motivation (MM), relative advantage (IDT), outcome expectancy (SCT), and job fit (MPCU). As we have seen, these constructs were found to be strong predictors of intention in their original models. As can be seen in the figure 10, the relationship between PE and Behavioral Intention (BI) to use technology is moderated by age and gender.

Effort Expectancy (EE) as a second determinant of behavioral intention is defined as “the degree of ease associated with the use of the system” (Vankatesh et al., 2003, p.450). Thus, it has been found that the level of easiness of a particular system determines to a large extent individuals’ behavioral intention to use it in both voluntary and mandatory settings. That is, regardless of the context of use, the level of easiness or complexity of the system can determine the rate of its adoption and use. According to Vankatesh et al. (2003), “three constructs from the existing models capture the concept of effort expectancy: perceived ease of use

(TAM/TAM2), complexity (MPCU), and ease of use (IDT)” (ibid). The effect of effort expectancy on behavioral intention is moderated by three moderators: gender, age and previous experience with technology.

Social influence (SI), as another direct determinant of behavioral intention, is defined as “the degree to which an individual perceives that important others believe he or she should use the new system” (Vankatesh et al., 2003, p.451). In other words, this construct measures the extent to which adoption of a particular system is a result of an influence from the social environment, such as the opinions or impression of relevant others like family members, friends, teachers, and co-workers, etc. According to UTAUT, social influence captures three predictors from previous models: subjective norm from TRA, TPB and TAM2, social factors from MPCU, and image from TAM2. However, unlike PE and EE the relationship between social influence and behavioral intention is moderated by all the four UTAUT moderators: age, gender, experience and voluntariness of use.

Facilitating Conditions (FC) is defined in terms of “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Vankatesh et al., 2003, p. 453). Simply put, FC measures the degree to which the use of a particular system can be positively influenced by the presence of technical and or organizational support. According to UTAUT, three constructs from previous models are captured by facilitating conditions, namely perceived behavioral control (TPB), facilitating conditions (MPCU), and compatibility (IDT) (Vankatesh et al., 2003). However, it is worth noting that unlike the other three determinants, this predictor has a direct influence on usage behavior. Thus, as clearly shown in the figure 10, its effect is not mediated by behavioral intention, which is however the case with the other predictors. In addition, the influence of facilitating conditions on use behavior is only moderated by age and experience.

UTAUT's Moderators

As can be seen in figure 10, gender is an important moderator in UTAUT. Thus, it moderates the effect of performance expectancy, effort expectancy and social influence on behavioral intention to use technology. Venkatesh and his colleagues refer to findings from Venkatesh and Morris (2000) which indicate that the decisions related to technology usage are more influenced by perceived usefulness (i.e. performance expectancy in UTAUT) for men than for women. For them, men tend to have higher performance expectancy than women because they are more task and achievement oriented. In relation to the effect of social influence on behavioral intention, these scholars reported that women tend to pay more attention to the opinions of others than men, who tend to be less sensitive to social influence in adopting technology. In support of these findings, Cheng et al. (2011), in a study of the moderating effect of age and gender on intention to use mobile devices for learning in Taiwan, have recently found that the effect of social influence on behavioral intention is higher for females than for their male counterparts.

Although age has received very little attention in the technology acceptance literature, it has also been found to be an important moderator in UTAUT (Venkatesh et al., 2003). Thus, it moderates the effect of all the four key determinants of intention in the model. Thus, as reported by Venkatesh et al., age moderates the effect of performance expectancy on behavioral intention such that it, i.e. the effect of PE, is stronger for younger users. Likewise, in relation to effort expectancy, it was revealed that older people are more influenced by the effort needed to use the system than younger ones. Moreover, these scholars reported that the effect of social influence on behavioral intention was stronger for older people who tend to adopt more technology as a result of the social pressure compared to younger users.

In relation to the moderating effect of experience, Venkatesh et al. (2003) theorized that users experience with technology moderates the effect of three of UTAUT's determinant factors

namely effort expectancy, social influence and facilitating conditions on behavioral intention. For example, they have expected effort expectancy to be more influential for users who have little or no experience with technology. Voluntariness of use as fourth and last moderator in UTAUT is theorized to only moderate the effect of social influence on behavioral intention. In this respect, Vankatesh et al. (2003) believed that the influence of society on behavioral intention to be stronger in mandatory settings.

1.3.4.10 Educational technology acceptance research in higher education

Since its development and validation in 2003, the Unified Theory of Acceptance and Use of Technology (UTAUT) has been widely used in the study of technology acceptance in various disciplines such as information systems, management and banking (Al-Gahtani et al., 2007; Chiu & Wang, 2008). However, as argued by Göğüş, et al., (2012), its use in the field of education is still very limited. Nevertheless, the findings from the few published studies undertaken in the field of Educational Technology Acceptance (ETA) in different countries largely support the construct validity and reliability of UTAUT. For example, in a study of American university students' acceptance of course management software, Marchewka, Liu and Kostiwa (2007) reported that Effort Expectancy (EE) and Social Influence (SI) had a significant impact on Behavioral Intention (BI) to use the course management software. In a similar study, Giannakos and Vlamos (2011) found that SI and EE had a significant influence on Greek students' behavioral intention to use webcasts (audio or video broadcast on the internet). In another study involving 534 Malaysian higher education students, Latif et al. (2011) examined the factors impacting postgraduate students' use of a digital library. The results have revealed that PE and EE had a positive influence on students' BI to use the digital library. Similar findings have also been reported by Nassuora (2012), who examined Saudi Arabian university students' acceptance of mobile learning. The results have shown that PE and EE had a significant influence on Saudi Arabian students' behavioral intention to use mobile

learning. In a more recent study, Chang (2013) examined higher education students' acceptance and use of library mobile applications in Taiwan and reported that PE, EE and SI did have a significant influence on students' BI to use these applications. Additionally, in one of the few studies which examined the moderating effect of age and gender on behavioral intention to use mobile devices for learning in Taiwan, Cheng et al. (2011) have revealed that SI has a positive impact on BI and that this influence is higher for females than for their male counterparts, which is highly consistent with Vankatesh et al's. (2003) findings.

1.3.5. Patterns of web 2.0 use in higher education

Generally, it was reported in a number of empirical studies, despite their inconsistencies, that web 2.0 technologies, at the top of which are social networks, blogs, wikis, and media sharing tools, are gaining increasing popularity among higher education students globally and that they are being more frequently used for learning purposes (Yoo & Huang, 2011; Salaway et al., 2008; Chih, 2011; Alam, 2008; Redecker et al., 2009). For example, in large scale survey involving over than 27, 317 participants, Salaway, et al. (2008) have reported that American undergraduate students spent an average of 19.6 hours online weekly for school and that more than 85% of the respondents reported using social networking sites. In another survey of British university students' use web 2.0 technologies, it was revealed that (79%) of the surveyed students use web 2.0 technologies for learning and that (97%) of respondents find them useful. The findings have also shown a growing use of social networking sites such as Facebook among these students (Ipsos Mori, 2008).

In fact, there is enough empirical evidence that social networking sites, especially Facebook, are gaining unprecedented popularity among students. For example, Požgaj and Vlahovi (2010) reported that 95% of Romanian university students' use social networking site for learning. Facebook was found to be the most popular social networking sites among these students. In fact, it was found that 98% of the respondents have a Facebook profile. In line with

these findings, Redecker et al. (2009) reported results from a collection of case studies conducted in Europe which, according to them, have revealed a remarkable uptake of social networking in higher education contexts. Importantly, Atici and Bati (2010) conducted an experimental study examining the usefulness of Facebook for learning. The study involved a total number of 60 students who were divided into an experimental and a control group. The students in the experimental group used Facebook in their course. The results, as reported by these scholars, have shown that students who participated in online learning via Facebook exhibited higher levels of engagement in the course and stronger interaction compared to their counterparts.

Other researchers have specifically examined the educational use of blogs and wikis among university students. For example, Alam (2008) explored students' experiences of wikis and blogs in three Australian universities. The results have shown that 80% of the respondents found these technologies useful in helping them learn from one another. In another study, Meyer (2010) examined the use of wikis, blogs and online discussions forums among American doctoral students. Their findings suggest that students were familiar with the Web 2.0 technologies and viewed them as useful for sharing thoughts and ideas. As reported by this researcher, online discussion forums were the most preferred tool as they generated a great deal of interaction among students, followed by blogs. Wikis were the least acceptable tool as many students did not enjoy group work. According to Meyer, these students found online environment safer for expressing ideas compared to the traditional face-to-face settings. In this respect, Weyant and Gardner (2010) pointed out that wikis and blogs are being used for a variety of educational purposes such as syllabi distribution, digital portfolios, collaborative writing, discussion group assignments, posting of class notes, project brainstorming, and as a course management system. According to them, "32% of all American adults go online to read

someone else's blog; 15% work on someone else's webpage or blog; and 11% create or work on their own online journal or blog" (Weyant & Gardner, 2010, p. 68).

However, very limited published research can be found when narrowing the scope to the Moroccan higher education context. In fact, the only two studies, known to the researcher, which have examined Moroccan university students' use of web 2.0 technologies, have reported inconsistent and sometimes contradictory findings. The first was conducted by Sbihi, El Jazouli and El Kadiri in 2009. The study involved 142 students from the School of Information Sciences in Rabat. The results, as reported by these scholars, have shown that 97% of the respondents were familiar with web 2.0 and that 67.67% of them frequently use blogs, social networks and wikis as educational tools. It was also reported that 53% of the students contributed content to Facebook, 42% to Skyblog, 24% to YouTube and 20% to Dailymotion. Concerning the use of wikis, 40% of the respondents reported using Wikipedia. Those respondents who have never contributed content to the web justified it by the lack of time, knowledge and training, and the fear of others' feedback. It was concluded that Moroccan university students have positive opinion about the use Web 2.0 technologies for learning indicating that 91.91% believe that they simplify the task of creating and sharing of learning content. The second study was conducted by Azrar (2013) and involved 270 students from the University of Mohamed I in Oujda. Unlike the results reported by Sbihi et al. (2009), Azrar's study has revealed some very striking results showing a very low rate of web 2.0 use for learning purposes. Thus, according to her, only 12% of the students surveyed reported using web 2.0 for their studies while 64% use it for recreational and entertainment driven purposes. The study has also shown that Facebook was the most popular social networking site among Moroccan students as 76% of the respondents reported having a Facebook profile. More importantly, it has been revealed that out of 270 of the students surveyed 150 prefer the traditional course delivery. These two studies

are, however, far from sufficient and, therefore, more research is needed understand Moroccan university students' use of Web 2.0 for educational purposes.

1.3.6. Changing roles of teachers and learners

As has been repeatedly stressed throughout this review, the advent of Web 2.0 technologies and their subsequent ubiquitous uptake among higher education students has made the environment within which modern education operates increasingly complex. In fact, many scholars and educators have emphasized that, thanks to these technologies, today's learning realities have changed considerably and that it is of paramount importance that higher education institutions change in response to these changes (Bruns & Humphreys, 2007; Redecker et al., 2009; McLoughlin & Lee, 2010; Siemens, 2007; Conole & Alevisou, 2010; Lai, 2011). These scholars believe that there is a clear imperative for higher education institutions in general and teachers in particular to re-think their roles. For example, Siemens (2007) stressed that these institutions should reconsider how they operate so that they can respond to the increasing complexity of society and globalization.

In fact, various concerns have been raised about a mismatch between the active and participatory learning opportunities made available by Web 2.0 technologies and the prevailing traditional teacher-centered paradigms. For example, as pointed by McLoughlin and Lee (2010), "the philosophy and ethos prevalent in the Web 2.0 world in which we live are highly incongruent with the control culture of education, where teacher-designed content and syllabi dominate" (p.31). In other words, the prevailing top down pedagogy in higher education needs to be re-considered in such a way that it conforms to the promising educational potential of Web 2.0 applications (Hicks & Graber, 2010). In line with these arguments, Chih (2011) added that there is a clear imperative for educators and students to reconsider their roles and to move towards a social and participatory pedagogy rather than one that based on the acquisition of pre-packaged facts. Similar beliefs were put forward by Bruns and Humphreys (2007) who

maintained that the proliferation of user-generated content requires a shift to teaching approaches that support collaboration, mentoring, fostering creativity and critical literacy capacities. In this respect, Redecker and his collaborators (2009) suggested that in order to rethink and create an effective pedagogy, teachers should become digital content designers, coordinators, moderators, mediators and mentors, rather than lecturers. Students, in their turn, these scholars further argue, have to shift towards more active and responsible roles for their own learning. Thus, as pointed by McGee and Diaz (2007), learners' roles in networked environments should enable them to become "information evaluators as opposed to passive learners who merely reflect their instructor's knowledge" (p. 9). From this perspective, Ehlers (2009) emphasized that 'the concept of self-directed learning comes to be of enormous importance to e-learning 2.0' (Ehlers, 2009, p.300).

More specifically, Siemens (2009) proposed seven new roles that teachers need to adopt in networked learning environments. The first of these is *Amplifying*. To explain this role, Siemens gave the example of Twitter. A teacher can be an amplifier by *re-tweeting* (re-sending) an article, a link, a video or any other media content that he finds useful to his networked students. As each re-tweeting amplifies the message, 10 twitter users with 20 followers can for example amplify the message to hundreds of students. In this way, teachers can do a great work in knowledge amplification and dissemination. *Curating* is the second role that teachers are supposed to play in web 2.0 rich environments. As this scholar notes, a curator arranges key elements of a subject in such a way that learners "bump into" them throughout the course (para.13). That is, teachers can implicitly guide the learning process by providing their students with appropriate learning materials that they find relevant for the course. The third role in Siemens' list is *Way-finding* and *socially driven sense making*. As its name may suggest, this role is based on the assumption that teachers should help their students find their way through the limitless body of digital content available on the net and make the best of it. Socially-driven

sense making also involves helping the learner make sense of complex subject areas by relying not only on his knowledge but also on his/ her social network (other networked people's postings and opinions). *Aggregating*, as a fourth role, is based on the notion that teachers can make use of the various interactions between network users to design the course material rather than preparing it in advance. Siemens argues that the teacher can organize and make use of the postings and contributions of users just like Google has been doing with the Web. *Filtering*, as another important new role, can be played by teachers through selecting appropriate readings around a course topic or through writing reflections on blog posts. *Modeling*, defined as "changes in people that result from observing the actions of others" (Eggen & Kauchak, 2001, p. 236), involves helping learners observe more knowledgeable others like teachers and experts and gradually learn to take control over their own learning and guide it towards positive ends. The last role in Siemens' list is *persistent presence* in the sense that a teacher has to have an online identity, some kind of online presence like a blog or a social network, where he or she can be found when needed.

While Siemens' list of the new role teachers must play in Web 2.0 based environments is insightful as it provides a framework for thinking about how teachers' roles are changing, many other scholars such as Conole and Alevisou (2010) have argued that an effective use of web 2.0 technologies in a given course is dependent on a number of factors. First, teachers must clearly define and map the targeted learning outcomes from the outset. Second, they need to know what the educational affordance of these technologies can do and how they can be integrated with other aspects of the course. That is, before deciding which web 2.0 tool to use, its advantages and limitations should be considered. Third, teachers need to play more facilitative roles by helping learners engage in and support student directed activities. Fourth, teachers must have prior experience with these technologies and have a good command of their use. In support of this, Malhiwsky (2010) pointed that accounting for an effective pedagogy

that optimizes students' learning in networked spaces requires all teachers to have full competence in the technology. Similar beliefs have been voiced by Richardson (2009), who indicated that "in order to prepare our students for what is without question a future filled with networked learning spaces, we must first experience those environments ourselves", adding that unless this is done, we, i.e. teachers, "are falling more in danger of becoming irrelevant in our students' lives (cited in Berg, 2010, p.21).

In addition to the arguments discussed above, some other scholars have voiced the need to reconsider the role of informal learning in educational policies. For instance, Lai (2011) pointed that web 2.0 technologies "blurs the boundary between formal and informal learning experiences" (p.1270). Therefore, he called for transcending the traditional conception of learning in higher education, in which learning is supposed to take place formally through attending lectures, completing prescribed readings and texts, undertaking field work, and subsequently assessed through internal assignments or examinations. He suggested that learning can also occur outside public spaces, especially that students are surrounded by and immersed in technologies in informal settings. In line with Lai's argument, Sefton-Green (2004) captured the importance of exploiting the educational potential and affordances of informal learning made possible by web 2.0 in the following quotation.

In their leisure, at play and in the home with their friends, young people can find in ICTs powerful, challenging and different ways of learning... unless education policy makers can find ways to synthesise learning across formal and informal domains, our education system will become the loser in the long run (p.33).

1.3.7 Factors affecting the uptake of web 2.0 in higher education

Despite all the heralded educational benefits Web 2.0 can offer to its users, research has shown that the use of these tools in higher education contexts is still limited with a little impact on teaching and learning process (Lai, 2011; Selwyn, 2007, 2008; Schaffert, 2010; Yelland,

Tsembas & Hall, 2008; Schneckenberg, 2009). For example, in one of the attempts to evaluate the overall implementation of web 2.0 in higher education in the last two decades, Lai (2011) concluded that higher education institutions have been slow in taking the fullest advantage of the potential of these technologies. Similarly, Ehlers and Schneckenberg (2010) pointed that the integration of e-learning in higher education has been disappointing as it did not bring about any significant pedagogical changes. This slow uptake is attributed to a number of technical, organizational and pedagogical challenges.

One particular obstacle that is often cited as a major impediment to the deployment of 2.0 technologies in higher education settings is accessibility. Thus, as pointed by Olaniran (2007), the propensity to use any kind of technology starts with access to it. Similarly, Dron (2007) considers access as one of the most detrimental factors which hinder an effective educational uptake of Web 2.0 technologies arguing that problems of accessibility and lack of interaction with them can seriously affect learners' readiness and willingness to use them for their learning. Therefore, he continues, "it is important to ensure that learners are able to use the technology that the technology works, and is as usable as possible" (p.265). In line with this, Redecker et al. (2009) stressed that an effective implementation of web 2.0 in educational settings entails an adequate and stable technical infrastructure including a standard level of hardware and internet connection speeds for both teachers and students. In support of these arguments, Azrar (2013) reported that lack of necessary equipment and training were found to be two major reasons that affected Moroccan university students' use of web 2.0 for educational purposes.

Besides the problem of accessibility, teachers' attitudes and lack of sufficient digital skills have been identified as two other important barriers to the full exploitation of web 2.0 technologies. In relation to the first, Yelland, Tsembas and Hall (2008), for example, indicated "much of the education sector often seems to be in denial about the relevance of ICT and its

implementation in educational contexts” (p.95). Conole (2010) cited a number of reasons and arguments given by some teacher to justify their disuse of Web 2.0 in their teaching. These include: “I haven’t got time”, “My research is more important”, “What is in it for me”?, “I don’t have the skills to do this”, “I don’t believe in this”, “It won’t work” (cited in Conole & Alevisou, 2010, p.22). These different excuses, regardless of their legitimacy, reflect a rather skeptical attitude towards the use of digital media in higher education. In this respect, Ehlers and Schneckenberg (2010) pointed that teachers’ lack of understanding of why and how technology should be embedded in pedagogy can influence their overall willingness to use them for teaching. Therefore, as emphasized by Gaffar, Singh and Thomas (2011), the use of Web 2.0 technologies requires a change in the mindset of educators and administrators. In relation to the second reason, i.e. teachers’ digital skills, Redecker et al. (2009) stressed that the use of web 2.0 for teaching require a certain level of competence which teachers still lack. Similarly, Selwyn (2007) attributes the slow use of technology in educational contexts to “deficits of skills, motivation, and know-how on the part of students, faculty, and the educational institutions themselves” (p. 84). A similar point was made by Nica and Chair (2011) who indicated that, when it comes to internet use, educators are less equipped to cope with the new web 2.0 technologies than the students they teach. However, Lai (2011) attributed teachers’ lack of digital competence to the prevailing policies in higher education where,

career advancement is dependent primarily on research outputs, which provides little incentive for academic staff to invest their time and energy on new pedagogic practices, and little attention will be put on research on teaching pedagogies, and in particular, pedagogies of using technologies in teaching and learning (p.1268).

In effect, some other scholars, such as Bugeja 2006, Redecker et al. (2009) and Selwyn (2008) have raised two serious concerns associated with students’ misuse of technology. For example, as argued by Bugeja (2006), while the use of Web 2.0 applications in the classroom

was supposed to enhance students research, “increasingly, however, our networks are being used to entertain members of ‘the Facebook generation’ who text-message during class, talk on their cell phones during labs, and listen to iPods rather than guest speakers in the wireless lecture hall (cited in Selwyn, 2008, p. 11). A similar point was made by Selwyn (2008) who argued that there is a growing concern among educationalists that social networking sites may distract learners from their studies. Likewise, Redecker et al. (2009) explained that the unstructured nature of web 2.0 environments could jeopardize the learning processes noting that young students may engage in a number of risky behaviors such as wasting time, accessing inappropriate and unreliable materials and exposing their private life without much caution.

1.3.8. Web 2.0 and cross-cultural differences

In addition to the obstacles discussed above, users’ psycho-cultural values are believed to be another detrimental factor of technology acceptance and use (Gobbin, 1998; Schneckenberg, 2009; Collis, 1999; Krumholtz et al., 2000; Van den Branden & Lambert, 1999; Dadashzadeh, 2002). Thus, as pointed by Gobbin (1998), technological tools are initially cultural artifacts and hence their suitability to a given cultural group is detrimental in their acceptance and successful use. In line with this argument, Dadashzadeh (2002) described technology as ‘culturally biased’ in that it favors the social and cultural context where it was developed. Likewise, Speece (2012) has recently described online learning material as being an ‘undifferentiated commodity’ that is oriented mainly towards individualistic, small power distance, uncertainty accepting, and low-context cultures. However, despite all these arguments, to date, very little empirical cross-cultural comparative research addressing the role culture can play in technology acceptance and use can be found in the literature globally. The dearth of such research is even more profound when narrowing the scope to web 2.0 use in higher education.

Nevertheless, the results from the few studies which have empirically examined this issue indicate that users' psycho-cultural background plays a major role in influencing their acceptance and use of technology (Veltri & Elgarah, 2009; Hasan & Ditsa 1999; Keil & Brenner, 1997; Olaniran, 2007; Van Dam & Rogers, 2002; Devereaux & Johansen, 1994). What is even more worth noting is that the majority of these studies have used Hofstede's (1980) multidimensional paradigm as a basis for cross-cultural comparison and their findings largely support its relevance in this area of research. For example, Peng, Tan and Wee (2001) comparatively examined the adoption of a frame relay, a type of telecommunication service, in Japan and the U.S and found that the Japanese uncertainty avoidance tendency negatively influenced their adoption of this technology. These scholars concluded that high uncertainty nations, Japanese in this case, are less likely to adopt technological services compared to more uncertainty accepting culture. In support of this, Van Dam and Rogers (2002) explained that users from high uncertainty avoiding culture may view online learning as something uncertain and risky while it is more likely to be seen as something fun and interesting in a low uncertainty avoidance cultures. Likewise, Olaniran (2007) added that high uncertainty avoiding individuals "tend to see a technology system as threatening to their traditional learning methods" (p.22), noting that this perceived "threat" creates anxiety which, in its turn, results in negative attitudes towards technology use. Olaniran's argument is particularly consistent with findings from other studies. For example, Henning (2003) reported a high level of anxiety among e-learners in South Africa. Thus, one of her e-learners reported the following:

When I wrote my first discussion posting I was so afraid. Would this get to others? Will they laugh, what will Prof say? ... I feel I have not the same control as before. I type and I read and I am scared to click because when I do that I feel I am falling down (Henning, 2003, p. 308).

This statement, in Henning's view, depicts in vivid details the negative anxiety-related feelings resulting from loss of control due to lack of face to face interaction to which students of this culture are used.

With regard to the implication of power distance on acceptance and use of e-learning, Van Dam and Rogers (2002) suggested that e-learning is best suited for low power distance cultures, where power (knowledge) is distributed equally. However, in a high power distance culture, where status is important and where people accept an unequal distribution of knowledge, students expect to be told what is to be learned by the teacher rather than seeking knowledge online. Similarly, Devereaux and Johansen (1994) stressed that it might be difficult to get people to use certain technologies such as computer-mediated communication in high power distance cultures, where status dictates every aspect of interpersonal communication. In line with these arguments, Straub et al., (2001) investigated the impact of power distance on information technologies adoption in Saudi Arabia and reported that Arab cultural beliefs, sampled in high power distance, are a strong predictor of resistance to IT adoption and use.

The individualism/collectivism cultural orientations have also been found to influence individual's perceptions and use of technology. Thus, as stated by Olaniran (2007), "above all, the need to be part of a group rather than an independent person is imminent when different cultures view or use e-learning" (p.24). A particular good way of thinking about the effect of individualism and collectivism on the use of technologies, according to him, is how "people from collectivistic cultures tend to seek the connections or look for signs or symbols that provide them with a general sense that they connect with others" (ibid). In simple terms, while collectivists tend to rely on face-to-face interaction, it is however lacking in e-learning environments. This lack of interaction will consequently affect collectivists' learners' willingness to participate in e-learning environments. In support of this argument, Henning (2003) reported that some of her e-learning participants expressed their disappointment for not

having someone on the other side to physically interact with. These students, she explains, faced confusion about who was in charge of their learning as all they could see was web pages full of words and graphics. One of her participants stated that “I still dream of a book and a neat study guide and I am not happy with professor...she thinks we are Americans who breathe through the lungs of the Web” (p.310). Consistent with this idea is Henderson’s (1996) argument that instructional design is essentially a product of culture. Thus, as he puts it,

approaches to instructional design not only reflect differing world views, but they consist of values, ideologies, and images that involve inclusions and exclusions that act in the interests of particular cultural, class, and gendered groups. Instructional design and the designer are inextricably tied to their societal context and thus infused with the cultural, class, and gendered influences resulting from the subtle and intricate interplay of these factors (Henderson, 1996, p. 87).

As was noted earlier, some other researchers have stressed the relevance of Hall’s model of High vs. Low context communication styles in explaining differences in technology acceptance and use across cultures (Olaniran, 2007, Vitkauskaite, 2010; Chau, 2008; Westbrook, 2013). For example, in line with the above arguments by Olaniran (2007) and Henning (2003), Westbrook (2013) argued that students who are accustomed to high-context teaching style would encounter difficulties in e-learning contexts which require low-context teaching and learning. He explains that while these students expect face-to-face interaction to understand a course, they may feel misguided or even neglected if no such social interaction exists as is the case in online learning, which is by “definition low context” (Lustig & Koester, 2006, p.111), Westbrook further highlighted this discrepancy between high context students’ expectations and the prevailing low context reality in the quotation below.

In such an event, [i.e. high context students in a low context learning context] the student feels misguided at the least and possibly even neglected; but the instructor considers the student’s persistent questions as a form of dependency,

an unwelcomed guest in an institution of higher learning that seeks to produce independent critical thinkers.

More recent scholarly attempts used Hofstede's multidimensional paradigm to specifically investigate the effect of cross-cultural differences on web 2.0 use patterns (Mandl, 2009; Yoo & Huang, 2011; Singh, Zhao & Hu, 2003; Qiu, Lin & Leung, 2012; Veltri & Elgarah, 2009). The results from these studies have shown that cultural differences, as measured by Hofstede's dimensions, do influence individuals' use of web 2.0 across cultures. For example, in a study on the effect of individualism and collectivism on blogs use patterns among the Chinese and Germans, Mandl (2009) reported that the Chinese bloggers expressed more emotional and positive comments on their blogs compared to the Germans, who posted more negative comments. This, according to the researcher, reflects the impact of collectivism on Chinese users who avoid posting negative comments to maintain harmony with others. Similar findings were reported by Pfeil, Zaphiris, and Ang (2006) who found that wiki users from collectivistic cultures were more reluctant to delete others' contributed content despite their knowledge that it was incorrect (cited in Yoo & Huang, 2011). Moreover, in a comparative study examining American and Korean people's use of social networking, Cho (2010) found that while Korean users of social networks have fewer but more intimate friends, tend to keep their public profile anonymous, exhibit lesser but more personal self-disclosure, American users have more friends, exhibit more frequent self-disclosure, and rely more on direct text-based communication (Qiu, Lin & Leung, 2012). These findings are very consistent with Triandis (2001) and Stewart's (1972) description of social relationship in collectivistic and individualistic cultures. Interestingly, in one of the few studies undertaken in the Moroccan context, Veltri and Elgarah (2009) compared the use of social networking in Morocco and the United States and reported that while American users expressed themselves openly and provided detailed information about their personality, Moroccan users, on the contrary, kept

their profiles modest. This according to them reflects American users' tendency and desire to stand in the crowd, and Moroccan users' tendency to avoid uniqueness and differentiation.

1.4 Summary of the review of the literature

This review has, so far, provided a relatively general theoretical background for the present dissertation. It began with highlighting the growing scholarly effort deciphering the ways in which culture relates to psychological and educational phenomena. To this end, it has presented and discussed the different conceptual attempts explaining cultural differences with special focus on Hofstede's multidimensional model, which underpins this study. The review has also provided a detailed comparative analysis of the major cultural aspects characterizing the Moroccan and American cultures based on previously discussed models. Having set the study's contextual scene, the review moved to stress the value of self-directed learning as one of the ultimate goals of higher education especially in this globalizing technologically complex era. Herein, an exploration of relevant self-directed learning literature was attempted. Thus, the researcher has discussed the different conceptual models developed to describe and measure self-directed learning readiness. In addition, an attempt was made to highlight the ways in which cultural differences can influence students' self-directed learning readiness. The third part of this review was devoted to the issue of Web 2.0 use acceptance in higher education. It has highlighted the changing realities of higher education as a result of the growing uptake of web 2.0 tools. Promoting self-directed learning was suggested as a means to respond to these changes. Then, the researcher moved to reviewing the different theories and models developed to explain the intricacies of technology acceptance and use, with a special focus on the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003). Towards the end of this review, a discussion of the factors, at the top of which is culture, that research has found to impede an effective uptake of web 2.0 technologies was provided.

Chapter two: Theoretical framework

Introduction

This chapter, in its three major sections, attempts to provide an operational theoretical basis for the present study by meaningfully bridging the different parts of the review of literature. The first and the second sections present and discuss, from a cross-cultural comparative perspective, the researcher's conceptualization of the relationship between cultural differences as measured by Hofstede's cultural dimensions and Moroccan and American university students' self-directed learning readiness and Web 2.0 acceptance and use as measured by Fisher et al. (2001) and Vankatesh et al. (2003). In both sections an attempt was made to operationally establish a theoretical linkage between previous research and the hypotheses put forward in a way that paves the way for the methodological aspects of the study. The third section synthesizes the literature about the relationship between web 2.0 use and self-directed learning readiness in higher education and proposes and specifies the hypotheses to be tested.

2.1 SDL readiness in higher education: A cross-cultural perspective

2.1.1 Self-directed learning readiness

As was discussed earlier, a substantial emphasis has been placed on self-directed learning as one of the ultimate aims of higher education. Thus, researchers in the past and the present have always believed that the major role of higher is to help learners assume moral, emotional, and intellectual autonomy over their learning (Boud, 1981; Candy 1991, 2004; Dron, 2007, to name but a few). For example, more than three decades ago, Boud (1981) pointed that "the only realistic goal for higher education is that students should be more autonomous when they leave the course than when they enter" (p. 24). The importance of self-directed learning has become even more evident with increasing demands of contemporary higher education. Thus, as Candy (2004) puts it, "since we are currently experiencing an unprecedented level and

pace of change on a global scale, it is plausible to expect the demands of a changing world to lead to greater amounts of self-directed learning” (p. 20). In support of this view, Ehlers (2009) has recently pointed that “the concept of self-directed learning comes to be of enormous importance to e-learning 2.0” (p.300).

As we have seen in section (1.2.4), self-directed learning has been conceptualized in three major ways: as a process, a personal attribute, and as a combination of the two. The process oriented models (e.g., Knowles, 1975; Tough, 1979; Grow, 1991) conceptualized SDL as a linear process in which the learner is responsible for planning, implementing, and evaluating his/her learning experience. Later models, however, conceptualized SDL as a learner’s personal attribute (e.g., Guglielmino, 1977; Brockett & Hiemstra, 1991) and focused more on the role of the learner’s personality characteristics i.e. his or her “desire or preference for assuming responsibility for learning” (Brockett & Hiemstra, 1991, p. 24). More recent models (e.g., Candy, 1991; Garisson, 1997) combined the two in ways that integrate both the personality characteristics of the learner and the instructional process, and hence proposed more comprehensive conceptualization of self-directed learning. These different conceptualizations as discussed earlier have resulted in the development of different SDL measurement instruments, namely Guglielmino’s SDLRS (1977) and Oddi’s (1986) Continuing Learning Inventory OCLI. These two instruments despite their popularity and wide use, especially Guglielmino’s SDLRS, several concerns have been raised about their validity and reliability (Field, 1989; Candy, 1991; Fisher et al., 2001; Stewart, 2007; William et al., 2013).

As a response to the growing need for a more valid and reliable alternative, Fisher, King and Tague (2001) proposed a new version of SDLRS made up of three determinants factors, labeled *Self-Management*, *Desire for Learning* and *Self-Control*, with a total number of 40 items on a 5 point- Likert scale. Self-management, defined by a subscale of 13 items, measures the extent to which learners are able to identify their learning needs, set learning goals and

appropriately manage their time and energy during the learning process. Desire for learning, defined by 12 items, elicits information about the extent to which learners are motivated to learn new ideas and acquire new knowledge. Learner control, defined by 15 items, measures the degree to which learners can act as independent agents who can independently analyze, plan, implement and assess their learning activities (Fisher et al., 2001; Torabi, Abdollahi, Aslani & Bahrami 2013).

Unlike Guglielmino's SDLRS and Oddi's OCLI, the new SDLRS by Fisher et al. has been satisfactorily validated in many studies (Smedley, 2007; Stewart 2007; William et al., 2013; Torabi et al., 2013; Bagheri, Wan Ali, Abdullah & Daud, 2013). The reliability findings reported in these studies, despite being conducted in different cultural settings, are to a large extent very consistent with those obtained by Fisher et al. (2001). For example, in a recent study measuring Australian university students' SDLR, William et al. (2013) reported an alpha coefficient of $\alpha=0.90$ for the whole scale while the subscale reliability alpha coefficients were: self-control $\alpha=0.83$, Self-management $\alpha=0.82$ and desire for learning $\alpha=0.81$. In another study, Smedley (2007) examined undergraduate students' self-directed learning readiness within a private higher education institution in Sydney and found very similar results to those of Fisher et al. (2001). The reliability of the new SDLRS is also supported by Bagheri et al. (2013), who measured self-directed learning readiness among Iranian university students. The results have shown an overall reliability Cronbach alpha of 0.87 for the whole scale whereas the values of self-management, desire for learning, and self-control subscales were 0.90, 0.86, and 0.87, respectively. These results, among many others, clearly show that the new SDLRS by Fisher and his colleagues is highly valid and reliable. Hence, for the purpose of the present study, it is judged the most suitable instrument for an accurate measurement of Moroccan and American university students' self-directed learning readiness.

2.1.2 The cross-cultural dimensions of self-directed learning readiness

Building on earlier synthesis of previous research on the relationship between cultural differences and self-directed learning readiness (section 2.2.9) which has revealed the existence of an important association between the two (Brockett & Hiemstra, 1991; Candy, 1991; Henderson, 1996; Cotterall, 1995; Holtbrugge & Mohr, 2010), and capitalizing on scholars' continuing emphasis on the relevance of Hofstede's paradigm in the study of this relationship, this study attempts to explore the relationship between Moroccan and American university students' psycho-cultural values and their self-directed learning readiness levels. In so doing, the researcher integrates three of Hofstede's (1980, 2001) cultural dimensions, namely individualism/collectivism, power distance and uncertainty avoidance into Fisher et al's. (2001) SDLRS.

However, before embarking on establishing any theoretical links between Hofstede's cultural dimensions and SDL readiness factors, it is worth reiterating how Moroccan and American cultures differ substantially across all Hofstede's cultural dimensions (table 10). Thus, as was discussed in section (2.1.4), unlike Americans who are more individualistic, low in power distance and uncertainty avoidance, Moroccans are more collectivistic, value power distance and uncertainty avoidance. These differences make of these two cultures an interesting context for cross-cultural comparative research.

Table 10: The Cultural dimensions index scores for Morocco and the United States (Adapted from Hofstede's Center, n.d)

Country	Individualism	Power distance	Uncertainty avoidance
Morocco	25	70	68
United States	91	40	46

Most importantly, in an attempt to establish theoretical links between what researchers have recognized as important implications of Hofstede’s cultural dimensions on students’ self-directed learning readiness, a critical synthesis of the rather limited relevant literature was carried out. This has resulted in the development of the study’s conceptual framework (figure 11). As graphically visualized below, each of the three cultural dimensions is expected to have a direct impact on each of the three factors constituting self-directed learning readiness.

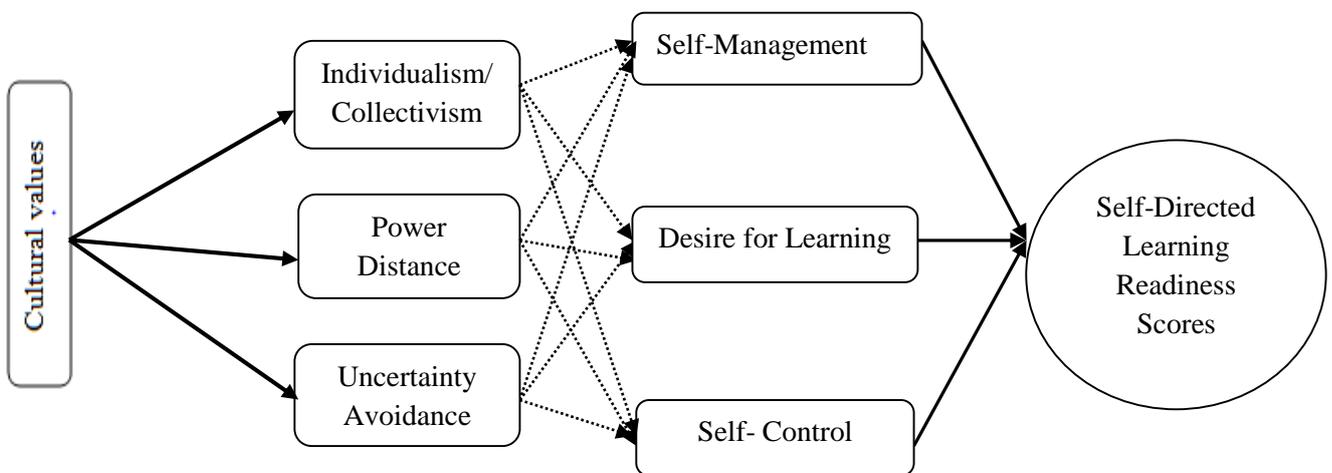


Figure 11: The cross-cultural dimensions of self-directed learning readiness

2.1.2.1 Individualism/collectivism and self-directed learning readiness

The individualism/collectivism dimension, as we have seen, measures the extent to which a given society reinforces detachment or connectedness and individual versus collective interests (Hofstede, 1980, 2001; Triandis, 2001). Common characteristics associated with individualistic cultures include detachments from others, the primacy of personal goals and interests, uniqueness, competition, differentiation and a continuous search for individual success and self-actualization. Collectivists, on the opposite pole, are described as people who prioritize collective interests, underplay uniqueness and place great value on connectedness and conformity (Church, 2000; Hetts, Sakuma & Pelham, 1999; Triandis, 2001; Hofstede, 1980,

2000, 2011; Carpenter, 2000; Ohbuchi, Fukushima, Tedeschi, 1999; De Mooij & Hofstede, 2011; Green & Páez, 2005, Fried, 1995; Skillman, 2000; Desai, 2007; Triandis & Suh, 2002). Applied to the context of education, some researchers expect these different individualistic and collectivistic tendencies to influence students' perceptions of and readiness for self-directed learning (Tennant, 1986; Brookfield, 1993; Nah, 2000; Catterick, 2007; Holtbrugge & Mohr, 2010). Brookfield (1993), for example, described self-directed learning as the "adult education's interpretation of individualism" (p.231). That is, it is seen as a reflection of individualistic cultural values such as the importance of independence, self-reliance, self-actualization, initiative, and the primacy of personal goals and experience (Markus & Kitayama, 1991, Hofstede, 2001; Triandis, 2001). These values overlap substantially with what researchers come to recognize as the main and distinguishing characteristics of self-directed learners (Knowles, 1975; Brockett & Hiemstra, 1991; Candy, 1991). In support of this view, Hofstede (1997) stressed that while students in individualistic cultures follow personal goals, expect to be given the chance to assert themselves, value individual achievement, and show preference for independent work, in collectivistic cultures students tend to be more teacher-dependent, underplay detachment and differentiation, depend on social relationships and prefer collaboration with peers. More specifically, Holtbrugge and Mohr (2010) pointed that whereas individualist students "prefer those forms of learning for which input from and interaction with others are least important" (p.626), students with collectivist values, however, are more prone "to tap into the knowledge of others" and thus "show inability, or even unwillingness to rely on concrete experience" (p.623). Similar arguments have been put forward by Liu (2007) who argued that unlike Western students, who tend to be more active, innovative and creative, "Eastern students are expected to follow rules and to memorize learning content" (p.80). These students, according to him, do not involve themselves actively in learning activities, rarely initiate activities on their own and have a general tendency towards waiting for assignments.

Building on these arguments and on Hofstede's interpretation of the Moroccan index score of individualism, hypothesis 1 emerges:

It is hypothesized that there will be a significant correlation between Moroccan and American university students' Individualism/collectivism scores and their self-directed learning readiness scores such that American students (individualists) are more likely to show higher levels of readiness than their Moroccan (collectivists) counterparts.

2.1.2.2 Power distance and self-directed learning readiness

As can be seen in figure 11, the power distance dimension is also expected to influence students' SDL readiness. This assumption is based on what researchers have recognized as important implications of the nature of power distance prevailing in a given culture on students' perception of active learning. For example, Hofstede (1997) explained that whereas in low power distance cultures teachers and students may see each other as equal, in high PD cultures teachers are viewed as authority figures, subject matter experts and agents of wisdom whose knowledge is seldom if ever questioned. Similarly, Jaju, Kwak and Zinkhan (2002) as cited in Holtbrugge and Mohr (2010) emphasized that compared to learners from low power distance cultures, who tend to find and follow their own "intellectual paths", learners from high power distance cultures tend to avoid seeking knowledge actively and instead rely more on their teachers. In line with this, Holtbrugge and Mohr (2010) added that high power distance cultures strive to maintain "the competency differential" between the teacher and the students by discouraging active learning and experimentation for fear that the outcome would "contradict or put into question the information that is being provided by the teacher" (p. 226). For them, in order to keep the knowledge gap (the power) between the teacher and the learner, the teacher is considered "as the main, if not the only source of information, and students accept information at face value without questioning the "power" of the teacher" (ibid). Similar arguments have been made by other scholars. For instance, Kuwahara (2005) reported that

Asian students, who are classified by Hofstede as high power distant, “have a difficult time asking questions in the classroom for fear that they may insult the teacher” (para.9). However, in low power distance cultures the opposite tends to prevail. Thus, in the United States for example “students may make uninvited interventions in class and argue with teachers, express disagreement and criticism in front of the teachers” (Azimi, 1998, para.8). Accordingly, it can be said that unlike the case in low power distance cultures, where students perceive teachers as equals and agents whose role is to facilitate learning, learners from high power distance cultures tend to see teachers as experts and authority figures and hence prefer those learning styles that allow them to maintain their dependence on them. This stream of thought leads us to the following hypothesis.

Hypothesis 2: There will be a statistically significant correlation between Moroccan and American university students’ power distance scores and their self-directed learning readiness scores such that American university students are more likely to score higher in self-directedness compared to their Moroccan counterparts.

2.1.2.3 Uncertainty avoidance and self-directed learning readiness

Like the other two dimensions, the uncertainty avoidance dimension, defined as the extent to which uncertainty is accepted or avoided in a given society (Hofstede, 1980, 2011), is expected to influence students’ self-directed learning readiness. In fact, no piece of research known to the researcher has ever addressed the potential impact uncertainty avoidance may have on students’ self-directed learning readiness. Nevertheless, the few studies which have examined the implications of uncertainty avoidance on education in general imply that it can influence students’ perceptions of active learning. For example, it has been argued that while students from societies with a high uncertainty avoidance index, such as the Moroccan culture, prefer a structured learning environment with precise objectives and answers (Hofstede, 1997), learners from more uncertainty accepting societies, such as the American culture, “are

comfortable with vague objectives, loose timetables, and multiple solutions to problems, and prefer to be rewarded for originality” (Edmundson, 2007, p.272). In line with this argument, Pinpathomrat, Gilbert and Wills (2013) have recently pointed out that students from high uncertainty avoidance cultures are comfortable with a structured learning environment like lectures and prefer tasks with a definite outcome and clear guidelines more than unstructured and active learning processes which involve a certain level of uncertainty. Similarly, Jaju et al. (2002) also maintained that unlike learners from low uncertainty avoidance cultures, who tend to value originality and independent work, students from high uncertainty avoiding cultures “value the information and knowledge delivered by the instructor and consider it as the best explanation to the problem” (as cited in Holtbrugge & Mohr, 2010, p.627).

Hypothesis 3: Based on the above reasoning and building on Hofstede’s UA scores for both Morocco and the US, it is hypothesized that Moroccans university students are more likely to strive to avoid uncertainty by showing lower scores of readiness for SDL compared to their American counterparts.

2.2 Web 2.0 acceptance and use in Higher education: A cross-cultural perspective

As a response to the growing need for a cross-cultural perspective in the study of educational technology acceptance, and building on researchers’ ongoing emphasis on the relevance of Hofstede’s (1980) multidimensional model in the study of the cultural dimensions of Educational Technology Acceptance (ETA) (Olaniran, 2007; Srite & Karahana, 2006; Yoo & Huang, 2011; Li & Kirkup, 2007; Nistor et al., 2010; Venkatesh & Zhang, 2010), this study attempts to contribute to empirical knowledge by examining the cross-cultural dimensions of web 2.0 acceptance and use for learning purposes in the Moroccan and American higher education contexts through the lenses of an extended version of Venkatesh et al.’s. (2003) Unified Theory of Acceptance and Use of Technology (UTAUT). According to Olaniran, Williams and Rodriguez (2010), addressing this kind of issue entails understanding how culture determines four aspects of technology: (1) if and how it is adopted; (2) how it is used;

(3) how messages are structured and interpreted; and (4) the types of learning activities involved. To answer these questions and to account for a sound examination of the relationship between cultural factors and web 2.0 acceptance use in the Moroccan and American higher education settings, the researcher integrated three of Hofstede's cultural dimensions into the UTAUT.

2.2.1 Integrating Hofstede's cultural dimensions into UTAUT

As was extensively discussed in section (2.3.4.9), UTAUT is a result of an empirical integration of eight previous models and theories (Venkatesh et al., 2003; Nistor et al, 2014). Since its development and validation in 2003, UTAUT has been widely used in different disciplines and has shown a significant level of reliability and robustness and (Marchewka, Liu & Kostiwa, 2007; Göğüş et al., 2012; Marchewka, Liu & Kostiwa, 2007; Giannakos & Vlamos, 2011; Latif et al., 2011; Nassuora, 2012; Chang, 2013; Deng, Liu & Qi, 2011; Cheng et al., 2011). According to UTAUT, technology acceptance and use is determined by four constructs namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). These four determinants are moderated by gender, age, voluntariness, and experience (Venkatesh et al., 2003). However, given the nature and aims of this study, the original moderators of UTAUT will not be considered and will, instead, be replaced by three new moderators, namely the cultural dimensions of individualism, power distance and uncertainty avoidance. By way of operationalizing these four determinants to suit the aims of this study, performance expectancy is defined as the degree to which students believe that using web 2.0 will help them perform better in their studies. Effort expectancy is defined in terms of the ease associated with the use of web 2.0. Social influence, as a third predictor of web 2.0 acceptance and use, is defined as the degree to which students' use of web 2.0 is influenced by their social context, namely parents, peers and teachers. Facilitating

condition is defined as the extent to which students believe that technical support to use web 2.0 is available when needed.

As can be seen in the proposed conceptual model (figure12), the effect of performance expectancy and social influence on behavioral intention to use web 2.0 are expected to be moderated by the individualism/collectivism scores. However, the effect of effort expectancy on behavioral intention is hypothesized to be moderated by uncertainty avoidance. Power distance, as a third moderator, is expected to moderate the effect of social influence on behavioral intention. However, it is worth noting that these hypothesized moderating effects of Hofstede’s dimensions on UTAUT’s constructs are based on a few theoretical assumptions made by a few scholars and the researcher’s own inferences and synthesis of relevant literature.

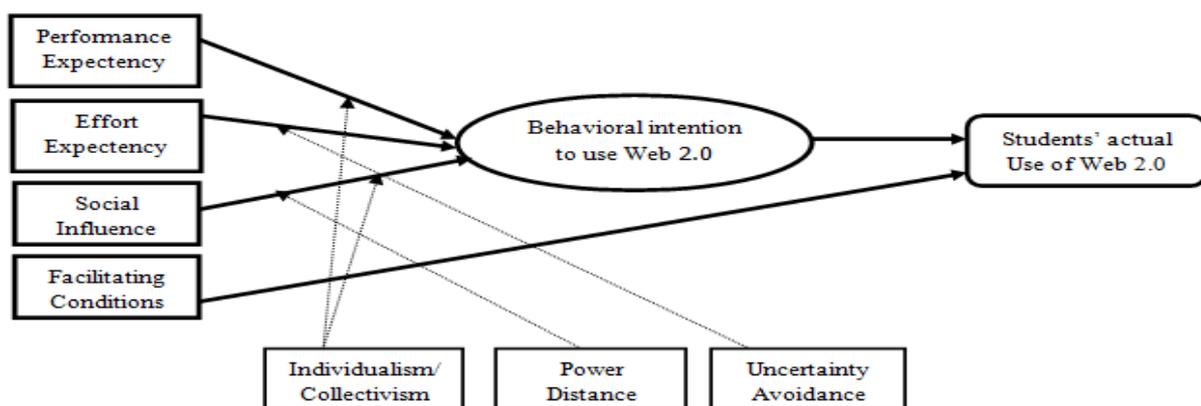


Figure 12: The cultural dimensions of Web 2.0 acceptance and use in higher education: an extended version of UTAUT

2.2.1.1 The moderating effect of Individualism/Collectivism

Before embarking on making any theoretical inferences between the individualism/collectivism dimension and UTAUT’s social influence and effort expectancy constructs, it is worth reiterating that the main difference between collectivists and individualists is that while the formers give paramount importance to the social context and shape their behaviors in accordance with its norms, individualists tend to base their behaviors more on their own internal

attributes such as abilities, motives, and personal values and give minor attention to the social context (Markus & Kitayama, 1991; Srite & Karahana, 2006).

Applied to the context of technology acceptance and use, these different cultural orientations of individualism and collectivism are expected to have some strong implications on students' acceptance and use of technology. A particular good way of thinking about the effect of individualism and collectivism on the use of technologies, according Olaniran (2007), is how people from collectivistic cultures tend to seek the connections or look for signs or symbols that provide them with a general sense that they connect with others" (p.24). For him, "the need to be part of a group rather than an independent person is imminent when different cultures view or use e-learning" (ibid). That is, while collectivistic students rely on direct contact and social interaction for learning, it is lacking in e-learning contexts which may influence their willingness to use it. Moreover, Im, Hong and Kang (2010) pointed that "it is obvious that users in a more collectivistic and higher power distance culture will be affected by others when making decisions on technology adoption" (p.11). This means that collectivists are more likely to adopt technology as a result of social influence compared to individualists who tend to give minor importance to their social surroundings. In another study, Zakour (2007) as cited in Nistor et al. (2014) expected individualism to negatively moderate the effect of social influence on behavioral intention to use technology. Based on these rather isolated arguments and on earlier analysis of the Moroccan and American psycho-cultural backgrounds, it can be inferred that American university students are less likely to be influenced by the social context compared to their Moroccan counterparts, who are expected to give major importance the social context and to strive to conform to the opinions of their group. This reasoning leads us to the following hypothesis:

Hypothesis (4a): The relationship between the social influence and behavioral intention to use web 2.0 will be moderated by the Individualism/Collectivism dimension and this moderating effect will be greater for Moroccan students than their American counterparts.

In relation to the moderating effect of individualism and collectivism on performance expectancy, Im, Hong and Kang (2010) indicated that the impact of performance expectancy on behavioral intention to use technology is more likely to be greater in individualistic cultures than collectivistic ones. According to them, individualistic people tend to adopt things easily if they see that they will bring about recognizable benefits such as better performance. In support of their assumption, these scholars referred to an empirical study by Straub, Keil and Brennan (1997) in which they examined technology acceptance in Korea (collectivist) and the US (individualist) using the Technology Acceptance Model (TAM). The results have shown that the effect of perceived usefulness, which is the equivalent of performance expectancy in UTAUT, was stronger in the US than in Japan.

Hypothesis (4b): Building on the above arguments, it can be inferred that since the US is ranked among the most individualistic cultures in the world whereas Morocco is classified among high collectivistic cultures, the effect of performance expectancy on behavioral intention would be greater for Americans than for Moroccans.

2.2.1.2 The moderating effect of power distance

As can be seen in figure 12, the power distance dimension, defined as the extent to which hierarchy and an unequal distribution of power are important in a given society (Hofstede, 1980), is also expected to moderate the effect of social influence on behavioral intention to use Web 2.0. This assumption is based on the arguments made by Srite and Karahanna (2006) and Im et al. (2010) who pointed that when it comes to technology acceptance, higher power distance people are more likely to be influenced by the social context. Srite and Karahanna (2006) explained that power distance exerts its influence through the notion of compliance which, according to them manifests when a person accepts influence from another individual because he “hopes to gain some favorable reaction from the other and avoid punishment”

(p.687). That is, individuals from higher power distance cultures are more likely to be affected by others when making decisions about technology adoption (Im et al., 2010). Accordingly,

Hypothesis (5): It can be hypothesized that power distance will moderate the effect of social influence on behavioral intention to use web 2.0 and that this effect will be stronger for Moroccan students than for their American counterparts.

2.2.1.3. The moderating effect of Uncertainty Avoidance

As was discussed earlier, the uncertainty avoidance dimension captures the extent to which people feel threatened by uncertain and ambiguous situations (Hofstede, 1980). Applied to the context of technology acceptance, this dimension is expected to moderate the effect of effort expectancy on behavioral intention to use web based learning. This assumption is based on relatively legitimate arguments made by a number of researchers. For example, Olaniran et al. (2010) indicated that since e-learning is believed to involve a certain level of uncertainty and effort, it is more likely to be avoided in high uncertainty avoidance cultures compared to low uncertainty avoiding cultures, where it may be seen as something fun and interesting. Similarly, Veltri and Elgarah (2009) pointed that intention to use technology is directly influenced by the level of uncertainty noting that users from high uncertainty avoiding cultures would show less use intention. Likewise, Im et al. (2010) added that people from high uncertainty avoiding cultures are less likely to experiment with or adopt new technologies. A similar point was made very recently by Nistor et al. (2014) who emphasized that uncertainty avoidance can push users to reflect more on the effort needed in the usage of educational technology. Based on these arguments and on the Moroccan score of uncertainty avoidance, which is significantly higher than that of the US, it can be hypothesized that

Hypothesis 6: The effect of effort expectancy on behavioral intention to use Web 2.0 will be moderated by uncertainty avoidance such that it will be stronger for Moroccan students than for their America counterparts.

2.3 Self-directed learning and Web 2.0: What relationship?

The advent of web 2.0 and the subsequent growing reliance on its different technologies in higher education settings has started to trigger scholars' interest in understanding the interplay between Web 2.0 use and students' self-directed learning readiness (Song & Hill, 2007; Merriam, Caffarella & Baumgartner, 2007; Tselios, Daskalakis & Papadopoulou, 2011; Lai, 2011). Merriam et al. (2007), for instance, emphasized that the increasing trend of e-learning in higher education entails a deeper understanding of how technology may affect self-directed learning both in formal and informal settings. Scholarly effort in this respect has resulted in two different perspectives each of which views the relationship between self-directed learning and web 2.0 from a different angle. The first perspective views self-directed learning as a prerequisite for students to successfully cope with the increasing demands of today's increasingly globalized and web 2.0 driven higher education. The second perspective focuses more primarily on how web 2.0 technologies such as social networking, wikis and blogs can promote self-directed learning through their unprecedented active and end educationally promising opportunities. Yet, in my opinion, a comprehensive understanding of the relationship between self-directed learning and web 2.0 entails combining both perspectives.

2.3.1 Self-directed learning as a requirement for web 2.0 based learning

Advocates of the first stand believe that the ability to cope with increasing challenges associated with online based learning is contingent on students readiness for learning self-directed (Candy, 2004; Lee, 2005; Ehlers, 2009; Lai, 2011; Tselios et al., 2011; Abdelaziz, 2012; Krish et al., 2012). According to Tselios et al., 2011, it is the shift of control and direction of learning from the teacher to the learner that distinguishes the traditional learning from online learning. Similarly, Candy (2004), a prominent figure in the field of adult education, considers SDL one of the major ways through which learners can adequately face the speed and scope of changes of modern higher education. Thus, as he phrases the point, "since we are currently

experiencing an unprecedented level and pace of change on a global scale, it is plausible to expect the demands of a changing world to lead to greater amounts of self-directed learning” (p. 20). In line with Candy’s argument, Knowles (1984), the father of andragogy, has foreseen the importance of self-directed learning by considering it as a key requirement that learners must have to survive in today’s rapidly changing technological world. Similar beliefs have been put forward by Guglielmino and Roberts (1992), who emphasized that the “ability of self-direction in learning will become one of the most imperative factors that learners must have to survive, succeed, and improve on their own” (cited in Lee, 2005, p.602). More recently, Krish, Maros and Stapa (2012) pointed that in order to achieve optimal learning outcomes via web based modes of learning, “students must be encouraged to become self-directed and to manage and monitor their own learning” (p.202). Accordingly, as Ehlers (2009) explicitly puts it, “the concept of self-directed learning comes to be of enormous importance to e-learning 2.0” (p.300).

2.3.2 Web 2.0 as platform for enhancing self-directed learning

Advocates of the second view, such as Duffy and Bruns (2006), Chang et al. (2008), Weyant and Gardner (2010), McLoughlin and Lee (2010), Auvinen (2010), Terrell et al. (2011), have devoted their scholarly effort to the exploration of the ways in which web 2.0 technologies, at the top of which are social networks, blogs and wikis, can enhance self-directed learning. These scholars, among many others, believe that the learning opportunities made available by these technologies are capable of providing students with new avenues to exercise considerable authority over their learning. From this perspective Auvinen (2010) pointed out that thanks to these new learning tools “the learner has an important role as active constructor of learning materials (co-creator) and initiator of his or her own learning processes” (p.39). Thus, these applications have made it possible for students to individually (blogs) or collaboratively (wikis) create and publish their content with less effort and with immediate results, and hence giving

new dimensions to media authorship (Chang, Kennedy & Petrovic, 2008). McLoughlin and Lee (2010) described the learning experiences accounted for by these tools as “active, process based, anchored in and driven by learners’ interests, and therefore have the potential to cultivate self-regulated, independent learning” (p. 29). In support of this, Bulik and Hanor (2000) emphasized that online learning can enhance learners’ self-directed learning skills by both increasing their control and providing them with the mechanisms to critically determine what information is needed and why. For instance, Duffy and Bruns (2006) consider blogs as capable of promoting critical and analytical thinking by allowing learners to access and comment on both contradictory and supporting opinions. Likewise, Chih (2011) believes that using social networks can promote learners’ autonomy by enabling them to manage their own interactions, share their ideas, negotiate meaning and get feedback from various people including teachers and experts. Other scholars view the web as an ideal tool for meeting the needs of self-directed learners thanks to its anytime and anywhere ready access to limitless amounts of authentic educational material (Draves, 2002; Hiemstra, 2006; Reeves & Reeves, 2008). Draves (2002) for example provided a list of reasons why he believes the Internet is best suited for active learning, including include 24/7 access to learning material, learning at one’s own pace, the ability to track one’s progress and to test personal learning efforts. In brief, as Gray (1999) puts it, the “Web is one of the most powerful and important self-directed tools in existence” (cited in Abdelaziz, 2012, p.120).

Hypothesis 7: Based on the above arguments from both perspective, it is hypothesized that there will be a statistically significant correlation between self-directed learning readiness and web 2.0 use such that students with higher levels of SDL readiness would also have higher levels of web 2.0 use for educational purposes.

2.4 Summary

This chapter has attempted to operationalize the review of the literature in such a way that it paves the ground for the methodological aspects of the study. In its first section, it has proposed a cross-cultural perspective to the study of the cultural dimensions of self-directed learning readiness by developing a conceptual model based on an integration of three of Hofstede's (1980) cultural dimensions into Fisher et al's. (2001) SDLRS. This process has resulted in three alternative directional hypotheses. The second section has provided, also from a cross-cultural comparative perspective, the researcher's conceptualization of the relationship between the culture and web 2.0 acceptance and use in the Moroccan and American higher education contexts by proposing a conceptual model that integrates three of Hofstede's dimensions into the Unified Theory of Acceptance and use of Technology UTAUT (Vankatesh et al., 2003). Herein, an attempt was made to establish theoretical links between Hofstede's dimensions and UTAUT's determinant factors as a basis for the development of four directional hypotheses. The third section was devoted to a critical account of the literature addressing the relationship between self-directed learning and web 2.0 use in higher education. The researcher briefly specified the two research perspectives underlying research in this area and suggested combining both perspectives as the best approach for a comprehensive understanding of the interplay between Web 2.0 use and self-directed learning. This process has resulted in another alternative directional hypothesis.

Chapter three: Methodology

3.1 Introduction

This chapter describes and discusses the different aspects of the research methodology used in this study. It is structured into three major sections. The first provides a description of the research design adopted with a special focus on the motives behind the use of a triangulation research design in the present study. The second section describes the different aspects of the data collection process including the sampling procedure, the instrumentation, and the piloting process. The third section is devoted to the analytical phase of the study as it defines and discusses the different analytical procedures used in the data analysis.

3.2 Research design

Generally, research design is conceptualized as a logical structure of inquiry which portrays how the different parts of the study function together to address the central research questions (McMillan, 2000; De Vaus, 2001; Fraenkel, Wallen & Hyun, 2012). The central role of research design, according to De Vaus (2001), is to ensure that the evidence collected enables the researcher to answer the questions and test theories as ‘unambiguously’ as possible. For him, a good design is one that “anticipates competing explanations before data is collected so that relevant information for evaluating the relative merits of these competing explanations is obtained” (p.13). Identifying the study’s research design is indispensable because it provides information about key aspects such as the theoretical perspective underlying the choice of the methodology, the methodology itself, and procedures used in the data collection and analysis (Crotty, 1998; De Vaus, 2001; Creswell, 2009; Harwell, 2011). These key features of research, as argued by Creswell (2009), are framed differently depending on the research paradigm and methods of inquiry used.

3.2.1 Research paradigms and methods of inquiry

Generally, there exist three different methods of research: the quantitative, the qualitative and the mixed-method. Each one of these is based on different philosophical underpinnings and world views. In what follows an attempt is made to briefly discuss the most important characteristics and underlying principles of these methods, with a special focus on the benefits associated with the use of a mixed research design in the present study.

The quantitative method is based on positivism and post positivist thinking which rests on the premise that “there exists a reality “out there,” independent of us, waiting to be discovered” (Fraenkel et al., 2012, p.428). Advocates of this view believe in the existence of a single objective “truth” which can be reached through fragmenting complex phenomena into manageable and measurable categories, far from the researcher’s subjective experience and biases (Winter, 2000). Researchers who use the quantitative paradigm, as Glesne and Peshkin (1992) argue, view the “world as made up observable and measureable facts” (p.6) and hence attempt to identify the variables of interest, measure hypothesized relationships and test hypotheses. This can be done through the “use of standardized measures”- such as questionnaires and tests- to which “varying perspectives and experiences of people can fit” (Patton, 2002, p.14). This method of inquiry, typically used in experimental, quasi-experimental, correlational and causal comparative research designs, is described as deductive in the sense that the researcher usually first develops hypothesized relationships based on previous research, then makes inferences about potential outcomes of the research, and finally tests these relationships via statistical operations (Creswell, 2009). Researchers who use the quantitative method attempt to maximize the objectivity, replicability, and generalizability of their findings (Harwell, 2011). In this type of research, the data takes the form of figures that can be quantified, summarized and analyzed by means of mathematical processes and presented in statistical terminologies (Charles, 1995).

Unlike the quantitative method, the qualitative method has its roots in social constructivist thinking, which believes in the existence of multiple “truths” and which relies on participants’ views of the phenomenon under study (Creswell, 2009; Harwell, 2011). This method is used “whenever an investigator is concerned with discovering or describing a phenomenon in its natural state or context” (Seliger & Shohamy, 1989, p.124). Patton (2002) defines the qualitative paradigm as “a naturalistic approach that seeks to understand phenomena in context-specific settings, such as "real world setting [where] the researcher does not attempt to manipulate the phenomenon of interest" (p. 39). According to Harwell (2011), researchers who use qualitative methods, such as observation, interviews and focus groups, often seek discovery and therefore use an inductive approach to research which enables them to explore the meanings individuals give to social phenomena. These meanings, as Creswell (2009) argues, are “varied and multiple” and hence allow the researcher to look for the complexity of views rather than narrowing down meanings into a few categories as is the case in quantitative research. Thus, as argued by Golafshani (2003), unlike quantitative researchers who seek causal determination, prediction, and generalization of findings, “qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations” (p.600). In fact, while in quantitative research methods, the researcher strives for a maximum detachment from the research process, the qualitative researcher embraces his/her involvement within the research process (Winter, 2000). Thus, as pointed by Patton (2002), whereas the quantitative researcher is most of the time detached from the event studied, in the qualitative research “the researcher is the instrument” (p.14) and should therefore be present during the process of research to record the event after and before the change occurs.

However, in the last two decades, research methodology has shifted from exclusive reliance on either quantitative or qualitative method towards a more pluralistic and pragmatic approach that combines both research methodologies (Creswell, 2009; Harwell, 2011). The use

of mixed methods, according to Creswell (2011), rests on the assumption that combining the quantitative and qualitative methods enables the inquirer to answer the research question from different perspectives in ways that draw on the strengths of both methods. This idea is well articulated by Wheeldon (2010) in the quotation below.

Instead of relying on deductive reasoning and general premises to reach specific conclusions, or inductive approaches that seek general conclusions based on specific premises, pragmatism allows for a more flexible abductive approach. By focusing on solving practical problems, the debate about the existence of objective “truth,” or the value of subjective perceptions, can be usefully sidestepped. As such, pragmatists have no problem with asserting both that there is a single “real world” and that all individuals have their own unique interpretations of that world (cited in Harwell, 2011, p. 152).

As clearly stated above, the use of mixed method represents a more flexible and functional approach to research. Advocates of this view believe that combining quantitative and qualitative methods can serve at least two major purposes: triangulation and complementarity. (Creswell & Plano Clark, 2007; Creswell, 2009; De Vaus, 2001). Triangulation enables the inquirer to test the consistency of the findings obtained from different data collection instruments. Complementarity is based on the assumption that combining quantitative and qualitative methods can yield richer data which can result in a better understanding of the issue under study especially when complex phenomena are being addressed.

In fact, there exist several mixed research design typologies in the literature. One of these was proposed by Johnson et al. (2007) who distinguished between three types of mixed method designs: quantitative dominant, qualitative dominant and pure mixed. Leech and Onwuegbuzie (2007) explain that mixed method designs differ at least in three major respects: the level mixing (partially or fully mixed), the timing of mixing (sequential or concurrent) and the priority given to each method in the study (equal versus dominant status). Another popular

classification of these methods was advanced by Creswell and Plano Clark (2007), who have identified four different kinds of designs: the triangulated, the embedded, the explanatory, and the exploratory design. In the triangulated design the researcher's objective is to get different but equally dominant data. In the embedded design, however, one data set is more dominant than the other. In the explanatory design the study is quantitatively oriented in that it is led by the quantitative data; the qualitative data is used to support and complement the quantitative findings. The exploratory design is just the opposite as it is led by qualitative data. More recently, Fraenkel et al. (2012) suggested another simpler and more useful typology of mixed methods, namely the exploratory, the explanatory and the triangulated design. A researcher using the exploratory design always starts with a qualitative method to explore and discover the variables underlying a given phenomenon to inform a second quantitative method. In the explanatory design, however, the researcher first uses a quantitative method and then makes use of a qualitative method to "flesh out" the quantitative findings. In the triangulation design, the inquirer uses both methods to study the same phenomenon to cross validate the quantitative and qualitative data and to determine "if the two converge upon a single understanding of the research problem being investigated" (Fraenkel et al., *op.cit.*, p.560).

3.2.2 Research methodology used in this study

For the aims of this study, the researcher opted for the triangulation research design (see figure 13) as it was judged the most suitable. Thus, providing an in-depth and comprehensive understanding of complex issues, like the one addressed in this study, entails a combination of both quantitative and qualitative methods. In fact, using a triangulation design, as argued by Allan (1991), adds richness and depth to the data gathered and ensures that the issue under investigation is treated from multiple perspectives and hence enhances the trustworthiness of the findings. In so doing, this study is divided into two phases: quantitative and qualitative. In the quantitative phase, the researcher used the questionnaire as the main data collection

instrument. The choice of this technique is based on two major reasons which are, at the same time, inherent characteristics of the tool itself. First, it is time saving as it allows eliciting information from a large population in a relatively short period of time. Second, it ensures a high level of anonymity of respondents and therefore guarantees a certain level of honesty and impartiality. In the qualitative phase of the study, focus group interviews was judged the most suitable. In fact, choosing this qualitative data collection technique in this study is informed by its various and highly praised assets. Thus, in addition to its various and commonly recognized advantages such as flexibility in terms of time, cost and the number of participants involved (Patton, 2002), a focus group interview enables the researcher to probe for details as participants self-disclose their opinions, perceptions, and thoughts by providing “additional comments beyond what they originally had to say once they hear the other responses” (Fraenkel et al., 2012, p.457). In this sense, as Marczyk, DeMatteo and Festinger (2005) pointed, this method can generate a great deal of useful and unanticipated ideas by providing an open forum in which the participants freely discuss ideas, agree, disagree and clarify each other’s opinions and impressions, which will subsequently enable the researcher to arrive at what the participants really think about the issue under study. However, it is worth noting that because the quantitative and qualitative data were analyzed separately, the convergence or divergence of the results is then dealt with in the discussion chapter. This will eventually enable the inquirer to test the consistency of the findings obtained from these different data collection instruments.

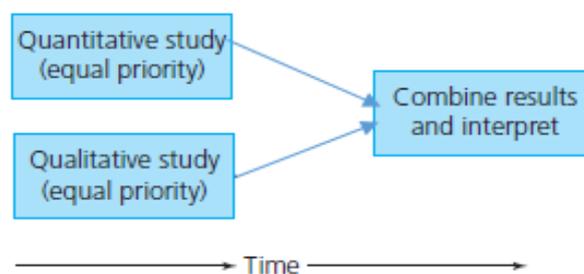


Figure 13: The triangulation research design (Fraenkel et al., 2012: 561)

In essence, the assumption made in this study, as was discussed in the previous chapter, is that there is a correlation between cultural differences, as measured by Hofstede's cultural dimensions, and Moroccan and American university students' self-directed learning readiness on the one hand and their web 2.0 acceptance levels and utilization patterns on the other. In order to test these assumptions, the researcher opted for a combination of correlational and causal comparative designs. The correlational design, also referred to as associational research design, enables the researcher to identify and measure the degree and strength of a relationship, if there is one, between two or more quantitative variables or sets of scores (Creswell, 2012; McMillan, 2000). As will be discussed in detail later in the data analysis section, this type of design enables investigators to relate, using a correlation coefficient, two or more scores to determine the nature of the correlation (positive, negative or no relationship) and its strength (e.g., high, moderate or low). When a correlation exists between two variables, it means that scores on one variable are associated with scores on the other variable. In this study, correlational research design was used to examine the association between Moroccan and American university students' cultural values scores, as measured by Hofstede's cultural dimensions, and their self-directed learning readiness scores. It was also used to investigate the relationship between students' cultural values and their Web 2.0 acceptance and utilization patterns in addition to exploring the link between self-directed learning readiness scores and students' Web 2.0 use behavior.

Causal-comparative research is a kind of non-experimental design in which investigators attempt to examine the cause or effect of differences that already exist between two or more groups of individuals (Creswell, 2009; De Vaus, 2001). Researchers using this design attempt to discover cause-effect relationships by targeting groups of people in whom the independent variable is absent or present to determine if the groups differ on the dependent variables (Creswell, 2009). The use of causal-comparative design involves selecting two or

more groups that differ on a particular variable of interest and comparing them on another variable or variables (Fraenkel et al., 2012). In this study, this design was used to investigate the potential causal relationship between the independent variable (Moroccan and American students' cultural values as measured by Hofstede's cultural dimensions) and the dependent variables (their self-directed readiness scores, web 2.0 acceptance levels and intention to use web 2.0 for learning).

Importantly, De Vaus (2001) distinguishes between two types of causation: deterministic and probabilistic. He explains that the notion of deterministic causation in the social sciences sounds odd noting that the complexity of human social behavior makes it "impossible to arrive at deterministic causal statements of the type 'If X, and A and B, then Y will always follow'" (p.5). For him, since human behavior is both 'willed' and 'caused', researchers will never achieve complete or deterministic explanations. Similar arguments have been put by Suppes (1970) who pointed out that most causal thinking in the social sciences is "probabilistic" and "suggestive" rather than "deterministic" or "proven" simply because the researcher does not have complete control over the independent variable (cited in De Vaus, 2001). Accordingly, given the fact that the researcher does not have control over the independent variables, which is only possible in the exact sciences, the causal relationships put forward in this study are only probabilistic.

3.2.2.1: Quantitative data collection

3.2.2.1.1 Population and Sampling

This study made use of convenience sampling. In fact, the comparative nature of the present study and the large number of the potential population involved, which includes all university students in Morocco and the United States, makes it extremely difficult or even impossible to opt for any other type of probability or random sampling. Therefore, the respondents were selected on the basis of accessibility as this is the only option the researcher

has. Fraenkel et al. (2012) explain that in such cases, the researcher should be careful to include information on demographic and other characteristics of the sample studied. In this study, the final target population consisted of $n=200$ of Moroccan university students from the department of English at Sidi Mohamed Ben Abdallah university, school of Arts and Humanities and $n=200$ of American university students from the State University of New York, at Buffalo. USA. In fact, as reported in the table below, a total number of 227 and 214 questionnaires were administered by the researcher to Moroccan and American students, respectively. However, only 205 and 201 questionnaires were fully completed by these respective groups of participants. Thus, 19 questionnaires (11 filled out by Moroccan students and 8 by their American counterparts) had some missing data and were thus excluded from the analysis. For comparative purposes, 6 more questionnaires were randomly excluded and hence only 200 questionnaires of each sample were kept for further analysis.

Table 11: Return rate statistics

	Moroccan sample	American sample	Total
Questionnaires administered	227	214	441
Questionnaire returned	215	209	424
Questionnaires with valid responses	205	201	406
Questionnaires used in the analysis	200	200	400

As summarized in the table below, the respondents' age for both samples was to a large extent very similar ranging between 19 and 30 with a mean of 22. The majority of participants were between 20 and 23 years old. For instance, out of the 200 surveyed Moroccan students, 135 (67.5%) were between 20 and 23, 39 (22%) were between 24 and 27 while only 8 (4%) were 28 and older. Similarly, 122 (61%) of the overall American participants' age was between 20 and 23, 49 (24.5%) aged between 24 and 27 whereas only 11 (5.5 %) were 28 years and older. As for the gender of the participants, Moroccan male participants (52.5%) slightly

outnumbered their female counterparts, while it was the opposite for the American participants as female participants constituted (51.0%) of the total sample.

Table 12: the demographic profile of the participants

Moroccan students (n=200)			American students (n=200)		
Age					
	Frequency	Percent		Frequency	Percent
19	12	6.0	19	18	9.0
20	34	17.0	20	26	13.0
21	36	18.0	21	34	17.0
22	32	16.0	22	30	15.0
23	33	16.5	23	32	16.0
24	15	7.5	24	20	10.0
25	17	8.5	25	13	6.5
26	7	3.5	26	11	5.5
27	6	3.0	27	5	2.5
28	3	1.5	28	4	2.0
29	3	1.5	29	3	1.5
30	2	1.0	30	4	2.0
Total	200	100.0	Total	200	100.0
Gender					
Male	105	52.5	Male	98	49.0
Female	95	47.5	Female	102	51.0
Total	200	100.0	Total	200	100.0
Educational level					
1st year	23	11.5	1st year	25	12.5
2 nd year	87	43.5	2 nd year	46	23.0
3rd year	65	32.5	3rd year	58	29.0
4 th year	00	0.0	4th year	35	17.5
Masters	14	7.0	Masters	24	12.0
PhD	11	5.5	PhD	12	6.0
Total	200	100.0	Total	200	100.0

Concerning the educational level, the majority of the respondents in both samples were in their undergraduate levels. Thus, for the Moroccan sample, for example, 11% were enrolled in the first year, 43.5% in the second year and 32.5% were in their third year. These students constituted the majority accounting for 87.5% of the total Moroccan sample. Master and PhD

students together constituted only 12.5% of the entire sample. This relatively small number of graduate students is due to their rather limited number and hence inaccessibility. Similarly, the majority of the American participants 82% were undergraduate students: 12.5 % were first year, 23% were in their second year, 29% in their third year while 17% were in their fourth year. Out of the remaining 18% American participants, 12% were master students and only 6% were doctoral students.

3.2.2.1.2 Description of the questionnaire

The questionnaire (see appendix A1) is structured into six major sections composed mostly of closed-ended questions. The first section elicits information about the respondents' demographic background namely nationality, gender, age, educational level and major. The second section measures students' self-directed learning readiness through the lenses of Fisher, King and Tague (2001) Self-Directed learning Readiness Scale (SDLRS), which is a 40-item questionnaire on a 5 point Likert scale ranging from 'strongly disagree' to 'strongly agree' (see appendix A). The third section, composed of 20 items, measures the respondents' cultural values through the eyes of three of Hofstede's cultural dimensions: Individualism (4 items), power distance (9 items) and uncertainty avoidance (7 items). However, it is to be noted that because Hofstede's Value Survey Module was initially designed to measure cultural values in organizational settings, and due to the absence of a pre-defined instrument for measuring cultural values in education, the researcher has adapted the questionnaire items from three different sources, namely Yoo, Donthu and Lenartowicz (2011), Stewart (2012) and Lee and Choi (2005). After getting official approval from these scholars to use their questionnaire items see appendix A2), they were slightly altered to suit the aims of this study. As was the case for the previous section, respondents were required to rate their agreement or disagreement on these items on a 5-point Likert scale. Examples of items included in this section include "my personal

identity, independent of others, is very important to me” (Individualism/collectivism), “teachers should make most decisions without consulting students” (power distance), “I prefer to work with methods that I know are sufficient rather than trying new methods” (uncertainty avoidance). The fourth section, composed of seven multiple choice questions, explores students’ general experience and familiarity with web 2.0 technologies. Examples of questions in this section include “are you familiar with any of the following web 2.0 applications: Wikipedia, YouTube, Facebook, Flickr, Myspace or Twitter?”.

The fifth section is based on Venkatesh et al’s. (2003) Unified Theory of Acceptance and Use of Technology (UTAUT). It is composed of 19 items, on a 5 point Likert scale, assessing the effect of the determinant factors of behavioral intention to use of technology web 2.0. These factors include performance expectancy (4 items), effort expectancy (4 items), social influence (4 items) facilitating conditions, and behavioral intention (3 items). Use behavior (4 items) operationalized as using web 2.0 for self-directed learning. The items on this section were adapted to the context of web 2.0 acceptance and use for educational purposes in higher education. Examples of these include: “I find web 2.0 useful in my study”, “using web 2.0 increases my chances of getting a good grade”, “people who influence my behavior think that I should use web 2.0”, “I plan to use web 2.0 in the next semesters”. The sixth and last section investigates students’ actual use patterns of web 2.0 technologies. Items on this section were adapted from a study by the Educause Center for Applied Research (ECAR), (2008). This section is made up of 5 major questions. The first elicits information about whether students are currently using web 2.0 technologies in their studies. The second question complements the first in the sense it probes into the motives or reasons (both educational and entertainment driven motives) for which students use web 2.0 technologies. The third requires students to report their frequency of contribution to different web 2.0 sites such as wikis, blogs, YouTube and Facebook. Answers to this question range from “never” to “daily”. The fourth question

elicits information about students' level of network literacy. Respondents are required to report how skilled they think they are in different aspects of internet use.

3.2.2.1.3 Testing the validity and reliability of the questionnaire

When it comes to the measurement of human behavior, validity and reliability are two particularly important constructs especially from a post positivist point of view (Drost, 2011; Dunn, 2001; Gaur & Gaur, 2009; Pallant, 2011). Validity is defined as the “degree to which an observation or a measurement corresponds to the construct that was supposed to be observed or measured” (Dunn, 2001, p. 67). Simply put, it is concerned with whether and the extent to which a given instrument is actually measuring what it was meant to measure. The reason behind assessing validity is to find out “how accurate is the relationship between the measure and the underlying trait it is trying to measure” (Gaur & Gaur, 2009, p.32). Reliability as a second important construct is defined as “a measure's stability or consistency across time” (Dunn, 2001, p.66). In other words, it describes the extent to which measurements of the same data collection instrument are consistently repeatable. Generally, a measure is described as reliable if it yields approximately the same results of the same phenomenon each and every time it is used (Dunn, 2001; Drost, 2011; Pallant, 2011). The most commonly used method for testing instruments' reliability is the Cronbach's alpha coefficient which measures the internal consistency of the scale. As will be discussed shortly, the Cronbach's alpha coefficient is obtained through inter-item correlations with values ranging between 0 and 1 and for a scale to be considered reliable, its Cronbach alpha coefficient should be above 0.7.

3.2.2.1.3.1 Testing Validity

Validity testing is concerned with the meaningfulness of the research components .i.e. whether and the extent to which the scale items are measuring what they are meant to measure

(Dunn, 2001, Gaur &Gaur, 2009). Validity can be addressed at least from two different but complementary perspectives: constructs and content validity. Trochim (2006) as cited in Drost (2011) defines construct validity as how well the researcher “translated or transformed a concept, idea, or behavior – that is a construct–into a functioning and operating reality” (p.116). In simple terms, construct validity assesses the degree to which the constructs and concepts subject of inquiry are accurately operationalized. That is, it examines “how well a variable's operational definition reflects the actual nature and meaning of the theoretical variable” (Dunn, 2001, p.87). Content validity, however, refers to “the extent to which a measurement reflects the specific intended domain of content” (Gaur & Gaur, 2009, p.32). That is, it describes the extent to which the items of the instrument capture the notions they are attempting to examine. Most importantly, to ensure a maximum level of both construct and content validity of the scales used in this study, an extensive review of relevant literature has been done with a special focus on validated scales, particularly those with solid and extensive literature foundation. In fact, the researcher has both adopted and adapted items from previously validated scales developed by authorities in fields of cultural psychology, adult education and technology acceptance and use. Thus, as discussed earlier, the Self-Directed Learning Readiness Scale (SDLRS) was adopted from Fisher et al (2001), the Web 2.0 acceptance scale was adapted from Vankatesh et al. (2003). The scales measuring students’ Web 2.0 use patterns for educational purposes and its perceived usefulness for self-directed learning were adapted from ECAR Survey (2008, 2011). However, given the lack of a pre-definite scale measuring cultural values in the educational context, the items used in this study were borrowed from three different sources: Yoo et al. (2011), Lee and Choi (2005) and Stewart (2012) whose prior approvals have been obtained.

3.2.2.1.3.2 Testing the reliability of the scales

In this study, despite the fact that most of the scales included in the questionnaire have already been validated in many previous studies, their reliability was retested using the Cronbach's alpha coefficient. Following the guiding principles of piloting adhered to in the social sciences, at the top of which are sample size and homogeneity, these scales were piloted using two purposive sample groups. The first consisted of $n=60$ of Moroccan undergraduate students and the second consisted of $n=60$ of American undergraduate students. In this respect, Adams and Schvaneveldt (1991) pointed that the smaller the population under study, the larger the sampling ratio needs to be, noting that for example when the study population is 1000 or under, which is the case in this study, the sample ratio should be 30%. Building on this argument, the total number of the piloting sample used in this study is $n = 120$, which is more than 30% of the total sample of 400 respondents. These scholars further highlighted the role homogeneity plays in determining the size of the sample stating that "the more homogeneous the population under study, the smaller the sample needs to accurately reflect the characteristics of that population" (p.183). Accordingly, to insure a maximum level of homogeneity of the piloting samples, purposive sampling was used. Thus, the first sample included only Moroccan undergraduate students from the department of English, at the Faculty of Arts and Human sciences, Sidi Mohamed Ibn Abdallah University, Fez. The second sample included only American undergraduate students from the department of education at the University at Buffalo the State University of New York, Buffalo, USA (see table 1 in appendix A3 for more demographic information).

As was mentioned earlier, the Cronbach's alpha coefficient was used to test the reliability of the scales used in this study. This technique measures the scale's internal consistency via inter-item correlations with values ranging between 0 and 1. According to DeVaus (2001), while the commonly accepted cutoff loading criterion of a single scale item is .3,

a scale with a total alpha loading of .7 or greater is considered as having an acceptable level of internal consistency. Following these guidelines, the cutoff loading criterion of .3 was used in this study to determine which items should be retained and which ones should be deleted. Thus, unless otherwise stated and justified, items with alpha loading below .3 were deleted. Generally, as will be discussed in more detail in what follows, apart from two subscales, the results of the piloting study have shown that all of the questionnaire subscales possess an overall significant level of internal consistency and hence proved reliable.

Self-directed learning readiness subscales

As was discussed earlier, the Self-Directed Learning Readiness Scale (SDLRS) by Fisher and colleagues was judged the most suitable to measure Moroccan and American students' self-directed learning readiness. This scale is composed of three factors namely self-management (13 items), desire for learning (12 items) and self-control (15 items) which are together believed to capture the characteristics associated with learning self-directedness. As can be seen in table 1, presenting item-total correlation statistics and a comparison of Cronbach alpha of the overall subscales, the results have shown that the scale possesses an adequate level of internal consistency. Thus, the Cronbach's coefficient alpha for the whole SDLRS for Moroccans was .882 while the alpha values for self-management, desire for learning subscale and self-control subscales were .807, .724 and .764, respectively. For the American respondents, the computed Cronbach's coefficient alpha for the whole SDLR scale was .897 while the computed values for self-management, desire for learning and self-control subscales were .751, .825 and .807, respectively (see table 2 in appendix A3 for more information about the inter-item correlation statistics).

Table 13 : Comparison of SDLR subscales internal consistency

Sub-scales	Moroccan respondents	American respondents
SDLRS 40 items	.882	.897
Self-management (13 items)	.882	.751
Desire for learning (12 items)	.724	.825
Self- control (15 items)	.764	.807

Cultural values subscales

As can be seen in the table below presenting the scale's total internal consistency, the results have shown that out of the three scale measuring students cultural values, only the individualism/collectivism scale (4 items) had an acceptable level of internal consistency from the outset for both samples with a computed Cronbach's alpha of .707 for Moroccans and .723 for Americans. The power distance and uncertainty avoidance scales had initial alpha loadings of .559 for the Moroccan sample and .602 for their American counterparts. These values are significantly below the 0.7 reliability criterion and hence were considered initially unreliable. More specifically, as can be seen in table 4 in appendix A3, the inter-item correlation matrix of the power distance scale has shown that three items, namely PD1, PD2 and PD3, loaded significantly below 0.3 for both groups. The respective Cronbach alpha coefficients for these items were **.031**, **.215** and **.144** for the Moroccan respondents and **-.053**, **.201** and **.131** for their American counterparts. These items were therefore deleted which significantly improved the scale's internal consistency by increasing its Cronbach alpha to .721 and .703 for the Moroccan and American samples, respectively (also see the table below for comparison). Similarly, the initial 7 item scale measuring students' uncertainty avoidance initially lacked an adequate level of internal consistency for both samples with alpha loadings of .629 for the Moroccan sample and .520 for its American counterpart. Two items, namely UA1 and UA3, had very low alpha loadings (**.155** and **.133** for the Moroccan sample and **-.010** and **-.095** for the American sample)

which significantly affected the scale's overall internal consistency (see tables 3, 4, 5 in appendix A3 for more information about the item total correlation statistics). After deleting these items, the scale's internal consistency was significantly enhanced by increasing its alpha from .629 to **.704** for the Moroccan respondents and from .520 to **.710** for their American counterparts.

Table 14: Comparison of the cultural dimensions subscales total internal consistency

Sub-scales	Moroccan respondents	American respondents
Individualism (4 items)	.707	.723
Power distance (9 items)	.559	.602*
Power distance (6 items)	.721	.703
Uncertainty avoidance (7 items)	.629	.520*
Uncertainty avoidance (5 items)	.704	.710

Web 2.0 acceptance and use subscales

In fact, even though (UTAUT) scale (Venkatesh et al., 2003) scale has been satisfactorily validated in a great deal of previous studies, its reliability was retested in this study. The results have shown that it has a significant internal consistency for both samples (see the table below). Thus, for the Moroccan respondents, the computed Cronbach alpha for the subscales of performance expectancy (4 items), effort expectancy (4 items), social influence (4 items), facilitating condition (4 items), behavioral intention (4 items) and Web 2.0 use for SDL (4 items) were .780, .815, .715, .728, .816 and .846, respectively. As for the American sample, the respective Cronbach's alpha for these scales were .733, .903, .830, .762, .969 and .723. These results provide supporting evidence that this scale is cross-culturally valid and reliable (for more information of the item total correlation statistics of these scales, see table 6 in appendix A3).

Table 15 : Comparison of overall UTAUT subscale internal consistency

Sub-scales	Moroccan respondents	American respondents
Performance expectancy (4 items)	.780	.733
Effort expectancy (4 items)	.815	.903
Social influence (4 items)	.715	.830
Facilitating conditions (4 items)	.728	.762
Behavioral intention (3 items)	.816	.969
Web 2.0 use for SDL (4 items)	.846	.723

Generally, despite the differences in the scales' internal consistency between the two samples, which confirms the argument advanced by many scholars that the reliability of scales does not always hold when used cross-culturally, the piloting study has shown that the final scales used in this study are valid and sufficiently reliable.

3.2.4.3 Qualitative data collection

3.2.4.3.1 Description of the focus group interviews

As was discussed earlier, the researcher made use of focus group interviews as a qualitative data elicitation instrument to cross-check the quantitative data yielded by the questionnaire. In so doing, two convenience samples of $n=29$ of Moroccan and $n=28$ of American undergraduate students, from the university of Sidi Mohamed Ibn Abed Allah and the State University of New York (SUNY Buffalo), took part in the focus group interviews. The participants in the two samples were divided into 5 groups with 5 to 6 interviewees each (see table 16). For the Moroccan group, there were 16 females and 13 males aged between 19 and 24. These students belonged to the different undergraduate levels of the department of English. For the American sample, 15 subjects were females and 13 were male. Their ages ranged between 19 and 26 and they belonged to the four different levels of undergraduate studies.

Table 16: Focus group participants' demographic characteristics.

Nationality	Focus group	Gender	Age	Educational level	Number of participants	Duration of the FG
Moroccan Students		3 Males		5 Second year		82 min
	G1	3 Females	20-24	2 third year	6	
	G2	5 Females	21-22	Third year	5	75 min
		4 Males		4 third year		85 min
	G3	2 Females	20-23	2 second year	6	
	G4	3 Males				69 min
		3 Females	21-23	first year	6	
	G5	3 Males		4 First year		79 min
		3 Females	19-21	2 Second year	6	
	American students		2 Males		3 third year	
G1		4 Females	18-23	2 Second year	6	68 min
				1 third year		
G2		2 Males		2 Second year		74 min
		4 Females	19-24	4 third year	6	
G3		3 Males		3 third year		
		2 Females	19-24	2 second year	5	80 min
G4		5 Males	22-26	Fourth year	5	63 min
G5		2 Males		4 third year		72 min
		4 Females	19-24	2 second year	6	

Prior to the selection of the participants, they were provided with the focus group protocol (see appendix B1) containing all the necessary information about the study, including the researcher's contact information, at the bottom of which a statement reads: "I have read all

the information needed about the study conducted by Oulaid Amzaourou and I voluntarily agreed to take part in the focus groups”. By verbally consenting to take part in the study, the participants’ verbal consent was assumed. Interested subjects from each sample were divided into 5 groups. Regarding the context of the focus groups, the interviews of Moroccan students were all held in a café, near the campus, suggested by most of the students. For the American sample, the focus groups interviews were all held in a private room in the students’ union provided by the International students’ office upon a written request by the researcher. To ensure that no data would be lost, the discussions were all audio taped. The focus group discussion took approximately between 63 to 82 minutes and were focused around these issues: 1) students’ self-directed learning readiness; 2) their psycho-cultural values of individualism, power distance and uncertainty avoidance; and 3) their web 2.0 acceptance and use for learning (see appendix B2 for a detailed description of the focus group questions).

3.3 Data analysis procedure

This section provides a detailed account of the data analysis procedures used in this study. It is initiated with a brief discussion of descriptive and inferential statistics and how they will serve different levels of analysis. A detailed review of the various descriptive and inferential statistics tools used, their underlying principles and analytical value, is provided in the second and third subsections, respectively. An attempt was made, in each of these subsections, to operationalize the hypotheses put forward by specifying and describing the nature of the variables of interest in accordance with the analytical features of the type of statistical tests implemented. It is also worth noting that all the quantitative data analysis processes were carried out using the Statistical Package of the Social Sciences (SPSS) 19.0. In the last section, a detailed description of the qualitative data analysis procedure is provided with a special focus on the approach adopted along with the steps followed from data preparation to data representation and interpretation.

3.3.1 Quantitative data analysis

Given the nature of the research questions addressed in this study, emanating mainly from the type of research design adopted, both descriptive and inferential statistics were used in the data analysis. Descriptive statistics, as Bordens and Abbott (2011) explain, allow the researcher to meaningfully summarize the overall trends and properties of the results and to discover important and probably hidden patterns in the data. Inferential statistics, however, enable the inquirer to make inferences and draw conclusions about the generalizability of his/her findings in that they provide insights about the extent to which the patterns in the data apply to the wider population from which the sample was taken (Creswell, 2012; Heiman, 2011 Gaur & Gaur, 2009; De vaus, 2002).

3.3.1.1 Descriptive statistical tools

According to the proponents of research methodology, providing comprehensive descriptive analysis of the data necessitates the use of at least three different types of descriptive measures, namely measures of central tendency, measures of variability and measures of relative standing (Cohen 1988; Heiman 2011; Creswell, 2012). These different measures allow the researcher to meaningfully summarize the different tendencies in the data (Creswell, 2012). In this study, apart from a preliminary analysis of the demographic characteristics of the respondents such as nationality, age, gender, educational level, etc., descriptive statistics were used to summarize, classify and describe the basic characteristics of the data in three major ways. First, measures of central tendency were used to provide information about a representative value of the data mainly by calculating the respondents' mean, mode and the median scores of self-directed learning readiness, cultural values and web 2.0 acceptance. Second, measures of variability were used to gain insights into the nature of variability and spread of data. This was done mainly by reporting the amount of variance and standard deviation of the participants' scores for SDL readiness cultural values, and web 2.0 acceptance.

Measures of relative standing, as defined by Creswell (2012), refer to statistics which describe one score in its relation to a set of scores. A particularly useful type of these is measures of normality and skewness of the data. According to Guar and Gaur (2009), “a distribution of scores is said to be skewed if the observations above and below the mean are not symmetrically distributed” (p.39). As will be discussed in the next section, knowing whether the distribution is skewed or symmetric is indispensable because most of the parametric inferential statistical tools, such as t-tests, require a normal or symmetric distribution of the data. If the data is found to be skewed, the researcher must make use of non-parametric alternative statistical tools which are not sensitive to the skewness of the data. In this study, testing the normality of data was done through the use of the Shapiro Wilk test and Kolmogorov-Smirnov (K-S) test, which are the most frequently used tests of normality (Ghasemi & Zahediasl, 2012).

3.3.1.2 Inferential statistics

Inferential statistics can account for an in-depth understating of the research problem as they enable researchers to go beyond the mere description of the data to more complex analytical processes such as exploring relationships between variables, comparing groups on a given variable and most importantly test their hypotheses. As was mentioned previously, inferential statistics can provide insights in the likelihood of generalizing the results from the actual sample to the whole population from which it was drawn (Creswell, 2012). A brief discussion of the different inferential statistics tools which were used in this study was judged necessary. These tools are correlations, linear and multiple regression, independent sample t-tests and hypotheses testing tools. These different statistical tools were used to perform the following analytical process: explore and examine relationships between variables as conceptualized by the research models (correlation), test the causative and predictive power of the determinant factors on the outcome variable as predicted by the conceptual framework (regression analysis), run comparisons between the two samples on the mean scores on each of

the outcome variables to detect any potential statistically significant difference between the two (t-tests), and finally test the hypotheses put forward (hypotheses testing).

3.3.1.2.1 Correlational analysis

Undeniably, exploring and measuring associations between variables is one of the most common analytical processes in the social and behavioral sciences research. Correlational analysis, as Pallant (2011) explains, enables the researcher to describe the nature of a relationship between two variables X and Y by showing if and the extent to which scores on the independent and the dependent variables increase together or one increases while the other decreases or has no relationship or pattern all together. The nature of this relationship is expressed in the form of a correlational coefficient (r), which Dunn (2001) defines as “a statistic that quantifies the extent to which two variables X and Y are associated, and whether the direction of their association is positive, negative, or zero” (p. 209). The value of this coefficient will always be between $r = -1$, .0 to 1. An r value of -1 shows the existence of a perfect negative relationship between the two variables (variable X increases while Y decreases), an r value of zero means that there is no relationship between the two variables, and an r value of 1 shows the existence of a perfect positive relationship between the two variables (an increase in X is accompanied with an increase in Y). Importantly, De Vaus (2002) has usefully provided the following parameters for interpreting the strength of the correlation (table16). These statistical criteria will be used to guide the correlational analysis and interpretation of the results.

Table 17: Parameters for interpreting the strength of the relationship (De Vaus, 2002, pp. 340-341)

Correlation coefficient	Strength interpretation
$r = 0.00$	No association (no relationship)
$r = 0.01-0.09$	Trivial linear relationship
$r = 0.10-0.29$	Low to moderate relationship
$r = 0.30-0.49$	Moderate to substantial relationship
$r = 0.50-0.69$	Substantial to very strong relationship
$r = 0.70-0.89$	Very strong linear relationship
$r = 0.90+$	Near perfect relationship

In this study, the Pearson correlation coefficient r was used to examine the relationship between each of Hofstede's cultural dimensions scores (independent variables) and each of Fisher et al's (2001) SDLR subscales scores (dependent variables). This process was repeated to explore the relationship between each of UTAUT's determinant factors (independent variables) and behavioral intention to use Web 2.0 (dependent variable). A Pearson correlation analysis was used to explore the relationship between Hofstede's cultural dimensions scores and each of UTAUT's determinant factors' scores. This process was also run to explore the relationship between self-directed learning readiness scores and students' behavioral intention to use web 2.0 for learning. The table below provides further information about the correlational analysis used in this study.

Table 18: The correlational analysis plan

Purpose	Independent variable(s)	Dependent variable(s)
To examine the relationship between each of Hofstede's cultural dimensions and each of Fisher's self-directed learning readiness factors	Individualism/collectivism scores	Desire for learning, self-control, and Self-management scores
	power distance scores	Desire for learning, self-control, and Self-management scores
	uncertainty avoidance scores	Desire for learning, self-control, and Self-management scores
To examine the relationship between UTAUT's determinants and behavioral intention to use Web 2.0	Performance expectancy scores	Behavioral intention to use web 2.0 scores
	Effort expectancy scores	
	Social influence scores	
	Facilitating conditions scores	
To examine the relationship between self-directed learning readiness and behavioral intention to use web 2.0	Desire for learning scores	behavioral intention to use web 2.0 scores
	self-control scores	
	Self-management scores	
To investigate the relationship between each of UTAUT's determinant factors of web 2.0 acceptance and Hofstede's cultural dimensions as predicted by the conceptual model	Individualism/collectivism scores	Performance expectancy and Facilitating conditions scores
	Power distance scores	Social influence scores
	Uncertainty avoidance scores	Effort expectancy scores

It is worth noting, however, that in order to perform the above analytical operations, the instruments' items were first scored. The table below specifies the scoring used for both positively and negatively phrased items of the Likert scale items. Thus, since the questionnaire contains some negatively phrased items, reverse scoring was used.

Table 19: The scoring of the Likert scale items

Normal scoring (used for positively phrased items)		Reverse scoring (used for negatively phrased items)	
Choice	Assigned scores	Choice	Assigned score
Strongly disagree	1	Strongly disagree	5
Disagree	2	Disagree	4
Undecided	3	Undecided	3
Agree	4	Agree	2
Strongly agree	5	Strongly agree	1

3.3.1.2.2 Regression analysis

If and only if a significant correlation is found between two variables, the researcher's next analytical step is to assess the predictive power of the independent variable and to identify the underlying causes of an observed outcome through the use of regression analysis. Pallant (2011) describes this type of analysis as a sophisticated extension of correlation in the sense that it allows the researcher to explore the predictive ability of an independent variable on a dependent variable. In Dunn's (2001) words, regression analysis is "intimately related to correlation" in that it gives it "a bit of life by using it for predictive purposes" (p.241). Generally, there exist two types of regression: linear and multiple. Linear regression is a technique used to predict a score on a single variable Y (referred to as the outcome variable in regression analysis) based on a true score of another variable X (the predictor variable). Multiple regression, as its name may suggest, allows the researcher to assess the predictive power of several predictors on one outcome variable (Tabachnick & Fidell, 2007).

As was just mentioned, the starting point in regression analysis is the examination of the strength of the relationship between the Dependent Variable (DV) and Independent Variables (IVs). Like the correlational analysis, the strength of the association is expressed in the form of regression coefficients r whose values range from $r = -1$, $r = .0$ to $+ r = 1$. Values

close to .0 represent no predictability between the variables X and Y, an r value of 1 or -1 shows the existence of a perfect predictability. After determining the strength of the relationship, Tabachnick & Fidell, (2007) outline, the researcher's next step is to assess the unique contribution of each of the predictors to the relationship identified. To do this, an R^2 (the square of R) must be obtained as it gives the exact proportion of variance in the dependent variable accounted for by the set of independent variables. For example, an R^2 value of 0.80 means that the IVs in the model can predict 80% of the variance in the dependent variable. However, as argued by Gaur and Gaur (2009), unlike the case in natural science research, where "it is common to get R Square values as high as 0.99, a much lower value (0.10–0.20) of R Square is acceptable in social science research" p.10). In this study, the following regression analyses were performed:

- Multiple regression analysis was used to explore the predictive power of Hofstede's dimensions on each of Fisher's et al's. (2001) SDL readiness subscales.
- Multiple regression analysis was also used to examine the predictive power of UTAUT's determinants, i.e. performance expectancy, effort expectancy and social influence, on the outcome variable, i.e. behavioral intention to use web 2.0.
- Linear regression analysis was used to assess the effect of behavioral intention to use web 2.0 on the actual students' web 2.0 use behavior.
- Multiple Regression was further undertaken to examine the moderating effect of Hofstede's dimensions (moderating variables) on the association between the four determinant factors of Web 2.0 use (independent variables) and behavioral intention to use Web 2.0 (dependent variable).
- Multiple regression analysis was further used to examine the influence of self-directed learning readiness factors, i.e. self-control, desire for learning and self-management, on students' behavioral intention to use Web 2.0 for learning.

3.3.1.2.3- T-tests

Exploring differences among groups, which is a central concern of causal comparative research, requires another type of statistical tools referred to as t-tests. A T-test is a statistical

technique which can identify any statistically significant difference between the scores of two or more groups. T- Tests are the most commonly used statistical tools in causal-comparative studies (Fraenkel et al., 2012). Generally, there are two types of t-tests: paired and independent sample t-tests. A paired sample t-test is used mostly in experimental research in which the researcher measures changes in scores for participants tested twice (before and after some kind of treatment). Independent sample t-tests, of most interest to us, are used when the researcher is interested in comparing the scores of two different groups of people in one occasion. This tool enables the researcher to detect and assess any difference between the mean scores of two independent groups. Yet, as was mentioned earlier, the t-test is a parametric analytical tool in that it requires a normal distribution of scores and hence will not be efficient in detecting differences when the data is skewed. In such a case, the researcher has to resort to a nonparametric alternative version of t-tests such as the Mann-Whitney U Test (Borden & Abott, 2011).

In this study, the independent-sample t-test was used to compare Moroccan and American students' self-directed learning readiness mean scores. As was mentioned earlier, Fisher et al. (2001) provided criteria for the interpretation of SDL readiness scores. For him, a score of 150 or greater is considered as indicative of students' readiness for SDL. The independent sample t-test was also used to compare the mean scores of Moroccan and American university students on each of Hofstede's cultural dimensions. This process will be repeated to compare Moroccan and American university students web 2.0 acceptance levels. Whenever any significant difference is found between the two samples, a series of independent sample t-tests were used to identify the factor or factors which contribute to this difference.

3.3.1.2.3 Hypotheses testing

Testing a hypothesis, as outlined by Creswell (2012), involves five steps: (1) identifying a null and an alternative hypothesis, (2) setting the level of significance or alpha level, (3)

collecting the data, (4) computing the sample statistic, and (5) making a decision about rejecting or failing to reject the null hypothesis. Among these steps, identifying the null hypotheses and setting the significance level or alpha level are particularly important and thus deserve special attention and further clarification. A null hypothesis is one that assumes that “no difference”, “no relationship” exists between the two variables under study or between the populations compared. Conversely, an alternative hypothesis indicates the existence of a relationship between the variables or a significant difference between groups.

In this study, the null hypotheses, though not explicitly stated, assume that no significant relationship exists between cultural differences as measured by Hofstede’s cultural dimensions (the predictive variables) and the respondents’ self-directed learning readiness, web 2.0 acceptance levels and utilization patterns (as three outcome variables). As we have seen, all the hypotheses proposed in this study are stated as alternative directional hypotheses in the sense that they specify the nature of direction of this difference. An alternative non directional hypothesis, on the contrary, indicates that a difference exists without specifying the direction of the relationship. This distinction is very important because “a directional hypothesis is tested with a one-tailed test whereas a non-directional hypothesis is tested with a two-tailed test” (Gaur & Gaur, 2009, p 35). In other words, if the direction or strength of relationship is specified, as is the case in this study, the hypothesis must be tested with a one tailed test whereas if no assumptions are made about the direction or strength of the relationship, the hypothesis is tested using a two tailed test. Accordingly, since the hypotheses developed in this study are all alternative directional hypotheses, they will all be tested using one tailed test.

After identifying the null and the alternative hypotheses, the next particularly important step is to set the alpha level (α) or level of significance. The alpha level, also referred to as the p value, is the criterion used to accept or reject the null hypothesis. The alpha level must be specified in advance because it “reflects the maximum risk the [researcher is] willing to take

that any observed differences are due to chance” (Creswell, 2012, p.188). Thus, as Gaur and Gaur (2009) explain, because “there is always a probabilistic component involved in the accept–reject decision in testing hypothesis”, the p-value must be specified beforehand as it represents “the probability of concluding (incorrectly) that there is a difference in the samples when no true difference exists” (p.35). According to Bordens and Abbott (2011), the minimum acceptable alpha level for social sciences research, by convention, has been set at 0.05. This value means that there is only a 5% chance that the researcher would draw erroneous conclusions. Following these guidelines, an alpha level of 0.05 was set as a standard for accepting or rejecting the hypotheses put forward in this study.

By revisiting the hypotheses put forward in this study, it can be said that they are all based on three major assumptions. First, each hypothesis assumes that the independent variables (i.e. the cultural dimensions scores of power distance, collectivism and uncertainty avoidance) are significantly different between Moroccan and American respondents. Second, each hypothesis expects that these independent variables will influence the dependent variables (i.e. self-directed learning readiness scores and web 2.0 acceptance and utilization patterns). Third, each hypothesis assumes that, due to this influence, the dependent variables i.e. students’ self-directed learning readiness scores, web 2.0 acceptance levels and utilization patterns, will significantly differ between Moroccan and American university students.

3.3.2 Qualitative data analysis procedure

According to academic research, there exists no single correct or best way of analyzing qualitative data. Rather, the method opted for should match the purpose of the study and the research questions addressed. In this study, the data from the focus group discussions was analyzed using a thematic approach. Thus, being informed by the conceptual framework adopted, the data analytical process was initiated by a deductive approach enabling the

researcher to form an operational plan for retrieving the major themes from the transcripts. For example, in relation to the first aim of the study, Knowles' (1980) definition of SDL was used as a map to identify units of analysis relating to students' self-directed learning readiness and its affecting factors. An inductive approach was subsequently applied to derive sub-categories from the major themes relating the three main aims of this study. A detailed step by step description of the data analysis is provided in the table below.

Table 20: Qualitative data analysis steps

Data analytical steps	Description
Managing and preparing data	At this step, the researcher transcribed the focus groups interviews and, for accuracy, checked the transcripts against the audio-taped data multiple times.
Conceptualizing data (cleaning)	At this second step the researcher read the transcripts repeatedly and used the aims of the study and the conceptual framework as a frame of reference to "clean" the data from irrelevant issues and unusable data such as pauses, gap fillers, etc.
Coding (Chunking)	After cleaning all the ten transcripts, two transcripts (one for each sample) that the researcher found rich of data were chosen for coding. After repeatedly reading the two transcripts and breaking down the outcome into meaningful units of analysis, a tentative coding system was then established. For example, desire for learning as determinant factor of SDL was coded 1, choice was coded 2, initiative, 3 and so on and so forth. The remaining eight transcripts were compared against the coding list to make sure that no relevant unit of analysis in the transcripts is left out uncovered.

Categorizing
data
(Clustering)

When the transcripts were coded, students' extracts and quotes with similar meanings were then grouped and clustered under their respective coded themes. For example, convenience, interaction, expanding learning opportunities, sharing etc. were grouped under the theme of motives for web 2.0 use. It is worth noting that even, at this phase, the process of coding and recoding was still ongoing. Thus, In some case more codes were added to the list, and in others, new categories under the same code were added. For example, self-assessment was coded 5 and patterns of self-assessment such as participation in class, asking questions, take-away assignments, peer reviewing and exchanging notes were coded 5a, 5b, 5c and so on.

Interpreting &
representing data
(themes)

At this phase, the grouped and clustered units of analysis and their sub-categories were read and re-read to establish relationships and create meanings. Herein, the researcher interprets the themes relying on students extracts to answer the research questions.

3.4 Summary

This chapter was meant both to describe and discuss the different aspects of the research methodology used in this study. It has provided a description of the research design and specified the motives behind choosing the correlational and causal comparative designs for the aims of the study. It has also described the different aspects of the data collection process including the type of sampling used, the instrumentation and the piloting process. It has also provided a detailed description of the different analytical procedures used in the data analysis.

Chapter four: Results

4.1 Quantitative results

4.1.1 Introduction

This analytical chapter is structured into seven major comparative sections. The first reports and analyses the findings related to students' self-directed learning readiness levels. The second section provides a comparative description and analysis of students' psycho-cultural values. The association between these values and students' actual self-directed learning readiness levels is dealt with in the third section. The fourth section describes the data related to the acceptance and use of web 2.0 in the Moroccan and American higher education context. The fifth section examines the link between students' cultural values and their web 2.0 acceptance levels and use. The sixth section delves more deeply into students' actual web 2.0 use patterns by reporting results related to the type of web applications used, use frequency, the activities involved, contribution rate and students' expertise in online learning. The last section analyzes the data about the relationship between web 2.0 use and self-directed learning readiness as well as students' perceptions of web 2.0 usefulness for autonomous learning in higher education. This chapter is concluded with a summary of the most important trends in the data in a way that paves the ground for the chapter dealing with data discussion and interpretation.

Given the nature of the research questions addressed in this study, both descriptive and inferential statistics were used in the analysis. The Statistical Package for Social Sciences (SPSS19) was utilized in all the phases of data analysis including the coding, storage, generation of data outputs and presentation of the results. Descriptive statistics were used to enable the researcher to meaningfully summarize the different tendencies in the data. Thus, apart from the participants' demographic analysis, descriptive statistics were used in three major ways. First, measures of central tendency were utilized to provide information about the representative

values of the data mainly by calculating the respondents' mean, median, minimum and maximum scores of self-directed learning readiness, cultural values and web 2.0 acceptance. Second, measures of variability were used to gain insights into the nature of variability and spread of the scores of these variables. Measures of relative standing, namely skewness, kurtosis and variance, were used to test the assumptions of normality and homogeneity of variance of the data.

Generally, inferential statistics were used to test the extent to which the findings from this study can be generalizable to the wider population from which the two samples were drawn. More specifically, Pearson and Spearman Rho correlation coefficients were used to examine the nature and magnitude of the relationship between students' cultural values as independent variables and their self-directed learning readiness and web 2.0 acceptance levels (dependent variables) as conceptually predicted by the research models. Regression analysis was used to examine the effect and predictive power of these independent variables on the aforementioned dependent variables, and independent sample t-tests to compare and examine any statistically significant difference between Moroccan and American university students on all the above variables. However, as will be discussed shortly, some of these statistical tools are parametric in nature in the sense that they assume both normality and homogeneity of the data. Therefore, prior to their use, the assumption of normality and homogeneity of variance are tested using the Shapiro Wilk test and Levene's test, respectively. When one or both assumptions are violated, non-parametric alternative tests were used instead.

4.1.2 Measuring self-directed learning readiness

As was noted above, both descriptive and inferential statistics were utilized to examine the cultural dimensions of SDL readiness among Moroccan and American university students. More precisely, descriptive statistics namely means, minimum/maximum scores and standard deviations were generated to gain insights into the representative values and the type of spread

of the total SDLRS scores and each of its sub-scales. Inferential statistics, namely the independent sample t-test, Spearman Rho correlation coefficient and regression analysis were used to examine the generalizability likelihood of the findings. The independent sample t-test, for example, was used to uncover any statistically significant difference between Moroccan and American university students' SDL readiness scores. Moreover, Spearman Rho correlation coefficient was utilized to examine the nature and magnitude of the relationship between students' cultural values and their actual SDL readiness. Regression analysis was used to further examine the effect of individualism, power distance and uncertainty avoidance values on students' SDL readiness levels.

Overall, the results (table 21) have shown that American university students scored higher in SDL readiness than did their Moroccan counterparts. Thus, while Moroccan students had a mean score of 150.90 (SD=11.27) and a range of 74, with minimum and maximum scores of 115.00 and 189.00, American students produced a mean score of 157.30 (SD=12.97), a range of 65, with minimum and maximum scores of 121.00 and 186.00, respectively. As will be discussed in more detail in what follows, with these SDL readiness scores and based on Fisher et al's. (2001) guidelines for interpreting them, it can be said that American university students, at least those participating in this study, have higher levels of SDL readiness compared to their Moroccan counterparts, who seem to have the minimum attributes associated with SDL readiness. Thus, as outlined by these scholars, a mean score of 150 or greater of a maximum score of 200 is an indication of students' readiness to engage in SDL.

Table 21: Comparison of SDLR scores and measures of central tendency

SDLR sub-scales	Moroccan students (n =200)				American students (n =200)			
	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>
Self-management	30.0	61.0	47.2	5.5	33.0	62.0	49.7	5.5
Desire for learning	27.0	58.0	45.0	6.0	24.0	59.0	46.2	6.7
Self-control	42.0	71.0	58.8	5.1	43.0	73.0	61.2	5.5
SDL readiness	115.0	189.0	150.8	11.27	121.0	186.0	157.2	12.9

More precisely, the results from the self-management sub-scale have shown that Moroccan students had a mean score of 47.25 ($SD= 5.5$) which is significantly lower than that of $M= 49.79$ ($SD=5.53$) of their American counterparts. As was explained earlier, this scale captures the extent to which learners are effective time managers, organized and methodic agents capable of systematically managing different aspects of their learning. According to Fisher et al's. (2001) guidelines for interpreting the scores on this scale, it can be said that, compared to their American counterparts, Moroccan students relatively still lack some of the attributes relevant to self-management domain, which encompass effective time management abilities, problem solving skills, the use of systematic learning approaches, the ability to prioritize tasks and seek appropriate information and resources. As for the desire for learning subscale, which measures the degree to which learners enjoy learning new things and are motivated to acquire more knowledge, it was found that both samples possess a moderately high level of love of learning. More specifically, with a mean score of 45.06 ($SD=6.02$), of a maximum of 60, Moroccan students scored slightly lower than did their American counterparts $M= 46.29$ ($SD=6.73$). These results indicate that both groups are somewhat intrinsically motivated and curious to learn new things and are able to reflect on this curiosity. Concerning the self-control subscale, which quantifies students' ability to take charge of their learning, the data has revealed that Moroccan students scored significantly lower $M= 58.81$ ($SD=5.08$) than did the American students $M= 61.24$ ($SD=5.52$). This also indicates that Moroccan students still lack the necessary dispositions related to learning self-control compared to the American students, who seem to possess a moderate level of readiness attributes associated with this domain.

However, to examine the statistical significance of these differences (to make sure that they were not due to chance), an independent sample t-test was used with a significance level set at 0.05. This means that there is only 5% chance for concluding erroneously that there is a

difference between Moroccan and American university students SDLRL scores when, in fact, no true difference exists. This p-value is taken as a standard for accepting or rejecting the hypotheses put forward in this study. Yet, as was mentioned earlier, before using any parametric tests, which is in this case an independent sample t- test, it is vital to make sure that the assumptions of normality and homogeneity of variance are not violated. Thus, if the data violates one or both of these assumptions (i.e. the data is found to be skewed and or the variance between the two samples is not equal), the researcher has to resort to a non-parametric alternative, which is not sensitive to skewness and inequality of variance.

4.1.2.1 Testing normality

Unanimously, testing the assumption of normality is an imperative prerequisite for the use of parametric tests. Thus, as pointed by Tabachnick and Fidell (2007), assessing continuous variables for normality is “an important early step in almost every multivariate analysis, particularly when inference is a goal” (p.79). Two important constructs are involved in the assessment of normality namely Skewness and Kurtosis. Skewness, as these scholars explain, “has to do with the symmetry of the distribution; a skewed variable is a variable whose mean is not in the center of the distribution”. Kurtosis, on the other hand, is related to “the peakedness of a distribution; a distribution is either too peaked (with short, thick tails) or too flat (with long, thin tails)” (ibid). When a distribution is symmetrical the values of skewness and kurtosis are zero. Yet, in the social sciences, as many scholars argue, obtaining a value of zero is not a common occurrence. Thus, the range of acceptable skewness and kurtosis is set between -1 and 1. Skewness and kurtosis can be measured either statistically by reporting the exact values or graphically through the use of histograms and or Q-Q plots. In this study both methods are used.

As can be seen in the table below, all the values of self-directed learning readiness scale and subscales fall within the acceptable range for both samples, except for desire for learning,

which was found to be slightly skewed -1.10 ($SE = .177$) and kurtotic 1.49 ($SE = .334$) for the American sample. The respective skewness values for self-management $-.414$ ($SE = .171$), desire for learning $.236$ ($SE = .123$), self-control $-.365$ ($SE = .131$) subscales and total SDLRS $-.100$ ($SE = .112$) were all close to zero for the Moroccan group. For the American sample the respective values of these scales were $-.393$ ($SE = .161$), -1.106 ($SE = .177$), $-.626$ ($SE = .202$) and $-.294$ ($SE = .152$), respectively.

Table 22: Measuring skewness and kurtosis

SDLR sub-scales	Moroccan students (n =200)				American students (n =200)			
	Skewness		Kurtosis		Skewness		Kurtosis	
	S	SE	S	SE	S	SE	S	SE
Self-management	-.414	.171	.259	.335	-.393	.161	-.095	.371
Desire for learning	-.236	.123	-.012	.341	-1.10*	.177	1.49*	.343
Self-control	-.365	.131	-.032	.372	-.626	.202	.300	.291
SDL readiness	-.100	.112	.210	.391	-.294	.152	-.191	.310

S=Statistic/ SE= Standard Error

Taking the overall SDLRS scores as an example of graphical visualization of normality, the graphical output (see the histograms and Q-Q plots below) clearly show a normal distribution of the data for both samples. Thus, as can be seen in the histograms in (figure 14), these scores follow the shape of a normal curve with most scores falling in the center and gradually lowering towards both extremes with a slight deviation in the center.

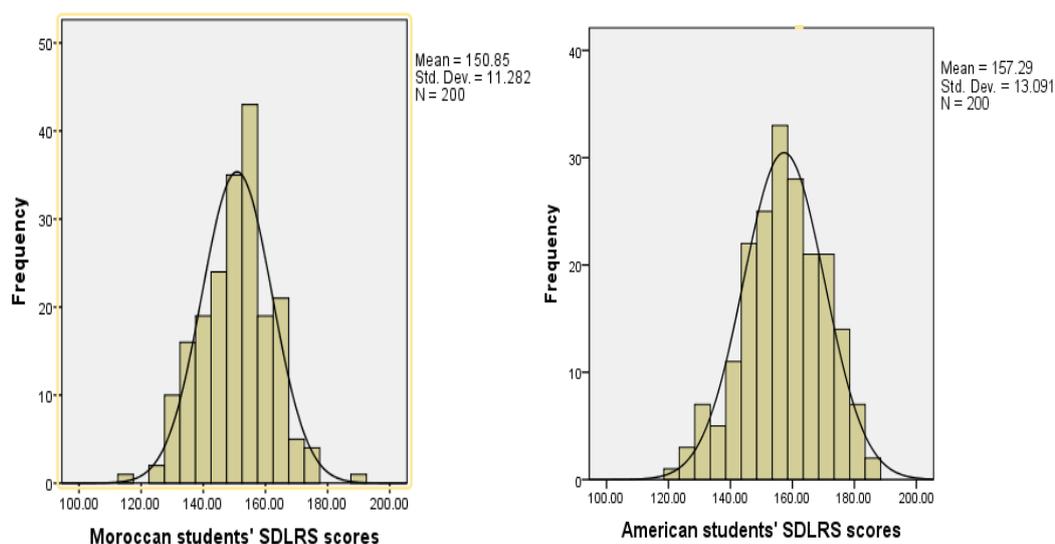


Figure 14: Histograms of Moroccan and American university students' SDLRS scores

The normal distribution of these scores can be even more clearly seen in the Q-Q plots diagram below. Thus, the distribution of SDLRS scores is symmetric in the sense that the scores (shown by points in the graph representing the cases) fall along the diagonal, which represents the expected normal distribution of scores, however, with some minor deviations in the lower left and upper right from the diagonal which may be due to outliers.

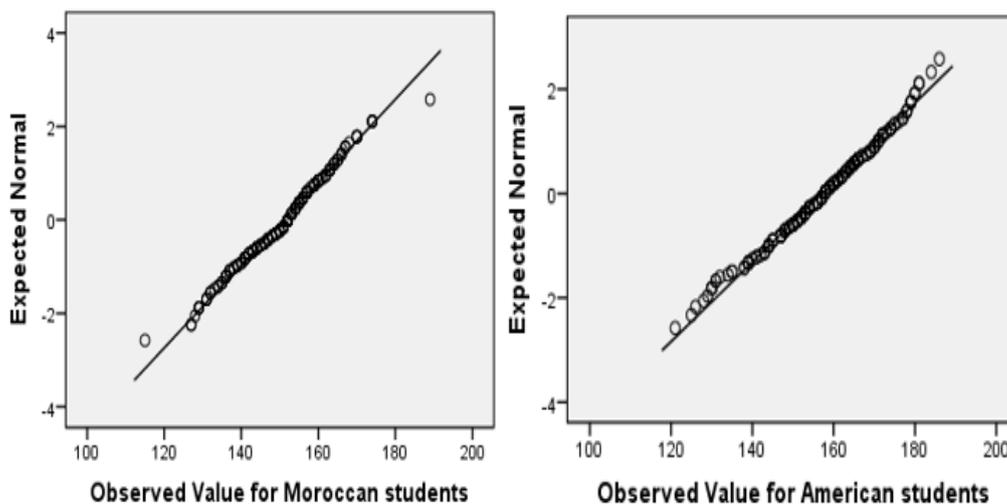


Figure 15: Normal Q-Q plots for Moroccan and American students SDLRS scores

To further insure that the assumption of normality is satisfied, the Shapiro Wilk test of normality was used. The null hypothesis in this test is that the data is normally distributed. So, if the p value is equal or less than 0.05, the null hypothesis is rejected and hence the researcher can conclude that the samples are not taken from a normally distributed population (Gaur & Gaur, 2009). As can be seen in table 23, the Shapiro Wilk test statistics for the Moroccan and American respondents were .990 (df 198), $p=.190$ and .989 ($df=198$), $p= .119$, respectively. This means that, the since the p value for both samples is significantly greater than 0.05, the assumption of normality is satisfied.

Table 23: The Shapiro-Wilk Test of normality

	Nationality	Shapiro-Wilk		
		Statistic	Df	Sig.
SDLRS	Moroccan	.990	200	.190
	American	.989	200	.119

5.1.3.2 Testing Homogeneity of variance

Homogeneity of variance means that the samples under study are taken from populations of equal variances and that the variability of scores for each of the groups is similar (Pallant, 2011). To test this assumption, the Levene's test for equality of variances was used. Like the Shapiro Wilk test, this test assumes that variances are equal for the two groups. If the p value generated by this test is equal or less than 0.05, it means that variances for the two groups are not equal and hence the assumption of homogeneity is violated. In this study, as can be seen below, the Levene's statistic resulted in a significance value of 0.609 for self-management, 0.979 for desire for learning, 0.488 for self-control and 0.469 for the total SDLRS. Since these values are all greater than 0.05 benchmark, homogeneity of variances is not violated.

Table 24 : Levene's test of Equality of variances

	<i>Levene Statistic</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
Self-management	.262	1	398	.609
Desire for learning	.101	1	398	.979
Self-control	.482	1	398	.488
SDLRS	3.975	1	398	.469

4.1.2.3 Independent sample t-test

After having satisfied both the assumptions of normality and homogeneity of variance, an independent sample t-test was used to compare the Moroccan and American university students' mean scores of SDLRS and its subscales. The results have shown that the differences in mean scores between the two groups were all significant at 0.05 except for desire for learning subscale. More specifically, it was found that the mean score for the total SDLRS was significantly lower for Moroccan students $M = 150.84$ ($SD = 11.28$) than for American students $M = 157.29$ ($SD = 5.61$), t ($df=398$) = -5.27, $p < .001$. The mean difference = -6.44 with 95% confidence interval = -4.04 to -8.84. This statically significant difference between the two

groups suggests that American students possess the traits associated with self-directed learning more than do their Moroccan counterparts who seem to have some problems with the domains of self-management and self-control.

Table 25: Comparing Moroccan and American students SDLR Scores

	Nationality	N	Mean	Std. Deviation	Std. Error
					Mean
Self-management (SM)	Moroccan	200	47.2200	5.54847	.39234
	American	200	49.7450	5.61852	.39729
Desire for learning (DL)	Moroccan	200	45.1000	6.07243	.42939
	American	200	46.2500	6.69865	.47367
Self-control (SC)	Moroccan	200	58.5250	5.11274	.36153
	American	200	61.2950	5.51271	.38981
SDLRS	Moroccan	200	150.8450	11.28217	.79777
	American	200	157.2900	13.09133	.92570

Table 26 : Independent Samples T-Test

	<i>t-test for Equality of Means</i>					
	T	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
SM	-4.520	.000	-2.52500	.55836	-3.62270	-1.42730
DL	-1.799	.073	-1.15000	.63932	-2.40687	.10687
SC	-5.210	.000	-2.77000	.53165	-3.81519	-1.72481
SDLRS	-5.274	.000	-6.44500	1.22203	-8.84744	-4.04256

More precisely, it was revealed that Moroccan students scored significantly lower on self-management $M = 47.22$ ($SD = 5.54$) than did American students $M = 49.74$ ($SD = 5.61$), t ($df=398$) = -4.52, $p < .001$. The mean difference between the two is -2.52 with 95% confidence interval= -1.42 (lower) to -3.62 (upper). These results indicate that, compared to the American students, who seem to be somewhat more goal-oriented, effective time and resources managers, Moroccans relatively still face some difficulties managing some aspects of learning such as setting specific times for studying, applying systematic and methodical approaches to learning, prioritizing and seeking additional information and resources when needed. With regard to desire for learning, it was found that Moroccan students scored slightly lower $M = 45.10$ ($SD =$

6.07) than did their American counterparts $M = 46.25$ ($SD = 6.69$) with a mean difference of -1.15 , $t(df=398) = -1.79$, $p = .073$ (2-tailed). However, this difference is not statistically significant as the p value (0.073) is slightly greater than the accepted 0.05 threshold. Despite failing to reach statistical significance at 95% confidence, these results can still be generalizable at 93% confidence interval and hence can be said that the Moroccan and American university students, sampled in those participating in this study, possess a moderate level of desire for learning. In addition, the results from the self-control sub-scale have revealed that the Moroccan students' mean score $M = 58.22$ ($SD = 5.11$) was significantly lower than that of American students $M = 61.29$ ($SD = 5.51$), $t(df=398) = -5.22$, $p < .001$. The mean difference = -2.77 with 95% confidence interval = -1.72 to -3.81 . This means that Moroccan students still lack the mechanisms and skills related to the self-control domain such as the ability to set their own learning goals, evaluating learning outcomes, being aware of their limitations, having high expectations and beliefs in their abilities in addition to being in control of their life as well as showing preference for seeking information themselves rather than depending on others. These results partly confirm the first hypothesis advanced in this study which stated that, given the cultural differences between the two groups, American university students are more likely to show higher levels of self-directed learning readiness compared to their Moroccan counterparts.

4.1.3 Measuring students' psycho-cultural values

4.1.3.1 Descriptive statistics

As was explained earlier, three of Hofstede's cultural dimensions were utilized in this study to uncover any potential relationship between cultural values and students' actual level of SDL readiness. These are namely individualism, power distance and uncertainty avoidance. However, before embarking on exploring this relationship, some preliminary descriptive statistics of these dimensions along with normality and homogeneity testing are provided.

Applied to the educational context, the individualism/collectivism dimension measures the extent to which students from different psycho-cultural backgrounds, here Morocco and the US, value autonomy, self-reliance, competition and independence in learning versus dependency on teachers, maintaining harmony and interdependence. The results (table 27) have shown that Moroccan students had a mean score of 15.28 ($SD= 2.56$) which is relatively lower than that of 16.75 ($SD=1.98$) of the American students. In addition, Moroccans produced a relatively large range of scores of 14 with minimum and maximum scores of 20 and 6 compared to their American counterparts whose range is 11 with minimum and maximum scores of 9 and 20. This means that American students are more individualistic than Moroccan students, which aligns with Hofstede's findings discussed previously.

The power distance dimension measures the extent to which the teacher-student relationship is based on equality and flat relationships versus the importance of maintaining a strict hierarchy and power differential between students and teachers. Examples of items in this scale include "I prefer to study with a teacher rather than with my peers", "teachers should make most decisions without consulting students", "students should not disagree with decisions made by teachers and "teachers should avoid social interaction with students". The minimum and maximum scores that can be obtained from this scale are 6 and 30. Unlike the individualism dimension, the preliminary descriptive statistics revealed the Moroccan students scored higher in power distance $M= 16.44$ ($SD= 3.11$) than did their American counterparts with a mean of 14.3 ($SD= 3.2$). These results indicate that Moroccan students pay more attention to the notion of power in educational contexts than do their American counterparts.

Table 27: Comparison of cultural values scores and measures of central tendency

Cultural dimensions	Moroccan students (n =200)				American students (n =200)			
	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>
Individualism	6.0	20.0	15.2	2.5	9.0	20.0	16.7	1.9
Power distance	9.0	26.0	16.4	3.1	6.0	25.0	14.3	3.2
Uncertainty avoidance	11.0	24.0	18.1	2.3	9.0	25.0	17.2	2.7

The uncertainty avoidance dimension, as applied in the educational context, attempts to uncover the extent to which students feel comfortable in unstructured learning situations and prefer taking risks versus being risk averse, ambiguity avoiding, feel the need for more predictability and have a general preference for structured learning situations. This scale includes items such as “I prefer smaller and limited amounts of information to reduce complexity”, “it is important to have instructions spelled out in detail so that I always know what I am expected to do”, “it is important to closely follow instruction and procedures”, “rules and regulations are important because they inform me of what is expected of me”. The minimum and maximum scores that can be obtained from this scale are 5 and 25. The results have shown that the Moroccan students are more uncertainty avoiding $M=18.16$ ($SD=2.34$) than do their American counterparts whose mean score is 17.24 (SD 2.72). In addition, compared to Moroccan students, whose range of scores was 13 (with a minimum and maximum scores of 11 and 24), the American students’ spread of PD scores was a bit larger with a range of 16, with a minimum and maximum scores of 9 and 25. As will be discussed shortly in more detail, what can be elucidated from these preliminary results is that Moroccan students are more collectivistic, less uncertainty accepting and more power distant compared to their American counterparts who were found to be more individualistic, less power distant and less uncertainty avoiding.

4.1.3.2 Testing normality and homogeneity of variance

Importantly, as generalizability is an important aim of this study, the assumptions of normality and homogeneity of variance were tested through the use of the Shapiro Wilk and Levene's Tests, respectively. The results from the Shapiro Wilk test, as well as from that of Kolmogorov-Smirnov test (table 28), have revealed that all the cultural values scores of individualism, power distance and uncertainty avoidance were not normally distributed for both samples as their significance p values are below .05. This means that the data is asymmetrical and hence violated the assumption of normality.

Table 28: Testing the normality of cultural values scores

	Nationality	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Individualism	Moroccan	.144	198	.000	.959	198	.000
	American	.134	198	.000	.937	198	.000
Power distance	Moroccan	.111	198	.000	.977	198	.003
	American	.092	198	.000	.973	198	.001
Uncertainty avoidance	Moroccan	.138	198	.000	.966	198	.000
	American	.099	198	.081	.982	198	.012

The results from the Levene's test (see table 29) have shown that the variances between Moroccan and American university students along the cultural values of power distance $F=.534, p=.466$ and uncertainty avoidance $F=2.914, p=.089$ were equal. Thus, their p value is greater than 0.05. However, the individualism scale violated the assumption of homogeneity as it was found to be statistically significant $F=7.40, p=.007$. Accordingly, the data failed to satisfy both the assumption of normality and homogeneity of variance which makes it inappropriate to use an independent sample t -test, which is sensitive to violations of these assumptions. Therefore, its non-parametric alternative, the Mann-Whitney U Test, was used to examine the significance of the results.

Table 29: Levene's Test for Equality of Variances of cultural values

		<i>Levene's Test for Equality of Variances</i>	
		<i>F</i>	<i>Sig.</i>
Individualism	Equal variances assumed	7.402	.007
Power distance	Equal variances assumed	.534	.466
Uncertainty avoidance	Equal variances assumed	2.914	.089

4.1.3.3 Comparing cultural values scores (the Mann-Whitney U Test)

Unlike the independent sample t-test which compares the differences between two or more independent samples based on their mean score, the Mann-Whitney U Test compares the median score, which Heiman (2001) defines as “the number or score that precisely divides a distribution of data in half” (p.144). According to Pallent (2011), “as this test converts the scores on the continuous variable to rank across the two groups and then evaluates whether the ranks for the two groups differ significantly... the actual distribution of the scores does not matter” (p. 227).

Table 30 : The Mann-Whitney U Test (ranks)

	<i>Nationality</i>	<i>N</i>	<i>Mean Rank</i>	<i>Sum of Ranks</i>	<i>Median</i>
Individualism	Moroccan	200	165.67	33133.50	15.00
	American	200	235.33	47066.50	17.00
Power distance	Moroccan	200	238.29	47658.50	16.00
	American	200	162.71	32541.50	14.00
Uncertainty avoidance	Moroccan	200	222.98	44596.00	18.00
	American	200	178.02	35604.00	16.00
				<i>Uncertainty avoidance</i>	
	<i>Individualism</i>		<i>Power distance</i>		
Mann-Whitney U	13033.50		12441.50		15504.00
Z	-6.087		-6.569		-3.920
Asymp. Sig. (2-tailed)	.000		.000		.000

The results from the Mann-Whitney U test largely support Hofstede’s description of the Moroccan culture as collectivistic, high in power distance and uncertainty avoidance and American culture as being more individualistic, low in both power distance and uncertainty

avoidance. Thus, it was found that individualism was greater for American students ($Mdn = 17$) than for Moroccan students ($Mdn = 15$), $U = 13033.5$, $Z = -6.08$. This difference is significant at $p < .001$ (2-tailed). This implies that self-reliance, independence and competitiveness are very important values for American students, whose motivation to learn is based on their personal goals. These students tend to stress their differentiation from others and see their personal identity, as independent from others, as very important to them. Compared to these students, Moroccan students seem to be less competitive, underplay uniqueness and, instead, value interdependence, harmony and cooperation with their peers. As was discussed previously, these attributes, associated with each group, are highly consistent with the arguments made by many scholars such as Hofstede (2011) and Sadiqi (2008). In this regard, Holtbrugge and Mohr (2010) pointed that whereas individualist students “prefer those forms of learning for which input from and interaction with others are least important” (p.626), students with collectivist values, however, are more prone “to tap into the knowledge of others” and thus “show inability, or even unwillingness to rely on concrete experience” (p.623).

Unlike individualism, the Mann-Whitney U test revealed that the Moroccan students scored significantly higher in the power distance dimension ($Mdn = 16$) than did their American counterparts ($Mdn = 14$). $U = 12441.5$, $Z = -6.56$, $p < .001$. This means that the relationship between Moroccan students and their teachers is one in which power and hierarchy are important building blocks. These students try to keep their social distance from their teachers and thus see disagreement with them as a threat to this relationship. American students, on the other hand, with a median of score of 14, pay little attention to the social and organizational hierarchy between themselves and their teachers and see the teacher-student relationship from a client-vendor perspective. Thus, these students may express their minds freely in the presence of their teacher and may disagree or even oppose his/her views and still see it as normal. Unlike Moroccan students, who strive to maintain face, these students have no problem in losing it in

favor of expressing their minds. Accordingly, it can be said that unlike the case in the US, where students perceive teachers as agents whose role is to facilitate learning, Moroccan students tend to see their teachers as authority figures and hence prefer those learning styles that would allow them to maintain their reliance on them.

Similar results have been found in relation to the uncertainty avoidance dimension which was significantly higher for Moroccan students ($Mdn = 18$) than for their American counterparts ($Mdn = 16$), $U = 15504.0$, $Z = -3.920$, $p < .001$. This suggests that Moroccan students strive for reducing complexity and increasing predictability by constantly showing the need for more clearly spelled out instructions. This is consistent with Pinpathomrat et al's. (2013) argument that students from high uncertainty avoidance cultures prefer tasks with a definite outcome and clear guidelines more than unstructured and active learning processes which involve a certain level of uncertainty. American students, on the other hand, can be said to be more tolerant of ambiguity as they tend to be more comfortable with vague objectives and unstructured learning environments. Thus, as pointed by Jaju et al. (2002), unlike students from high uncertainty avoiding cultures who "value the information and knowledge delivered by the instructor and consider it as the best explanation to the problem", low uncertainty avoiding students, Americans here, tend to value originality and independent work (cited in Holtbrugge & Mohr, 2010, p.627).

4.1.4 Examining the relationship between SDL readiness and cultural values

4.1.4.1 Correlations

As outlined earlier, one of the major aims of this study is to investigate the potential link between culture and self-directed learning. For this aim, Spearman's rho correlation coefficient test was used to examine the relationship between students' cultural values scores of individualism, power distance and uncertainty avoidance as three independent variables and the SDLRS total and subscales as four dependent variables. The results (see table 31 and figure

16) have revealed the existence of a moderately strong and statistically significant relationship between individualism and self-directed learning readiness for both samples. More precisely, Moroccan students' individualistic values positively correlated with total SDLRS $r=.437^{**}$, $p < .001$, self-management $r=.357^{**}$, $p < .001$, desire for learning $r=.292^{**}$, $p < .001$ and self-control $r=.355^{**}$, $p < .001$. For the American students, the correlation between these scales and individualism was a little stronger with an $r=.432^{**}$ for SDLRS, $r=.397^{**}$ for self-management, $r=.303^{**}$ for desire for learning and $r=.489^{**}$ for self-control. As can be seen, all these results are statistically significant at $p < .001$ (2- tailed). This means that when individualism scores increase, self-directed learning readiness scores increase as well. As will be discussed later, these results confirm the hypothesis stating that there will be a significant correlation between Moroccan and American university students' Individualism/collectivism scores and their self-directed learning readiness scores such that American students are more likely to show higher levels of readiness than their Moroccan counterparts.

Yet, no statistically significant relationship was found between SDLRS and the other two remaining dimensions (i.e. power distance and uncertainty avoidance). The results (see table 31 and figures 17 and 18) did not show any relationship between students' SDL readiness and their cultural value of power distance and uncertainty avoidance. These results refute the second and third hypotheses which assumed that there will be a statistically significant relationship between these dimensions and SDL readiness in the other such that the latter will be higher for the American respondent.

Table 31 : Spearman Correlations between self-directed learning sub-scales and the cultural dimensions

Nationality			Individualism	Power distance	Uncertainty avoidance
Moroccan	Self-management	Correlation coefficient	.357**	-.087	.085
		Sig. (2 tailed)	.000	.223	.232
	Desire for learning	Correlation coefficient	.292**	-.041	-.123
		Sig. (2 tailed)	.000	.566	.082
	Self-control	Correlation coefficient	.355**	-.180	.125
		Sig.(2 tailed)	.000	.071	.077
SDLRS	Correlation coefficient	.437**	-.134	-.004	
		Sig. (2 tailed)	.000	.064	.951
American	Self-management	Correlation coefficient	.397**	.096	.079
		Sig. (2 tailed)	.000	.178	.266
	Desire for learning	Correlation coefficient	.303**	-.002	.080
		Sig.(2 tailed)	.000	.973	.261
	Self-control	Correlation coefficient	.489**	.050	.036
		Sig. (2 tailed)	.000	.478	.610
SDLRS	Correlation Coefficient	.432**	.060	.064	
		Sig. (2 tailed)	.000	.397	.365

** . Correlation is significant at the 0.01 level (2-tailed)

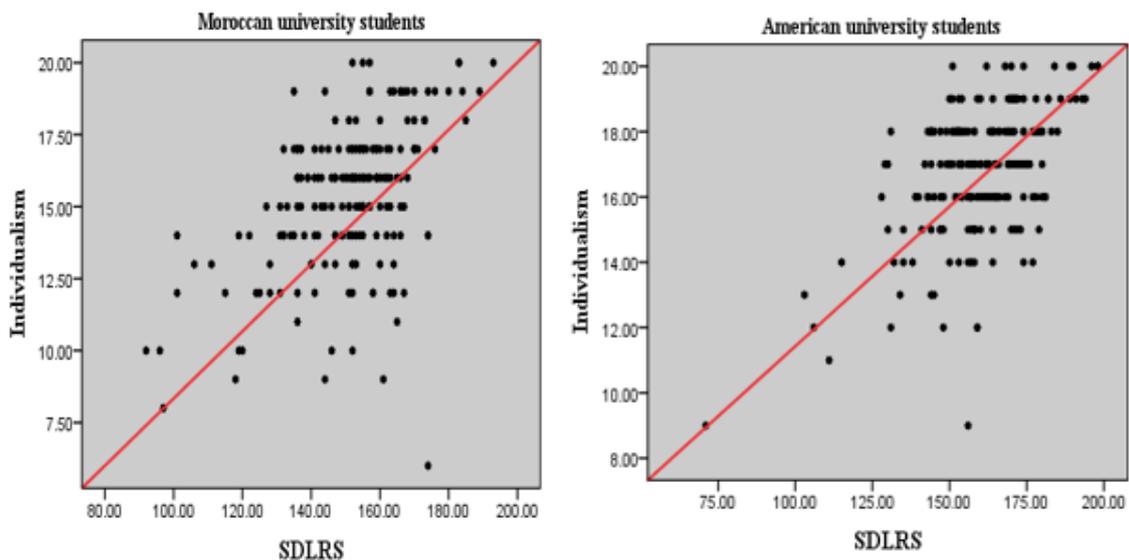


Figure 16: Investigating the link between SDL readiness and individualism

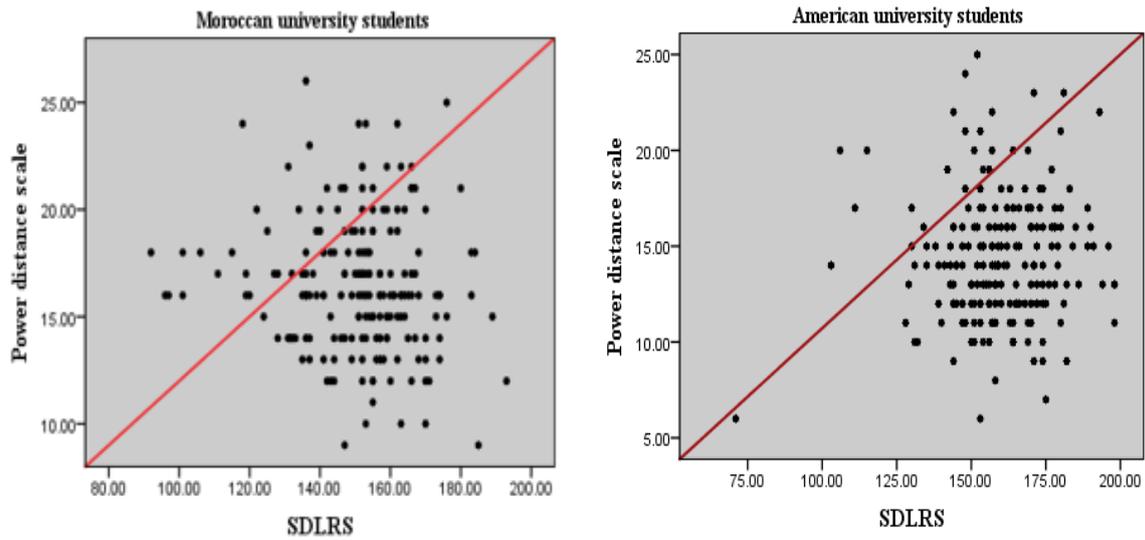


Figure 17: Investigating the link between SDL readiness and power distance

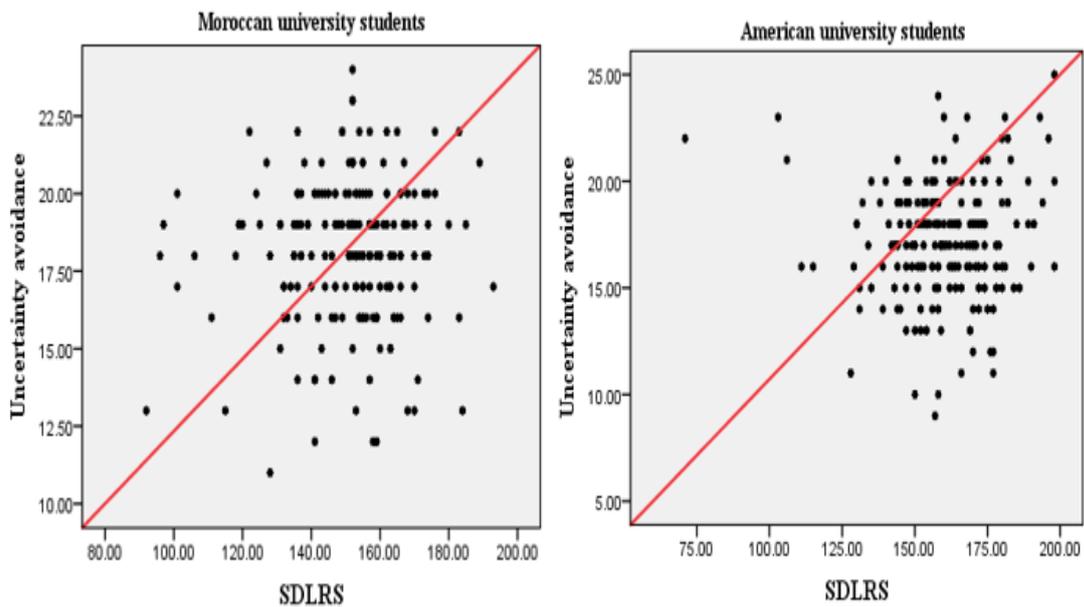


Figure 18: Investigating the link between SDL readiness and uncertainty avoidance.

4.1.4.2 Regression analysis

After having identified a statistically significant relationship between self-directed learning and individualism, regression analysis was used to assess the impact of students' individualism values on their actual SDLR scores. In fact, even though power distance and uncertainty avoidance did not correlate with the SDLRS, these dimension were interred into the

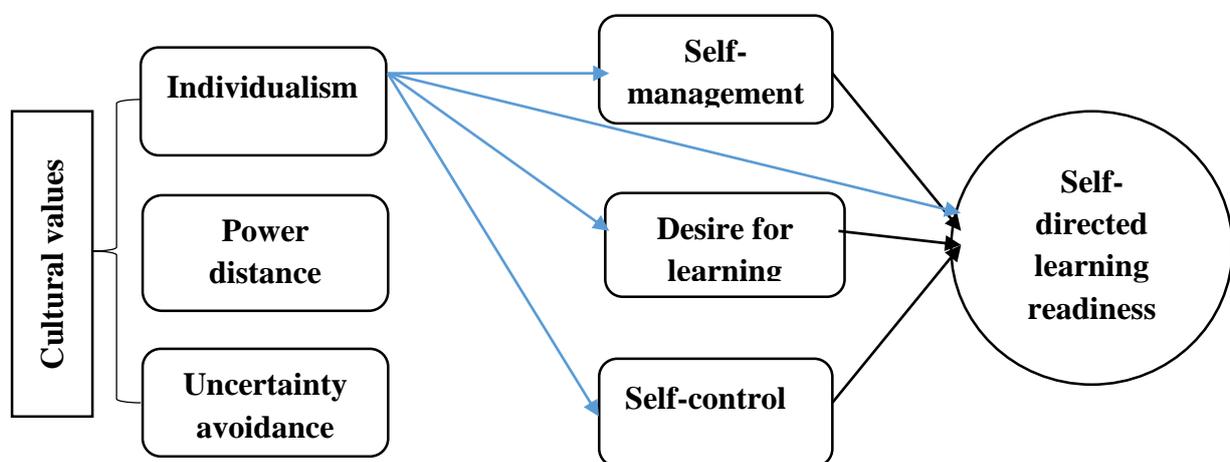
regression model (to cross check the results from the correlation). However, consistent with the results of the correlational analysis, only individualism (see table 32) made a statistically significant contribution to the model for both samples. Thus, the Standardized Coefficients Beta was $\beta=.488$, $p< .001$ for the Moroccan respondents and $\beta=.556$, $p< .001$ for the American respondents. The remaining two dimensions (i.e. power distance and uncertainty avoidance) did not make any statistically significant contribution to the model. These respective dimensions generated a β coefficient of $-.064$, $p=.307$ and $\beta=.027$, $p=.660$ for the Moroccan sample and $\beta=-.099$, $p=.297$ and $\beta=.023$, $p=.701$ for the American sample. More importantly, as can be seen in the model summary below, the model generated a regression coefficient $R=.501$, R^2 of $.251$ and an adjusted $R^2=.240$ (these represent the percentage of predicative power of the variable, the adjusted R square is the one that most researchers report as it takes error into account). Simply put, individualism was able to predict 24% of variance in Moroccan SDLR scores. The predictive power of the model was higher for the American students with a regression coefficient of $R=.560$, $R^2=.313$ and adjusted $R^2=.303$ which means that individualism has a stronger impact on Americans students as it was able to predict 30.3% of variance in their self-directed learning readiness scores. All these findings are summarized in figure (19) showing the study's conceptual model with its supported hypotheses.

Table 32 :Examining the effect of cultural values on SDL readiness

Nationality	Model		Unstandardized		Standardized		T	Sig.
			Coefficients	Std. Error	Coefficients			
Moroccan	1	(Constant)	102.784	11.643			8.828	.000
		Individualism	3.278	.419	.488		7.833	.000
		Power distance	-.348	.340	-.064		-1.024	.307
		Uncertainty avoidance	.198	.449	.027		.440	.660
American	1	(Constant)	68.426	11.801			5.799	.000
		Individualism	4.841	.517	.556		9.365	.000
		Power distance	.531	.318	.099		1.668	.297
		Uncertainty avoidance	.148	.384	.023		.384	.701

Table 33 : Model Summary

Nationality	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Moroccan	1	.501 ^a	.251	.240	14.81376
American	1	.560 ^b	.313	.303	14.74256



Moroccan students

- Indi/SM r= .357**, p < .001 supported
- Indi/DL r= .292** p < .001 supported
- Indi/SC r= .355** p < .001 supported
- Indi/SDLRS r=.437**, p < .001 supported

American students

- Indi/SM r=397**, p < .001 supported
- Indi/DL r=303**, p < .001 supported
- Indi/SC r=489**, p < .001 supported
- Indi/SDLRS=432**, p < .001 supported

Figure 19: Model path coefficient summary of the SDLRS and cultural values

4.1.5 Web 2.0 acceptance and use in higher education

Another important aim of this study is to comparatively examine, from a cross-cultural perspective, the acceptance and use of web 2.0 in the Moroccan higher education contexts. Addressing this kind of issue, as argued earlier, entails understanding how culture influences four aspects of technology: (1) if and how it is adopted; (2) how it is used; (3) the types of learning activities involved; and (4) how students conceive and interpret their use of technology use (Olaniran et al., 2010). This section, in its four main subsections, attempts to empirically address these questions. More specifically, the first provides some descriptive statistics about students' access to the internet, frequency of internet use and familiarity with Web 2.0 technologies. The second sub-section comparatively examines the factors determining Web 2.0 acceptance and use for learning from the perspective of an extended version of the Unified Theory of Acceptance and Use of Technology (UTAUT). The third sub-section looks into the type of web 2.0 applications being used and how they are used. Finally, the fourth subsection is devoted to the analysis of how students conceive and interpret different aspects of their educational technology use.

4.1.5.1 Access to and familiarity with Web 2.0

The first three questions in this section required the respondents to report their computer ownership, internet use frequency and familiarity with web 2.0. The results have shown that computer ownership was higher among American students as 98.5% of them reported having a personal computer while only 74% of the surveyed Moroccan students reported so. Relatively similar results were found in relation to internet use frequency as it was also found to be higher among American students. Thus, whereas 92.5% of American students use the internet daily, only 54.5% of their Moroccan counterparts reported doing so. In fact, it was found that while 30% (of the remaining 45.5% of Moroccan students) use the internet twice or three times a

week, only 7.5 % of the American students indicated not using the internet on a daily basis. This shows a huge gap in internet use frequency between the two samples. With regard to students' familiarity with web 2.0 applications (e.g. Twitter, Facebook, Myspace and Wikipedia, etc.) the data has revealed that American students are more familiar with Web 2.0 technologies compared to their Moroccan counterparts. Thus, whereas only 63% of the Moroccan students reported being familiar with all these applications, the majority of the American sample (89%) indicated that they are acquainted with all these applications. These results clearly reflect a digital divide between Moroccan and American university students.

Table 34: Participants' access to and familiarity with Web 2.0

	Moroccan students (n=200)		American students (n=200)	
	Computer ownership			
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
Yes	148	74.0	197	98.5
No	52	26.0	3	1.5
Total	200	100.0	200	100.0
	Internet use frequency			
Everyday	109	54.5	185	92.5
Twice to three times e week	60	30.0	8	4.0
Once a week	21	10.5	5	2.5
Once a month	8	4.0	1	.5
Less than once a month	2	1.0	1	.5
Total	200	100.0	200	100.0
	Familiarity with web 2.0 applications			
I know all of them	127	63.5	179	89.5
I know some of them	72	36.0	21	10.5
I don't know any of them	1	.5	0	0
Total	200	100.0	200	100.0

4.1.5.2 Web 2.0 acceptance and use in higher education

Generally, the results from this subsection clearly support and hence cross-culturally validate the UTAUT model which underpins this study. Thus, the constructs of performance expectancy, effort expectancy, and social influence were found to impact significantly students' behavioral intention to use web 2.0. Behavioral intention and facilitating conditions in their turn were found to have a significant influence on students' use behavior for both samples. However, before delving into examining the relationship among these constructs, some preliminary descriptive statistics of these constructs are provided.

The results from the performance expectancy scale (operationalized in this study as the degree to which students believe that using web 2.0 will help them perform better in their studies) have revealed that Moroccan students scored relatively lower $M=15.93$ ($SD= 2.18$) than did the American students $M= 17.20$ ($SD=2.36$). This indicates that, compared to Moroccan students, American students have higher confidence in the role web 2.0 can play in enhancing their performance. With regard to effort expectancy, defined here in terms of the easiness associated with the use of web 2.0 for learning, it was revealed that the Moroccan students had a mean score of $M= 15.71$ ($SD=2.26$) which is significantly lower than that of the American students $M=17.31$ ($SD=1.97$). This implies that Moroccan university students pay more attention to difficulty and hence the effort associated with web 2.0 use compared to their American counterparts.

Table 35: Comparison of UTAUT scores and measures of central tendency

UTAUT sub-scales	Moroccan students (n =200)				American students (n =200)			
	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>
Performance expectancy	8.00	20.00	15.93	2.18	8.00	20.00	17.20	2.36
Effort expectancy	10.00	20.00	15.71	2.26	11.00	20.00	17.31	1.97
Social influence	8.00	20.00	14.71	2.23	7.00	19.00	12.62	2.28
Facilitating conditions	12.00	20.00	15.65	1.70	10.00	20.00	16.63	1.91
Behavioral Intention	6.00	15.00	12.05	1.92	3.00	15.00	13.23	1.91
Web 2.0 use for SDL	7.00	20.00	14.86	2.36	8.00	20.00	16.10	2.47

Unlike the first two constructs, the results from social influence, operationalized as the degree to which students believe that their social context, sampled in their teachers, family members and peers, believe they should use web 2.0 in their studies, have revealed that the Moroccan students scored higher $M= 14.71$ ($SD= 2.23$) than did the American students with a mean of $M=12.62$ ($SD=2.28$). These results indicate that the social context is more influential in adopting technology for Moroccan students than for American students. Concerning facilitating condition, defined here as the extent to which students believe that technical support to use web 2.0 is available when needed, the results have revealed that Moroccan students produced lower scores $M=15.65$ ($SD=1.70$) than did their American counterparts whose mean score is $M=16.63$ ($SD=1.91$). This means that the American educational system supports and facilitates the use of web 2.0 and provides technical support whenever needed. The results from behavioral intention to use Web 2.0, operationalized as the degree to which students are planning and to use web 2.0 for their studies, have also revealed that Moroccan students scored lower $M= 12.12$ ($SD= 1.92$) than did the American students with a mean of $M= 13.23$ ($SD= 1.91$). As for use behavior, operationalized in this study as students' web 2.0 use for self-directed learning, Moroccan students $M=14.86$ ($SD=2.36$) scored lower than did the American students $M=16.10$ ($SD=2.47$). This means that American students realize the role the web can play in

enhancing their autonomy and hence use it to take charge of their learning more than do their Moroccan counterparts.

4.1.5.3 Correlational analysis

A Pearson correlation coefficient was used to examine the relationship between UTAUT's constructs of performance expectancy, effort expectancy, social influence and students' behavioral intention to use Web 2.0 for learning. The results (table 34) have revealed the existence of a statistically significant and moderately strong relationship between performance expectancy, effort expectancy and social influence (independent variables) and behavioral intention (dependent variable) for both samples. As was theorized by UTAUT, a strong direct relationship was also found between facilitating conditions and students use of web 2.0. More specifically, regarding the Moroccan sample, the correlation coefficient $r = .493^{**}$, $p < .001$ revealed a moderately strong and statistically significant relationship between performance expectancy and behavioral intention to use Web 2.0. Also, Effort expectancy and social influence positively correlated with behavioral intention with an $r = .423^{**}$ and $r = .499^{**}$, $p < .001$, respectively. Relatively similar findings were found in relation to the American sample. Thus, the correlation coefficient $r = .508^{**}$, $p < .001$ indicated a moderately strong positive relationship between performance expectancy and behavioral intention to use Web 2.0 for learning. Effort expectancy and social influence also positively correlated with behavioral intention with respective correlation coefficients $r = .581^{**}$ and $r = .394^{**}$ $p < .001$.

Table 36 : Examining the relationships between PE, EE, SI and BI to use Web 2.0

Nationality		ATAUT		Behavioral Intention to use Web 2.0
Pearson <i>r</i>	Moroccan	Performance	Correlation Coefficient	.493**
		expectancy	Sig. (2-tailed)	.000
			N	200
		Effort	Correlation Coefficient	.423**
		expectancy	Sig. (2-tailed)	.000
			N	200
		Social influence	Correlation Coefficient	.499**
			Sig. (2-tailed)	.000
			N	200
American	Performance	expectancy	Correlation Coefficient	.508**
			Sig. (2-tailed)	.000
			N	200
	Effort	expectancy	Correlation Coefficient	.581**
			Sig. (2-tailed)	.000
			N	200
	Social influence		Correlation Coefficient	.394**
			Sig. (2-tailed)	.000
			N	200

** . Correlation is significant at the 0.01 level (2-tailed).

4.1.6.4 Regression analysis

In a multiple regression model having behavioral intention to use Web 2.0 as the dependent variable and performance expectancy, effort expectancy, and social influence as three independent variables. As predicted by the conceptual model, the effect of social influence was the strongest ($\beta = 0.414$, $p < .000$) for the Moroccan sample, followed by performance expectancy ($\beta = 0.304$, $p < .000$), while effort expectancy had a relatively weak impact on behavioral intention ($\beta < .117$, $p = .006$). As can be seen in the model summary below, the model was able to account for an adjusted $R^2 = .410$ (41%) of the variance in Moroccan students' behavioral intention to use web 2.0. For the American sample, performance expectancy was the strongest ($\beta = 0.414$, $p < .000$), followed by effort expectancy ($\beta = 0.304$, $p < .000$) while social influence had the lowest impact on behavioral intention ($\beta < 0.117$, $p = .006$). The model was

able to account for an adjusted $R^2 = .525$ (52%) of the variance of behavioral intention to use web 2.0 for the American sample. As will be discussed in more detail in the next chapter, these results are consistent with previous cross-cultural research and largely support some of the hypotheses advanced in this study.

Table 37: Examining the predictive power of PE, EE and SI)

Nationality	Model		Unstandardized		Standardized		Sig.
			Coefficients		Coefficients		
			<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>T</i>	
Moroccan	1	(Constant)	1.615	.951		1.69	.091
		PE	.267	.055	.304	4.88	.000
		EE	.152	.054	.171	2.79	.006
		SI	.293	.040	.414	7.39	.000
American	1	(Constant)	1.380	.835		1.65	.100
		PE	.301	.040	.420	7.45	.000
		EE	.291	.046	.353	6.27	.000
		SI	.124	.043	.150	2.86	.005

Table 38: Model Summary

Nationality	Model	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
Moroccan	1	.647 ^a	.419	.410	1.54725
American	1	.729 ^a	.532	.525	1.32026

a. Predictors: (Constant), Social influence , Effort expectancy , Performance expectancy

A Pearson r correlation coefficient test was also performed to find out if a linear correlation exists between UTAUT's constructs of facilitating conditions and behavioral intention and students' use behavior (operationalized as web 2.0 use from SDL). The results largely support this assumption in that a strong direct and statistically significant relationship was found between facilitating conditions and students' use of web 2.0 for SDL. The correlation coefficient $r = .465^{**}$, $p < .001$ for the Moroccan sample shows the existence of a moderately strong and statistically significant relationship between facilitating conditions and students' web 2.0 use behavior. That is, when scores in facilitating conditions increase, the scores in students use behavior increase as well. With a correlation coefficient $r = .317^{**}$, $p < .001$,

behavioral intention to use web 2.0 also positively correlated with students' web 2.0 use behavior. Relatively similar results were found in relation to the American respondents. Thus, facilitating conditions $r = .448^{**}$, $p < .001$ and behavioral intention $r = .477^{**}$, $p < .001$ were found to have a strong and statistically significant relationship with students use behavior.

Table 39: Examining the relationship between FC, BI and Web 2.0 use for SDL

Nationality		UTAUT	Web 2.0 use for SDL	
Pearson <i>r</i>	Moroccan	Facilitating conditions	Correlation Coefficient	.465 ^{**}
			Sig. (2-tailed)	.000
			N	200
	Behavioral intention	Correlation Coefficient	.317 ^{**}	
		Sig. (2-tailed)	.000	
		N	200	
American	Facilitating conditions	Correlation Coefficient	.448 ^{**}	
		Sig. (2-tailed)	.000	
		N	200	
Behavioral intention	Correlation Coefficient	.477 ^{**}		
	Sig. (2-tailed)	.000		
	N	200		

** . Correlation is significant at the 0.01 level (2-tailed).

Multiple regression analysis test was used to examine the impact of behavioral intention and facilitating conditions, as two predictor variables, on using web 2.0 for SDL as the outcome variable. The data has revealed that the effect of facilitating conditions was stronger ($\beta = .403$, $p < .001$) for Moroccans than for Americans ($\beta = .251$, $p < .001$), while it was the other way around for behavioral intention as its effect was stronger for American ($\beta = 0.325$, $p < .001$) than for their Moroccan counterparts ($\beta = 0.180$, $p = .007$). This means that Moroccan students pay attention more to facilitating conditions in their use of web 2.0 compared to Americans who seem to take facilitating conditions for granted and focus more on their behavioral intention. The model was able to account for 23% (adjusted $R^2 = .237$) of the variance of students use web 2.0 for SDL for the Moroccan sample, while it was able to predict 26% (adjusted $R^2 = .260$) of the variance for the American respondents.

Table 40: Examining the predictive power of FC and BI

Nationality	Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
			B	Std. Error	Beta		
Moroccan	1	(Constant)	5.738	1.160		4.945	.000
		FC	.441	.072	.403	6.125	.000
		BI	.200	.073	.180	2.740	.007
American	1	(Constant)	6.256	1.195		5.235	.000
		FC	.283	.086	.251	3.289	.001
		BI	.380	.089	.325	4.250	.000

Table 41: Model Summary

Nationality	Model	R	R Square	Adjusted R	Std. Error of the Estimate
				Square	
Moroccan	1	.495 ^a	.245	.237	2.06436
American	1	.517 ^a	.268	.260	2.12803

4.1.5.5 Examining the moderating effect of culture

As was discussed earlier, another major aim of this study is to investigate the link between cultures and web 2.0 acceptance and use. More precisely, this study examines the moderating effect of Hofstede’s cultural dimensions, namely individualism, power distance and uncertainty avoidance, between UTAUT’s determinant constructs (performance expectancy, effort expectancy and social influence) and behavioral intentions to use web 2.0. Moderation models (see figure 20) test if the effect of a predictor variable X (e.g. performance expectancy) on an outcome variable Y (e.g. behavioral intention to use web 2.0) differs as a result of a third moderating variable M (e.g. individualism). Moderator variables, as Fairchild and MacKinnon (2009) explain, “affect the strength and/or direction of the relation between a predictor and an outcome: enhancing, reducing, or changing the influence of the predictor” (p.89).

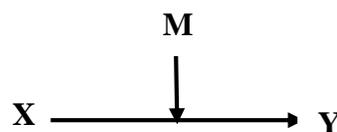


Figure 20 : Moderation

According to these scholars, to test moderation the researcher must first run a free model predicting the outcome variable Y from the predictor variable only (referred to as Model 1 in the output tables below). The effect of the predictor on the outcome variable as well as the R square must be significant. Then, the researcher has to run another regression model (model2) by adding the moderator variable and then checks for a significant change in the R square as well as a significant effect (Beta) by the new moderating variable. More precisely, if there is a change in R2 and the effect of the main predictor becomes insignificant, then complete moderation has occurred. Moreover, if both the predictor and moderator are significant, then moderation has taken place but the main effect is also still significant.

4.1.6.5.1 Testing the moderating effect of individualism

To test the hypothesis (4a), stating that the effect of performance expectancy on behavioral intention will be significantly moderated by individualistic values, a linear regression model was used. In the first step, performance expectancy (predictor) and behavioral intention (outcome variable) were entered in the model. Performance expectancy accounted for a statistically significant amount of variance in behavioral intention. Thus, the adjusted R square for the Moroccan respondents was $R^2 = .239$, $\beta = .493$, $p < .001$ while it was $R^2 = .354$, $\beta = .598$, $p < .001$ for their American counterparts. This means that the free model was significant as it was able to account for 23% and 35% of the variance in the Moroccan and American samples respectively. Then, individualism (moderator) was added to the regression model. However, the results (see table 42) have shown that the moderating effect of individualism was trivial and statistically insignificant as there was no change in the R^2 for both samples. More specifically, the moderating effect of individualism was $\beta = -.056$, $p = .441$ for the Moroccan sample while it was $\beta = .059$, $p = .392$ for the American group. The main effect (model 1), however is still significant with no major change. These results refute the above hypothesis assuming that there is a moderating effect between performance expectancy and behavioral intention.

Table 42: The moderating effect of Individualism between PE and BI

Nationality	Model		Unstandardized		Standardized	T	Sig.
			Coefficients		Coefficients		
			B	Std. Error	Beta		
Moroccan	1	(Constant)	5.119	.879		5.824	.000
		PE	.435	.055	.493	7.965	.000
	2	(Constant)	5.389	.947		5.690	.000
		PE	.461	.064	.522	7.172	.000
		Individualism	-.045	.058	-.056	-.772	.441
American	1	(Constant)	5.117	.777		6.584	.000
		PE	.475	.045	.598	10.490	.000
	2	(Constant)	4.638	.957		4.844	.000
		PE	.448	.055	.565	8.195	.000
		Individualism	.056	.065	.059	.858	.392

Table 43 : Model Summary

Nationality	Model	R	R Square	Adjusted R	Std. Error of the Estimate
				Square	
Moroccan	1	.493 ^a	.243	.239	1.68287
	2	.495 ^b	.245	.237	1.68459
American	1	.598 ^a	.357	.354	1.62108
	2	.600 ^b	.360	.353	1.62216

To test the hypothesis (4b) stating that the effect of social influence on behavioral intention will be significantly moderated by individualistic values, a linear regression model was used. In the first step, social influence and behavioral intention were entered in the model. Social influence accounted for a significant amount of variance in behavioral intention with an adjusted $R^2 = .303$, $\beta = .554$, $p < .001$ for the Moroccan respondents and $R^2 = .180$, $\beta = .429$, $p < .001$ for their American counterparts. That is, the free model was able to account for 30% of the variance for the Moroccan sample and 18% of the variance in the American sample. Then, individualism was added to the regression model. The results have shown that while the main effect is still significant with no major change in the R square for the Moroccan sample, the effect of individualism $\beta = .091$, $p = .137$ was statistically insignificant which means that moderation did not occur. For the American sample however, moderation has taken place as there was a statistically significant increase in the predictive power of the model which

increased from $R^2 = .18$ to $R^2 = .257$, $\beta = .292$, $p < .00$. This means that moderation has occurred for the American sample. This partly confirms the above hypothesis that individualism would moderate the relationship between social influence and behavioral intention to use web 2.0. As will be seen in discussion chapter, this may be attributed to the supportive role others play in the adoption of web 2.0 in the US.

Table 44: The moderating effect of Individualism between SI and BI

Nationality	Model		Unstandardized		Standardized		t	Sig.
			Coefficients	Std. Error	Beta			
Moroccan	1	(Constant)	7.311	.519			14.077	.000
		SI	.368	.039	.554		9.363	.000
	2	(Constant)	6.390	.806			7.927	.000
		SI	.353	.040	.532		8.758	.000
		Individualism	.072	.048	.091		1.491	.137
American	1	(Constant)	8.202	.756			10.843	.000
		SI	.335	.050	.429		6.679	.000
	2	(Constant)	4.416	1.088			4.061	.000
		SI	.282	.049	.361		5.741	.000
		Individualism	.277	.060	.292		4.644	.000

Table 45: Model Summary

Nationality	Model	R	R Square	Adjusted R	
				Square	Std. Error of the Estimate
Moroccan	1	.554 ^a	.307	.303	1.60992
	2	.561 ^b	.315	.308	1.60497
American	1	.429 ^a	.184	.180	1.82666
	2	.514 ^b	.264	.257	1.73858

4.1.6.5.2 The moderating effect of power distance

To test hypothesis 5 stating that the effect of social influence on behavioral intention will be significantly moderated by power distance values such that it will be greater for Moroccan students, a linear regression β model was used. In the first step (see the table below), social influence accounted for a significant amount of variance in behavioral intention, with an

adjusted $R^2 = .303$, $\beta = .554$, $p < .001$ for the Moroccan respondents and $R^2 = .180$, $\beta = .429$, $p < .001$ for their American counterparts. Put simply, the free model was able to account for 30% of the variance in students' behavioral intention to use web 2.0 for the Moroccan sample and 18% in the American sample. As was discussed earlier, this means that the effect of social influence on behavioral intention is stronger for Moroccans than for Americans. In the second step, the power distance dimension (moderator) was added to the regression model and the results have shown that while the main effect has not changed, the effect of power distance was statistically insignificant with no major change in R^2 for both samples. More precisely, the moderating effect of power distance for the Moroccan and American samples were $\beta = .040$, $p = .504$ and $\beta = -.0511$, $p = .118$, respectively. Accordingly, moderation did not take place which in turn refuted the above hypothesis.

Table 46 : The moderating effect of power distance between SI and BI

Nationality	Model		Unstandardized		Standardized	T	Sig.
			Coefficients		Coefficients		
			B	Std. Error	Beta		
Moroccan	1	(Constant)	7.311	.519		14.077	.000
		Social influence	.368	.039	.554	9.363	.000
	2	(Constant)	7.098	.609		11.647	.000
		SI	.366	.039	.551	9.281	.000
		Power distance	.014	.020	.040	.670	.504
American	1	(Constant)	8.202	.756		10.843	.000
		SI	.335	.050	.429	6.679	.000
	2	(Constant)	9.199	.857		10.736	.000
		SI	.332	.050	.424	6.678	.000
		Power distance	-.063	.026	-.051	-2.381	.118

Table 47: Model Summary

Nationality	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Moroccan	1	.554 ^a	.307	.303	1.60992
	2	.555 ^b	.308	.301	1.61217
American	1	.429 ^a	.184	.180	1.82666
	2	.455 ^b	.187	.189	1.80548

4.1.6.5.3 The moderating effect of uncertainty avoidance

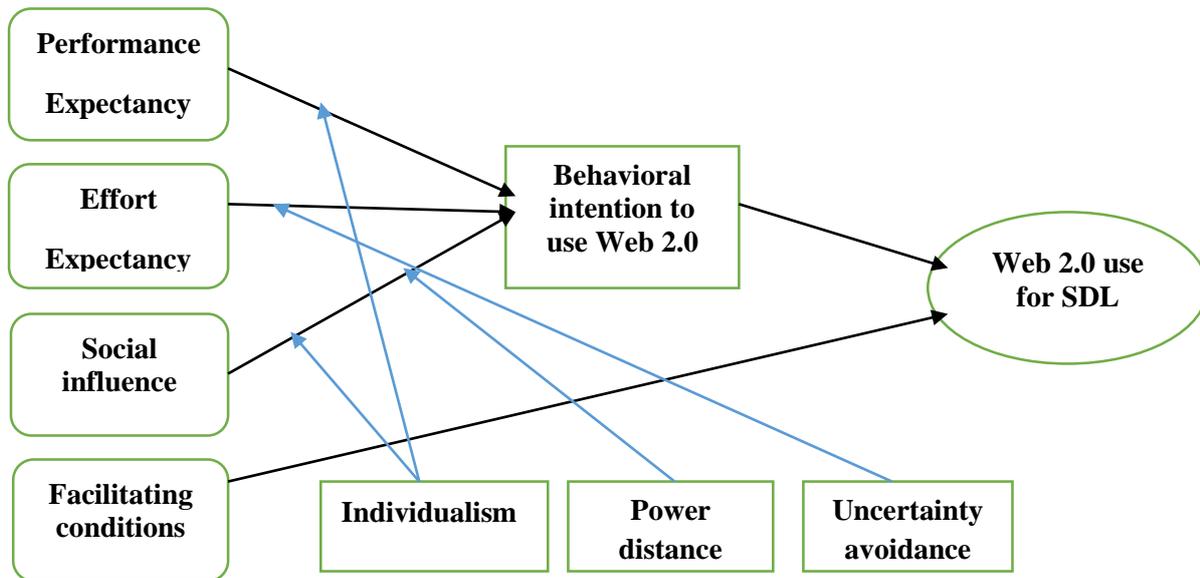
To test hypothesis 6 stating that the effect of effort expectancy on behavioral intention will be significantly moderated by uncertainty avoidance values such that it will be greater for Moroccan students than for their Moroccan counterparts, a linear regression model was used. In the first step, effort expectancy accounted for a significant amount of variance in behavioral intention with adjusted $R^2 = .151$, $\beta = .394$, $p < .001$ for the Moroccan respondents and $R^2 = .364$, $\beta = .604$, $p < .001$ for their American counterparts. This means that the free model was able to account for 15% of the variance for the Moroccan sample and 36% of the variance in the American sample. In the second step, uncertainty avoidance was added to the regression model. The results have shown that moderation has taken place for the Moroccan sample. Thus, both the main effect $\beta = .392$, $p < .001$ and the moderating effect of uncertainty avoidance $\beta = .168$, $p = .010$ are statistically significant. In addition, there was an R^2 increase from .15 to .17. This means that the predictive power of the model increased with 2% thanks to the moderating effect of UA. For the American sample, however, the effect of uncertainty avoidance was found to be statistically insignificant $\beta = .049$, $p = .336$ with no major change in R^2 and thus moderation has not taken place. These results partly confirm the above hypothesis stating that the relationship between effort expectancy and behavioral intention will be moderated by uncertainty avoidance. All these relationships, both those supported and unsupported, are summarized in figure 21 visualizing the studies conceptual framework.

Table 48: The moderating effect of uncertainty avoidance between EE and BI

Nationality	Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
			B	Std. Error	Beta		
Moroccan	1	(Constant)	6.777	.884		7.666	.000
		Effort expectancy	.336	.056	.394	6.031	.000
	2	(Constant)	4.300	1.290		3.334	.001
		EE	.334	.055	.392	6.088	.000
		UA	.138	.053	.168	2.606	.010
American	1	(Constant)	3.649	.896		4.073	.000
		EE	.556	.052	.606	10.725	.000
	2	(Constant)	3.067	1.119		2.740	.007
		EE	.553	.052	.603	10.647	.000
		UA	.036	.042	.049	.869	.386

Table 49: Model Summary

Nationality	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Moroccan	1	.394 ^a	.155	.151	1.77737
	2	.428 ^b	.183	.175	1.75195
American	1	.606 ^a	.367	.364	1.60815
	2	.608 ^b	.370	.363	1.60915



Moroccan sample

Direct relationships

- PE/BI $r = .493^{**}$ $p < .001$ supported
- EE/BI $r = .423^{**}$ $p < .001$ supported
- SI/BI $r = .499^{**}$ $p < .001$ supported
- FC/WUSDL $r = .465^{**}$ $p < .001$ supported
- BI/ WUSDL $r = .317^{**}$ $p < .001$ supported

Moderation

- PE/Indi/BI $Beta = -.056$, $p = .441$ unsupported
- SI/Indi/BI $Beta = -.091$, $p = .137$ unsupported
- SI/PD/BI $Beta = .040$, $p = .504$ unsupported
- EE/UA/BI $Beta = .168$, $p = .010$ supported

American sample

Direct relationships

- PE/BI $r = .508^{**}$ $p < .001$ supported
- EE/BI $r = .581^{**}$ $p < .001$ supported
- SI/BI $r = .394^{**}$ $p < .001$ supported
- FC/WUSDL $r = .448^{**}$ $p < .001$ supported
- BI/ WUSDL $r = .477^{**}$ $p < .001$ supported

Moderation

- PE/Indi/BI $Beta = .059$, $p = .392$ unsupported
- SI/Indi/BI $Beta = .292$, $p < .001$ supported
- SI/PD/BI $Beta = -.051$, $p = .118$ unsupported
- EE/UA/BI $Beta = .049$, $p = .386$ unsupported

Figure 21: The cross-cultural dimensions of web 2.0 acceptance and use

4.1.6 Web 2.0 application use patterns

4.1.6.1 Types of web 2.0 applications used and their use patterns

As pointed earlier, in addition to examining the determinant factors of web 2.0 acceptance, this study also aims at uncovering the type of web 2.0 technologies currently being used by Moroccan and American university for educational purposes and how they are used. The results (figure 22) have uncovered some major difference between the two groups in terms

of both the level of educational uptake of web 2.0 as well as some similarities in the type of technologies most and least used. Google was found to be the most commonly used web application among Moroccan students with 95.5% of the participants testifying using it for learning, followed by YouTube 86%, social networks 75% and emails 47%. The least commonly used applications among these students are Virtual worlds 3%, blogs 13% instant messaging 21%, university websites 33.5% and Wikis 35%. As is the case Moroccan students, the most commonly used applications among American student are Google 96.5%, however, followed by the university website 88.5%, emails 85.5% and YouTube 82.5%. The least used applications among these students are Virtual world 12%, instant messaging 18.5% and blogs 36.5%. Unlike the Moroccan sample, 79% of American students use Wikis for learning. It is worth noting that the implications of these differences, in terms of both the level of uptake and the technologies involved, and the reasons behind them are discussed in more depth in the chapter concerned with the discussion and interpretation of the findings.

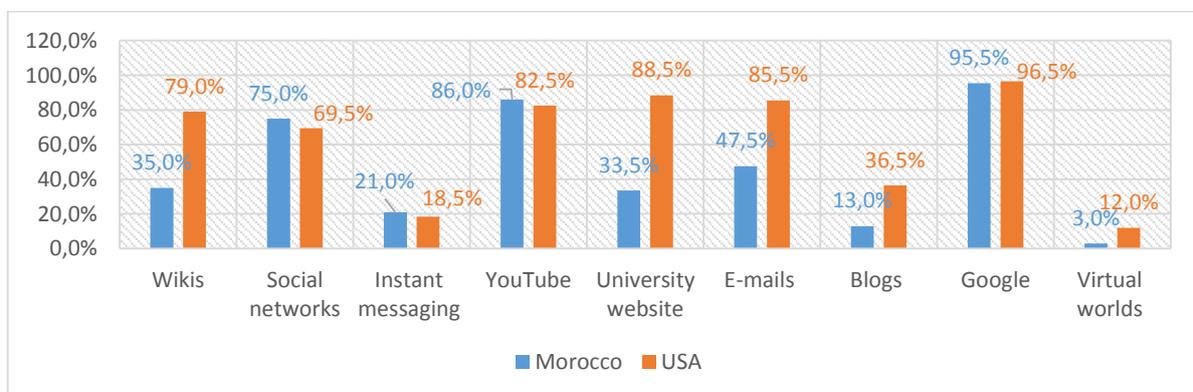


Figure 22: Web 2.0 applications currently being used for learning

Given the highly heralded educational potential of some Web 2.0 technologies namely social networks (e.g. Facebook) and microblogs (e.g. Twitter), audio and video sharing applications (e.g. YouTube), the participants were asked to report the ways in which they use them. More specifically, they were asked to indicate if they are currently using these applications only for learning, only for fun, for both or not using them at all. The findings

(summarized in table 50) have shown that these applications are being used for both educational and recreational activities. Thus, 46 % of the Moroccans and 59% of their American counterparts testified using Facebook for both learning and for fun whereas only 2.5% and 3.5 % of these respective groups use it only for learning while 43% and 31% of these students use it only for fun. Similar results were found in relation to YouTube use patterns. Thus, the majority of the Moroccan (68.5%) and American (78%) participants reported using YouTube for both learning and fun whereas only 13% and 7.5% of these respective groups reported using it only as an educational tool. The remaining 16% of the Moroccan and (14%) of the American participants use YouTube only as a recreational tool. With regard to Twitter use patterns, it was found that more than half of the Moroccan participants (57.5%) do not use it at all, 33.5% use it only for fun, 8 % use it for both while only 1% use it as an educational tool only. Unlike the Moroccan students, 38% of the American participants reported using Twitter for both learning and for fun whereas nearly half of the participants (47%) use it only for fun. In fact, only 2% of these students reported using it only as an educational platform. These results reflect a rather low rate of adoption of Twitter among Moroccan students compared to their American counterparts, who seem to have positive attitudes towards using Twitter for both recreational and educational purposes.

Table 50: Web 2.0 applications use patterns

	Moroccan students (n=200)		American students (n=200)	
	Facebook			
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
I use it only for learning	5	2.5	7	3.5
I use it only for fun	86	43.0	62	31.0
I use it for both	93	46.5	118	59.0
I don't use it at all	16	8.0	13	6.5
Total	200	100.0	200	100.0

	YouTube			
I use it only for learning	26	13.0	15	7.5
I use it only for fun	32	16.0	28	14.0
I use it for both	137	68.5	156	78.0
I don't use it at all	5	2.5	1	.5
Total	200	100.0	200	100.0
	Twitter			
I use it only for learning	2	1.0	4	2.0
I use it only for fun	67	33.5	95	47.5
I use it for both	16	8.0	77	38.5
I don't use it at all	115	57.5	24	12.0
Total	200	100.0	200	100.0

More interestingly, students were asked to further specify the activities (both educational and recreational) they engage in during their use of these tools. The results, graphically visualized in the graph below, have revealed some major differences in web 2.0 use patterns between the two groups. In fact, in addition to a lower rate of web 2.0 engagement among Moroccans, these students relatively fail to make use of the interactive and productive aspects of web 2.0 technologies. Thus, while 79.5% of American students access course websites, only 40% of Moroccan students do so. These students prefer to find out more about people (61%) compared to their American counterparts (44%). It was also revealed that 80% of American students use web 2.0 to communicate with classmates and teachers while only 60% of Moroccans use the web for this purpose. Moreover, nearly half of the American students surveyed use the web to post questions and participate in special interests groups while only 33% and 27% of Moroccan students engage in these respective activities. Additionally, 51.5% of American students reported using web 2.0 to share ideas and opinions while only 35% of Moroccan students use the web for this purpose. However, one notable similarity between the

groups is that the majority of the students in both samples indicated using web 2.0 sites mostly to conduct research and keep in touch with their friends.

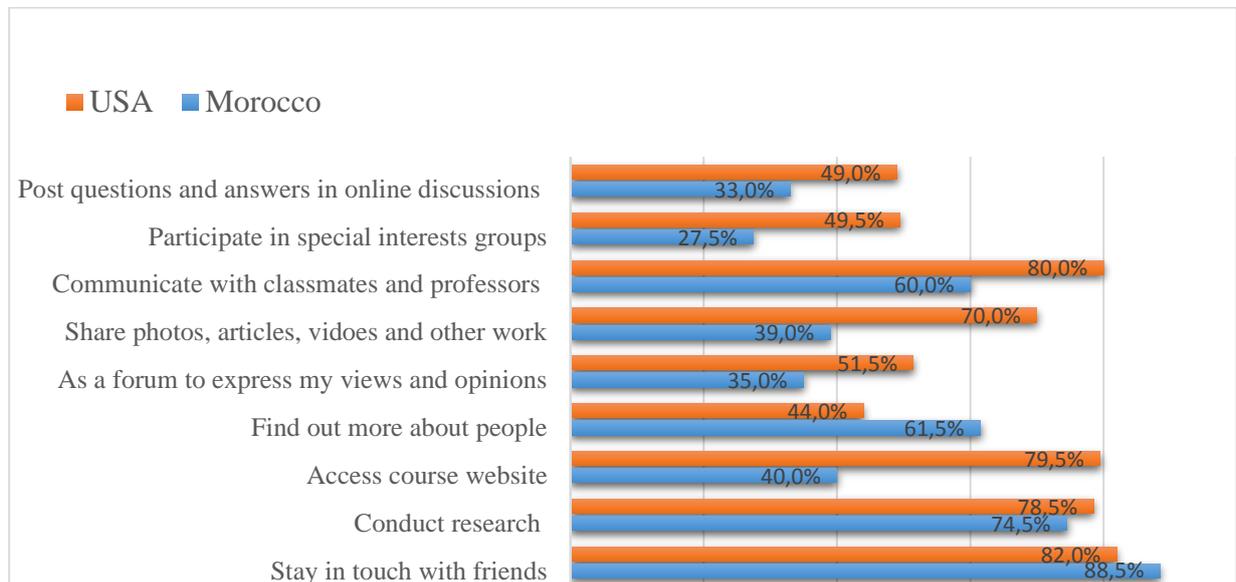


Figure 23: Students' web 2.0 use patterns

4.1.6.2 Contribution to web 2.0 sites

As was discussed earlier, students contributions and user generated content is seen as one of the most important outcomes of web 2.0. In fact, it was reported in a number of studies that the contribution to wikis has not only the potential to improve students' writing skills but also promote collaborative knowledge construction as students actively interact with one another to create content (Berg, 2010; Malhiwsky, 2010; Gaffar, Singh & Thomas, 2011). Indeed one of the questions required the participants to report if and how often they contribute content to Wikis, social networks, blogs and photo and video websites. With regard to students' frequency of contribution to Wikis, the results (figure 24) have shown a very low rate of contribution to these interactive sites among Moroccan students compared to their American counterpart. Thus, only 1% of Moroccan students contribute to wikis on a daily basis, 5.5 % several times a week, and 18% on a weekly basis whereas the majority of the Moroccan students, 63%, have never contributed any content to these sites. These results are highly

inconsistent with those reported by Sbihi, El Jazouli and El Kadiri (2009), who found that 40% of their participants contributed content to Wikipedia. Americans students, on the contrary, have relatively higher rates of contribution to wikis. Thus, 6.5% contribute content daily, 9.5% several times a week, 19% on a weekly basis, while 42.5 % have never contributed any content. These results can be attributed to students’ ignorance of the utility value and the highly promising educational potential of these interactive sites.

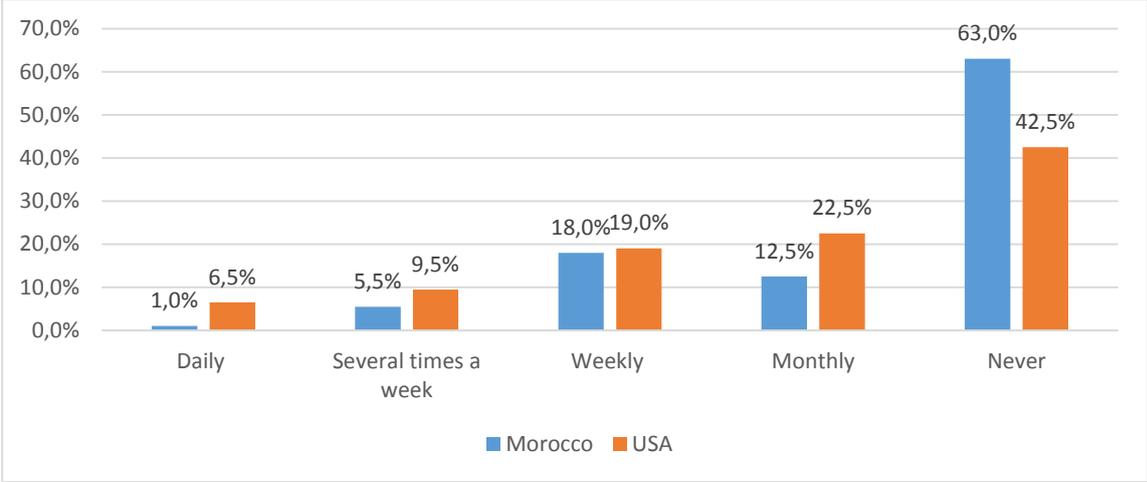


Figure 24: Students’ contribution to wikis

Unlike the case with Wikis, contribution rates to social networks were found to be higher among both groups, especially among Moroccan students. Thus, consistent with findings reported by Sbihi et al. (2009), 38.5% of the Moroccan respondents contribute content to social networks on a daily basis, 26.5 % several times a week, 15% contribute weekly while only 11.5% reported having never contributed any content to these sites. For the American sample, 22.5% of student contribute content to social networks on a daily basis, 27 % several times a week, 23% contribute on a weekly basis while 12.5% never contributed any content to these sites. This rather high uptake of social networks can be attributed to both their pervasiveness and popularity among university students and their user friendly sharing features.

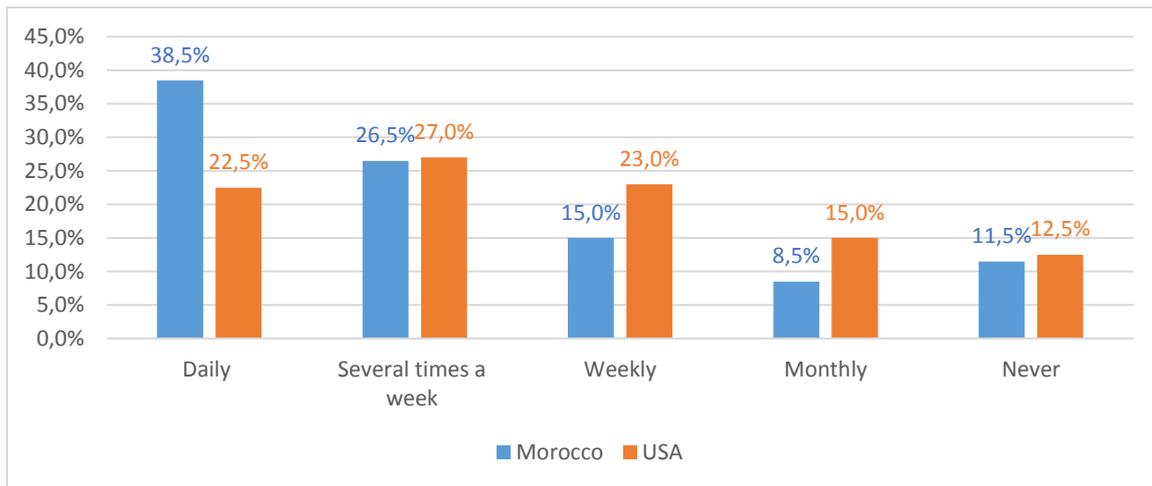


Figure 25: Students' contribution to social networks

Like wikis, blogs enjoy a very low rate of contribution for both samples, especially among Moroccan students. Thus, only 1 student (0.5 %) reported contributing content to blogs on a daily basis, 5.5% several times a week while the overwhelming majority (73.5%) of the Moroccan sample has never contributed any content to blogs. The frequency of contribution to these sites was slightly higher among American students. Thus, 4% contribute content to blogs on a daily basis, 21% weekly and 20 % contribute on a monthly basis whereas nearly half of the participants 49% have never contributed any content to blogs. These results can be attributed to the very low uptake of blogs for learning reported earlier for both samples. Thus, it was revealed that only 13% of Moroccan and 36.5% of their American counterparts use blogs used for educational purposes.

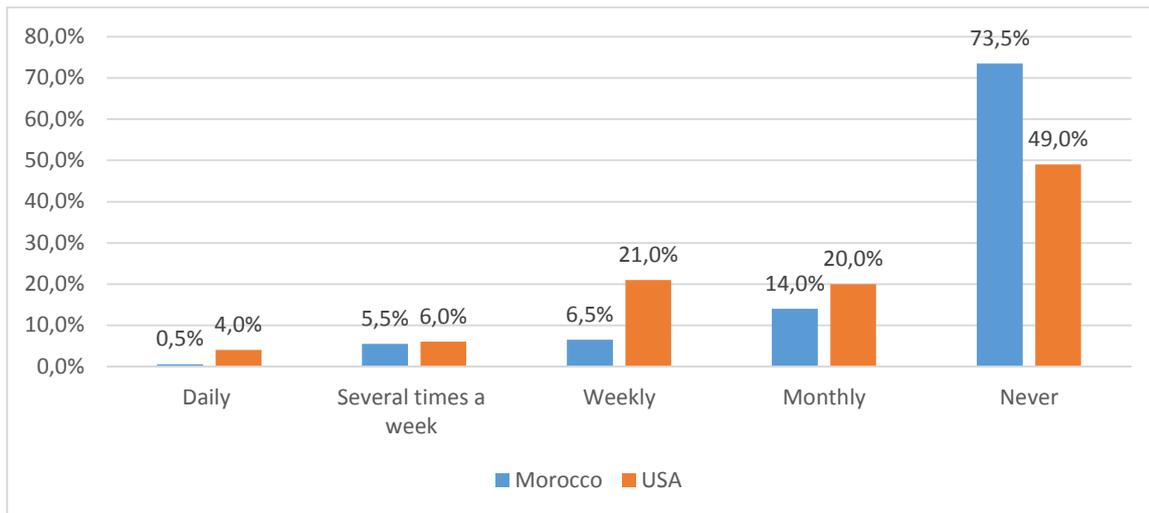


Figure 26: Students' contribution to blogs

The results from students' contribution to photo and video sites confirm the results already reported about students' tendency to use web 2.0 for recreational activities. Thus, the rates of contribution to these sites was high among both samples. With regard to the Moroccan sample, 10.5% of the students reported contributing content to these sites on a daily basis, 27% several times week while 19.5% reported contributing on a weekly basis. Somewhat similar results have been found in relation to the American participants. Thus, 14% of them contribute content daily, 34% several times a week, 22.5% on a weekly basis while only 16% never contributed any content. These results suggest that students tend to contribute photos and videos more than educational content.

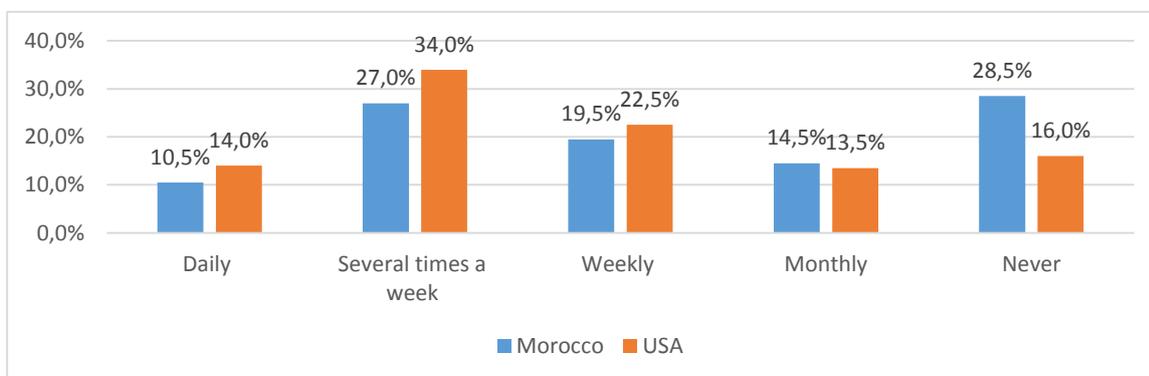


Figure 27: Students' contribution to photo and video sites

4.1.6.3 Students' expertise with web 2.0

As was discussed earlier in the literature review, serious concerns have been raised in relation to students' network literacy, especially the extent to which they can effectively manage online information. For a better understanding of this issue, the participants were asked to report their expertise in three domains related to their access and use of online material. More precisely, they were asked to rate their skill in using the internet to search for information, evaluating the credibility of online resources and understanding the ethical issues related to the use of online information. With regard to the first element, the data (figure 28) has shown that American students had more expertise in using the internet to effectively search for information compared to Moroccan students. Thus, only 7.5% of Moroccan students rated themselves as experts in effectively searching for information compared to 19.5% of their American counterparts. Moreover, 31.5% of Moroccan students rated themselves as very skilled, 37.5% as fairly skilled while 16.5% reported being completely unskilled. For the American sample, however, only 3% of the students surveyed rated themselves as unskilled whereas 39% and 31% testified that they are very skilled and fairly skilled, respectively. These findings suggest that Moroccan students still face some problems effectively searching for information online and hence more efforts are needed to address this problem.

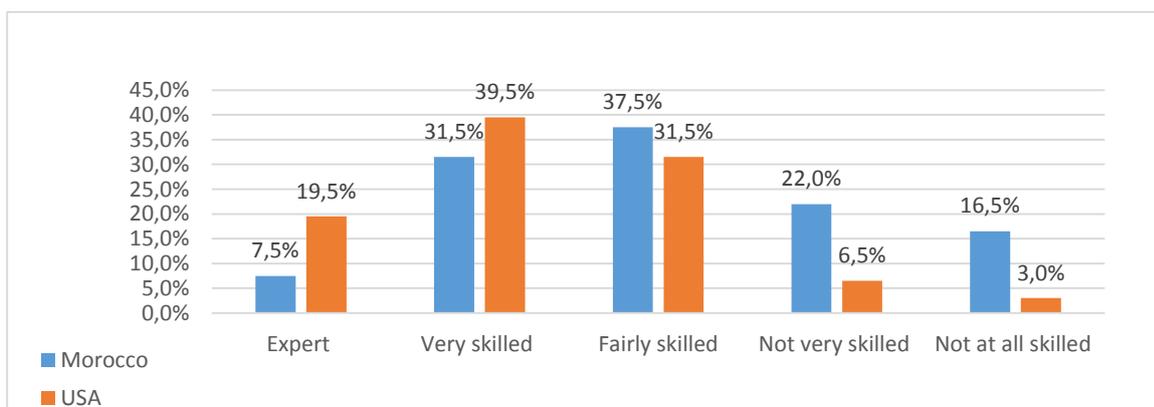


Figure 28: Using the internet to effectively search for information

Relatively similar results were found in relation to the second domain. Thus, only 9% of Moroccans think of themselves as experts in evaluating the credibility of online information, 37.5% indicated that they are very skilled, 30% rated themselves as fairly skilled while 22% reported being not very skilled. Unlike the Moroccan sample, 24% of the American sample rated themselves as experts in evaluating online sources while 40% and 31% indicated being very skilled and fairly skilled, respectively.

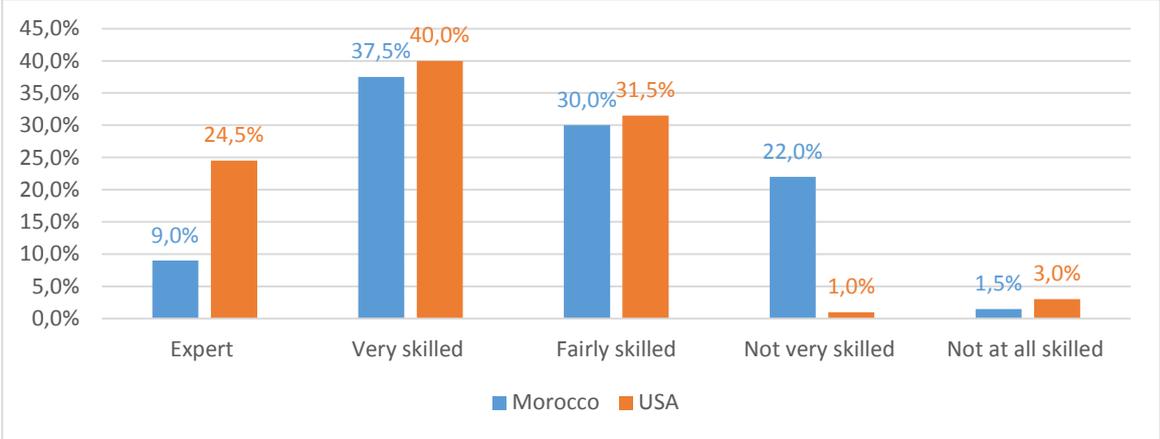


Figure 29: Evaluating the credibility of online information

In relation to the third and last domain, the results have revealed a large gap between Moroccan and American students at the level of understanding the ethical issues surrounding the use of online information. Thus, 20% of the Moroccan respondents indicated being unskilled in this respect compared to 1% of American students. In fact, only 7.5% of Moroccan students rated themselves as experts in this respect whereas 27.5% reported being very skilled. For the American sample, however, 17.5% reported being experts, 44% rated themselves as very skilled while 33.5 reported being fairly skilled in this respect.

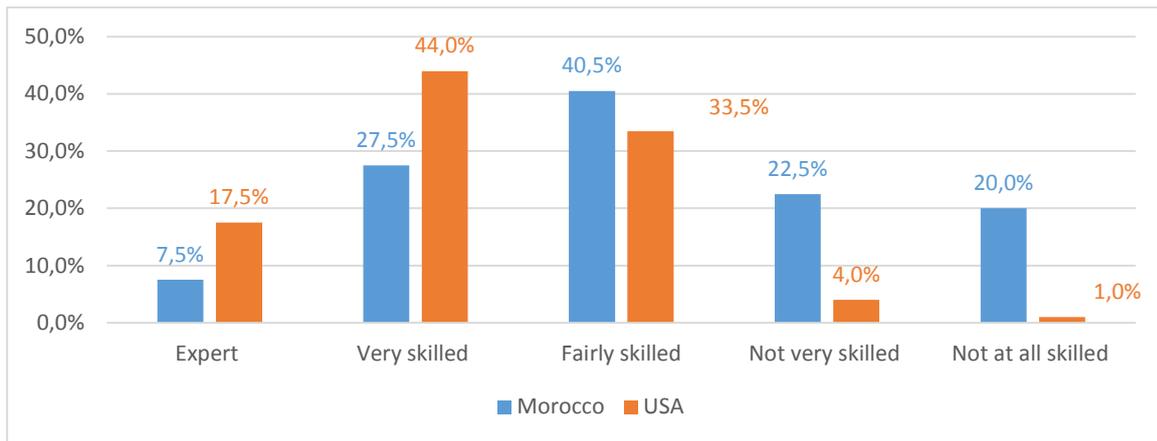


Figure 30: Understanding the ethical issues related to the use of online information

4.1.7 Examining the relationship between self-directed learning and web 2.0 use

4.1.7.1 Correlational analysis

As was stressed earlier, another important issue this study attempted to empirically address is the relationship between web 2.0 use and self-directed learning. For this aim, a Pearson r correlation test was used to examine the relationship between SDL readiness levels and their actual use of web 2.0 for SDL. The results have revealed a strong direct and statistically significant relationship between the two constructs for both samples, especially for the American group. For the Moroccan respondents, the correlation coefficient $r=.344^{**}$, $p<.001$ indicated a moderately strong relationship between SDLRS and students use of web 2.0. That is, when scores in SDLRS increase, the scores in students use of the web 2.0 for SDL increase as well. For the American sample, the SDLRS was found to have a substantial relationship with students' use of the web for SDL with an r of $.559^{**}$, $p<.001$.

Table 51 Examining the relationship between self-directed learning and web 2.0 use

Nationality		<i>Using the web for SDL</i>		
Pearson <i>r</i>	Moroccan	SDLRS	Correlation Coefficient	.344**
			Sig. (2-tailed)	.000
			N	200
	American	SDLRS	Correlation Coefficient	.559**
			Sig. (2-tailed)	.000
			N	200

5.1.7.2 Regression analysis

SDL readiness (predictor variable) was regressed against students' use of Web 2.0 for self-directed learning (dependent or outcome variables). The effect of SDLRS was significantly stronger ($\beta = 0.559, p < .001$) for American students than for their Moroccan counterparts ($\beta = 0.434, p < .001$). The model was able to explain (18%) $R^2 = .185$ of the variance in students' use of web 2.0 for self-directed learning for the Moroccan sample, while it was able to predict an $R^2 = .309$ (30%) of the variance for their American respondents. These results confirm the hypothesis which assumed that there will be a statistically significant correlation between self-directed learning readiness and web 2.0 use such that students with higher levels of SDL readiness would also have higher levels of web 2.0 use for educational purposes.

Table 52: Examining the effect of SDL readiness of students use of web 2.0

Nationality	Model		Unstandardized		Standardized	T	Sig.
			Coefficients		Coefficients		
			B	Std. Error	Beta		
Moroccan	1	(Constant)	5.263	1.375		3.827	.000
		SDLRS	.062	.009	.434	6.788	.000
American	1	(Constant)	3.339	1.285		2.598	.010
		SDLRS	.076	.008	.559	9.496	.000

Table 53: Model Summary

Nationality	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Moroccan	1	.434 ^a	.189	.185	2.17221
American	1	.559 ^a	.313	.309	1.99401

a. Predictors: (Constant), SDLRS

4.1.8 Summary of the findings

The quantitative phase of the data analysis has revealed some major findings. First, the results from the independent sample t-tests have shown that Moroccan and American university students have different levels of self-directed learning readiness, in that American students scored higher in all the three domains constituting SDL readiness than did their Moroccan counterparts who seem to have some problems with the self-management and self-control domains. Second, the data provides empirical support for Hofstede's multi-dimensional matrix which described the Moroccan and American cultures as divergent. Thus, the results from the Man Whitney U Test confirmed Hofstede's classification of the Moroccan culture as being collectivistic, large in power distance and high in uncertainty avoidance compared to the American culture, which was found to be more individualistic, small in power distance and more uncertainty accepting. Third, the results from the correlation and regression analyses have uncovered a strong and statistically significant relationship between students' individualism values and their actual SDL readiness and hence support both the relevance of Hofstede's dimension in the study of cross-cultural difference in this area and scholars' argument about the role culture plays in shaping it. Third, interestingly, the findings have not only further

validated the Unified Theory of Acceptance and Use of Technology (UTAUT) in the Moroccan and American higher education context, but also revealed that Moroccan and Americans differ significantly in their web 2.0 acceptance levels and use patterns. Thus, while performance, effort expectancy and behavioral intention were found to be strong predictors of technology acceptance for American students, social influence and facilitating conditions were the strongest predictor for their Moroccan counterparts. These findings align largely with previous research which has shown that the social context plays a major role in technology acceptance in collectivistic societies. Moreover, large differences both in terms of the level of uptake of educational technology, the types of applications involved and use patterns were found between the two samples. Thus, American students reported higher rates of engagement, use frequency and contribution to web 2.0 than did the Moroccan students. Regarding students' web 2.0 use patterns, it was found that American students tend to use web 2.0 for educational purposes more than do their Moroccan counterparts who use it more for social and recreational purposes. In fact, the data has shown that web 2.0 use for self-directed learning was higher among American university students. Fourth, a moderately strong and statistically significant relationship was identified between SDL readiness and students' use of web 2.0 in the sense that students who had higher levels of SDL readiness also had higher use of web 2.0 for learning. Finally, the data from this study also supports the relevance of Hofstede's cultural dimensions in the study of technology acceptance, especially the individualism/collectivism and uncertainty avoidance which were found to moderate the relationship between the UTAUT constructs.

4.2 Qualitative results

4.2.1 Introduction

Given the sequential triangulation design adopted in this study, this qualitative phase presents and analyzes the data from the focus group interviews conducted with two convenience samples of Moroccan and American university students. Like its previous quantitative counterpart, this chapter is structured into four major sections covering the different issues examined in this study. The first looks into students' self-directed learning readiness levels by probing more into the factors believed to influence their ability and willingness to self-direct their learning. The second section analyzes the data relevant to students' psycho-cultural values of individualism/collectivism, power distance and uncertainty avoidance and how they manifest in the educational sphere. The results pertaining to students' web 2.0 acceptance and use patterns are analyzed in the third section. The last section provides a summary of the major findings from the qualitative phase.

4.2.2 Self-directed learning readiness

The thematic analysis of the data pertaining to SDL readiness and the disposition associated with it yielded five major SDL related themes. These are namely: love of learning, initiative, choice, learning management, and self-assessment. These themes were analyzed in their respective order. Multiple supportive extracts from the data, capturing students' perspectives on these issues with their sub-themes, are provided.

4.2.2.1 Love of learning

As was reviewed earlier, love of learning is unanimously regarded as one of the defining factors of self-directed learning readiness (Candy 2004, Fisher et al., 2001). Building on this view, Moroccan and American students' desire for learning was put under qualitative investigation. In fact, consistent with the quantitative findings, the results from the focus group

discussions indicate that both Moroccan and American university students have a relatively strong desire to learn. Thus, for example, to describe their motivation to acquire new knowledge, the majority of the Moroccan interviewees used statements such as *“I’m motivated to learn”* (participant 3), *“I am very interested in what I study”* (participant 11) and *“I like learning new information”* (participant 19). Somewhat similar descriptive statements were put forward by their American counterparts: *“I’m so motivated to learn new things”* (participant 7), *“I love discovering new stuff”* (participant 15) and *“I enjoy learning new things”* (participant 25). These sample quotes show that both Moroccan and American students possess a good level of motivation and desire for learning.

Yet, when the researcher further probed into the actual motives behind students’ desire for learning, the arguments provided by Moroccan and American interviewees revealed some interesting findings. More specifically, when the Moroccan participants were asked to comment on what motivated them to learn, most of them mentioned instrumental drives relating mainly to academic success in general and doing well in examinations in particular. Participant 2, for example, pointed out that his desire for learning increases or decreases depending on the marks he gets: *“my desire for learning increases when I get good grades and “get[s] down” when I get bad ones”*. Another interviewee admitted that grades are a major motivator for her: *“if I get a lower mark I will not be motivated to work more, so, grades are always important for me”* (participant 14). This grade-oriented tendency, so to speak, was further emphasized by other students, precisely, when they were asked about their choice of the department of English. Participant 15, for example, acknowledged having based her choice on previous achievement in high school: *“I was good in English and had good marks in it more than [the] other subjects, so I chose it [English department]”*. Participant 2, in her turn, gave an example of how grades can be detrimental for her future academic plans: *“when we want to apply to a master program, they won’t ask you “to give” them the knowledge you have, but they will first look at your*

grades, then, they will ask you for the information” (participants 2). Moreover, some other participants reported having based their choice of English studies on the requirement of the job market. One of these argued that getting a BA degree in the department of English would offer him better chances to find a job: *“English now is the most important language in the world so if you master it and you have a diploma you can find a job ‘more easier’ [sic] (participant 27)”*.

On some occasions, however, a few Moroccan interviewees mentioned building personal competence and interest in the topic being studied as intrinsic motives behind their love of learning. Participant 21, for example, pointed that after graduation, only competence and skills acquired will matter: *“after we get our BAs there will be no grades...what will be left is knowledge and competence”* (participant 21). Participant 11, in his turn, explained how his interest in the content being studied acts as a driving force in his pursuit of learning: *“I enjoy learning things about many topics such as culture and analyzing novels and stories...I learnt many things that’s why I always want to learn more”*. A somewhat similar argument was advanced by participant 4 who highlighted the fact that his choice of the English department was based on his love for the subject per se: *“personally, I have chosen the English department because I love English and my desire to learn increases every time I learn something new”*.

When the American focus group participants were further inquired about what motivated them to learn, they emphasized, along with academic achievement, other factors which are relatively more intrinsic in nature. One of these students, for example, mentioned the ability to function in the real world: *“...grades are important and they help, but they are not the most important thing... if you are not competent and know what you are talking about, your grades worth nothing coz employers are more interested in what you can do”* (participant 6). Other students mentioned building competence and enjoying challenges. For example, as participant 5 puts it: *“I love learning and I want to be successful... I want to know I am talking about when I’m being interviewed for a job or something. I think there is some much to know*

so I always try to learn as much as I can". Participant 13, in his turn, indicated that his motivation to learn stems from both facing challenges and the satisfaction he gets from learning new things: *"I like to choose what I learn for myself and I enjoy challenges in learning. You know! When I find about things I didn't know before I feel some kind of self-satisfaction"*. Another interviewee noted that he enjoys learning because it is based on his personal choice: *"for the most part, I determine what I learn... there are things with the curriculum that I am more interested in than others, so, you know! I spend more time on the things I like best"* (participant 5). Conversely, like the majority of Moroccan interviewees, some Americans have also shown a grade-focused orientation towards learning. For example, as described by participant 13: *"grades are a great motivator for me, coz, you know, we have a very competitive educational system"*. A similar argument was stressed by participant 23 who noted: *"to be honest, I enjoy learning more when I know that I will get an A in the test"*.

Based on the arguments above, it can be said that both Moroccan and American students have a relatively strong desire for learning. However, their motivational factors, despite some overlapping justifications, differ substantially in the sense that Moroccan students highlighted more extrinsic and instrumental motives behind their desire for learning, while most of their American counterparts stressed drives that are somewhat of an intrinsic nature.

4.2.2.2 Initiative

Despite the importance of initiative in SDL, the findings indicate that nearly two thirds of the Moroccan interviewees underplay its role in their learning. Thus, it was found that only 11 students view initiative taking as a key aspect of learning. One of these students, for example, considers it as a pre-requisite for improvement: *"I usually try to improve my level of English so I usually look for new things for myself... you know, if you wait for others to tell you what to do, you will never improve"* (participant 12). Similarly, participant 13 noted: *"I believe in the English proverb that says 'nothing ventured nothing gained'... so I always try to apply it in my*

learning". A few other students view taking initiative as one of the major roles students must play in higher education. Participant 19, for instance, stated that *"taking initiatives in learning is very important because we are university students and we shouldn't wait for the teacher to give us everything"*. Another student reflected on her experience with self-initiated learning projects: *"I prefer to work on a project that is initiated by myself because I will feel more 'more' comfortable"* (participant 4). Likewise, participant 22 elaborated on his experience with initiative: *"it [taking initiative] has been really very helpful to me coz I learnt lots of things for myself, like grammar, phonetics and readings stories and novels in my free time and in summer... This helped me a lot in my studies"*.

The rest of the Moroccan interviewees (18 students) admitted having rarely initiated any projects on their own. These students provided various justifications for their reluctance to initiate learning. In fact, assessment and teachers methodology were often cited as major reasons as to why these students refrain from taking initiatives. In fact, from their responses, these students seem to be strongly overwhelmed with matching their teachers' tastes and expectations especially during examinations. For example, as noted by participant 23: *"suppose I take the initiative and learn things beyond what the teacher gave us how do I know if it is correct and if the teacher is going to accept it in the exam?"*. Another student blamed the assessment system in general and teachers in particular for encouraging memorization instead of originality and novelty: *"they [some teachers] don't care about creativity. I mean if you try to write something else or do something else which is your own, they will certainly reject it. I mean they are expecting their own stuff"* (participant 5). In addition, some other Moroccan participants have shown a rather pragmatic tendency towards taking initiative noting that they are ready to take initiatives if it is coupled with some kind of reward: *"it is a good idea to start learning the things you like but you have to make sure what you learn will be in the test and*

that the teacher will give you the mark you deserve for your effort” (participant 3). From this very perspective, participant 26 elaborated on her ‘interesting’ experience with initiative:

I still remember in my first year. I presented a presentation about how to be more diplomatic. I found it good because I understood lots of things that I didn’t know before. But at the end of the semester I got upset because I got a bad mark and I wasn’t expecting this mark. He said that my presentation was good. I was shocked to see that mark. I have not tried to do the same thing again. Now if the teacher asks me to do something, I will but to take the initiative! No. I will not do it again.

This argument, regardless of its legitimacy, reflects a rather grade-focused tendency towards learning in that the student, in spite of admitting having learnt a great deal from her self- initiated learning experience, decided to stop her endeavor because, she thinks, she was not compensated for her initiative and effort.

As was mentioned above, from their responses, the American interviewees seemed to have more positive attitudes towards initiative compared to their Moroccan counterparts. Thus, most of them described it as an integral part of any learning process. Participant 11, for example, considered taking initiatives in learning as a basic role of learners, noting that *“teachers are there just to show you the way. The rest of job is yours. So, if you don’t act on your own, then you are not moving and not learning anything”*. Likewise, participant 7 associated initiative taking with the level of learning: *“I believe students who never take risk never learn as much as those who do, especially now that information is everywhere”*. Participant 8, in her turn, argued that self-initiated projects allow her to combine learning with enjoyment: *“I love initiating project on my own. I learn a lot more from these than what I usually get from classes...when you start doing something you like you enjoy it and you learn more”*. Another student noted that initiative increases his self-confidence: *“Personally, I like doing things on*

my own coz I am pretty sure this will help me trust myself more and learn a lot quicker” (participant 5).

Some American students, however, admitted having rarely initiated any learning projects on their own. These students attributed this to some factors such as reading overload, time constraints and uncertainty. For example, as phrased by participant 26: *“ I have lots of things to read and assignments to do so I don’t think there is time to do other things that teachers didn’t ask for”* (participant 26). Participant 2, justified his reluctance by the uncertainty related feelings associated with taking initiatives: *“I prefer to wait for assignments coz, you know! They [teachers] know what’s best for us. If you start a project on your own, there is a big chance that you miss the point or learn something wrong, you see what I mean?”*

The sample quotes discussed above indicate that initiative taking and its role in learning is viewed differently by the two samples. Thus, unlike the majority of American students, who seem to value self-initiated projects, many of their Moroccan counterparts still maintain a rather passive role in learning as they tend to wait for the teacher to initiate learning.

4.2.2.3 Choice

The concept of choice as it relates to learning is considered by the proponents of the theory of andragogy as a defining characteristic of self-directed learners. Grow (1991), for example, defined SDL in terms of “the degree of choice that learners have within an instructional situation” (p.128). Likewise, long before Grow, Rogers (1961) once suggested that to be “self-directing means that one chooses—and then learns from the consequences” (p. 171). Building on these convictions, Moroccan and American students’ perceptions of choice making and the extent to which they make independent choices in their learning were put under scrutiny.

Regarding students’ perception of choice making, the results generally indicate that students from both groups relatively see choice as an important element in their learning. With

regard to the Moroccan group, many participants consider making independent choices as a key element in higher education. Participant 7, for example, sees the ability to make independent choices as a defining characteristic of university students: “*now we are at the university, so I think students should be able to choose things for themselves. If we can't, I don't think we deserve to be here*” [at the university]. Participant 21, in her turn, highlighted the importance of personal choice by associating it with the level of engagement and effort invested in learning: “*when you choose to learn something, it means that you like it and you are going to spend more time learning it... and you will not forget it easily*”. A somewhat similar point was put forward by participant 10 who noted: “*I learn more from the things I choose by myself... because when you choose for yourself, you make more effort to learn this thing*” (participant 10). In the same vein, participant 11 highlighted the value of making choices in terms increasing her involvement and interests in the readings:

Making choices is really helpful for me coz if I choose what I read by myself I will be more interested in it. But if others choose for me, I may not like what I read and I will not learn that much. ...but I think our professors don't take this into consideration (participant 11).

In spite of these positive attitudes shown by most Moroccan students vis-a-vi choice making, many of them admitted facing a great difficulty in making independent choices especially in terms of material selection. These students attributed this to the uneasiness associated with making the “right” choice. Students’ concern with the rightness of their choice, especially one that would match their teachers’ expectations, was emphasized by participant 3 who explained that “*the problem is not in choosing, it is in choosing the right things that the teacher will accept*”. In line with this argument, another student added: “*sometimes, I answer a question in class but my teacher sometimes are not [sic] happy with my answer, so I know that what I read by myself was not right for him*” (participant14). In fact, students’ need for their teachers to validate their choice of the readings was repeatedly stressed by other students.

Participant 11, for example, commented on his experience with choice making: *“to be frank with you, when I choose something to read by myself, I always show it to the teacher coz I need to get his opinion about it first because if I don’t, I will not be comfortable to write it in the exam”* (participant 5). Interestingly, participant 12 argued that he manages to find a compromise between his choice and his teachers’ expectations: *“for me, in addition to the readings given by the teacher, I sometimes choose other stuff to enrich my understanding but I try make sure that the teacher will like it”*. A few other Moroccan students, however, admitted having a general tendency towards avoiding making independent choices due to the uncertainty and the anxiety related feelings associated with it. This was, for example, highlighted by Participant 25 who stated that: *“well, making a choice is not an easy thing because there will always be some consequence after it”* (participant 25). Another student attributed his reluctance to the risk of failure associated with choice making: *“I think that the main reason why I don’t like to choose is fear of failure”* (participant 15). Participant 28, in her turn, admitted avoiding making independent choices because of insufficient knowledge: *“I don’t think we have enough knowledge to choose. We still don’t know what is right for us”*.

The data from the American sample, however, has shown- at least in theory- that majority of the participants have positive attitudes towards choice making. Thus, from their responses, most of them highlighted their ability and confidence in making independent choice as well as the benefits they got from making them. For example, as stated by participant 17: *“I like to be more independent in my choices than having teachers always tell me what to do”*. Likewise, participant 13 added: *“I prefer making decisions about my learning coz you kind of feel more responsible for them”*. Participant 11, in her turn, sees the freedom of choice as her own right: *“it is me who will who live with the consequences so deciding on what I wana do is my choice to make”*. Another participant noted that learning should be based on individual choice: *“deciding on what you wana learn is your personal choice. The professors are their*

only for guidance". Additionally, participant 16 pointed out that university students should be able to make independent choices based on their own needs: *"at this level, students should be able to choose for themselves based on their needs. You can ask the professors if you feel the need for it but not very often"*. Interestingly, and in line with these arguments, one of the students argued that the teachers' role should be limited to guidance and feedback rather than imposing their choices on students:

The teacher can set an object and let me get to it. How I get to it is my job only. He can check my progress once in a while but suppose he wants me to do A, B, C and D but I want to do C, D, B and then A. As long as I get it done, they shouldn't care how I get it done, (participant 17)

As mentioned above, many American students highlighted the benefits they got from making independent choices in their learning like finding their own ways, building their own perspectives of things and better involvement in the task being undertaken. For example, as described by participant 12: *"I like choosing things for myself. You kind of want to validate your understanding of an object whatever the thing might be"*. Another student mentioned involvement and interest in the readings as assets of independent choices: *"for me the vast majority of the things I do, I do on my own, coz you know I get involved more in the things like readings that interest me but I don't mind asking others for help on various things, though"* (participant 21). Similarly, participant 22 associated choice making with the level of motivation and commitment to do the readings: *"choosing things for my self keeps me motivated to learn. You know! ...When it is your choice you are kind of more committed to learn than when the thing is imposed on you, you see!"*

However, some other American participants argued that they sometimes lack the confidence to make independent decisions attributing this to insufficient knowledge about certain issues and or the risk associated with making wrong choices. Thus, as suggested by participant 15: *"at times, deciding about things can be very difficult especially when you don't*

have enough input. In this case, I just step back. It is better than making the wrong choice". In this respect, participant 22 added: *"making the right choice is not that easy. You have to check all the possible alternatives especially when it comes to things on which you will be assessed"*. A similar argument was advanced by participant 18 who admitted the following: *"I personally avoid making choices when I am not well informed about the consequences. You know sometimes you are wrong but you don't see it until it is too late"*.

Generally, the above arguments indicate that both Moroccan and American university students see choice as an important construct in learning. However, American students stressed their ability and confidence in making independent choices regarding various aspects of their learning, as well as the benefits they got from making these choices, more than did their Moroccan counterparts, who tend to be more concerned with matching teachers' tastes and opinions rather than building their own perspectives.

4.2.2.4 Learning management

Learning management, as was discussed earlier with Knowles (1980) and later with Fisher and his colleagues (2001), is an important element of self-directed learning. Thus, the ability to identify and appropriately use learning resources, be they human or material, and to effectively manage time is a defining characteristic of self-directed learners. In this study, the analysis of the data relevant to these issues has generally revealed some major differences in the way Moroccan and American students go about managing their learning.

Concerning time management, Moroccan students seem to be divided into three main groups: those who plan regularly, those who plan only during the examination periods and those who do not plan altogether. In fact, less than one third of the interviewees (9 participants) reported planning their learning on a daily basis, providing various reasons for doing so. One of them, for example, pointed that regular planning helps him deal with reading overload: *"I*

usually plan my learning, coz you know, we have many subjects and much stuff to learn. If you leave it to the end you will not have enough time to cover everything” (participant 20). Another student added that he plans his time on a daily basis as it helps him feel more comfortable and in control of her learning: *“every day I take one or two hours to revise what I have studied during the day. Sometimes when I don’t understand something in class I look for in the internet at night to feel more comfortable”* (participant 13). Participant 6 also stressed that she plans regularly but in her own way. As she puts it, *“me too, I plan but ‘not time’! I plan the subjects I will work on... I count how many things I will do in a day”*. Interestingly, the arguments provided by the second group of the interviewees (10 subjects), who acknowledged planning only during examination periods, further support the examination oriented tendency discussed earlier under the theme of desire for learning. For instance, one of the interviewees pointed that he plans only when he is under pressure: *“I plan when I have something important to do like a presentation”* (participant 7). Another participant added: *“for me, when I am under the pressure of exams or when there is something that I will be asked for, I plan”* (participant 26). Similarly, participant 19 highlighted the impact that assessment has on his time management abilities: *“the only thing that depresses me is the exam when it is close I become the most effective student in planning”*.

Unlike the first and the second groups, interviewees from the third group not only acknowledged their inability to manage their time, but also their moodiness in their learning. For example, as pointed out by participant 17, *“I don’t plan and I don’t like to stick to any plans because I don’t like to be restricted by something... I study when I like to study”*. A similar argument was mentioned by participant 6: *“I said that I don’t manage my time well. I don’t say that tomorrow I will study something... I leave it open and if I’m tired I will go to sleep”*. Another student argued that she tried planning her time but having frequently failed to stick to her plans made her stop planning: *“in the beginning I tried to plan but I never sticked [sic] to*

my plans so... I stopped planning at all (participant 2). Additionally, another participant attributed her inability to plan to some external forces such as family obligations: *“it is hard for me to plan and to ‘follow’ them especially at weekends because we have visitors, and you now! I should do something else. I mean you can’t let visitors alone”* (participant 10).

Unlike the two thirds of the Moroccan interviewees, who admitted either planning for exams or not planning at all, more than two thirds of their American counterparts (21 participants) emphasized their positive attitudes towards planning. One of them, for example, emphasized that regular planning helps him meet the assignments deadlines: *“managing time effectively is very important for me because, you know! I have lots of classes and must submit the assignments once they are due”* (participant 26). Another interviewee explained how her time management allows her to manage their tight schedules and to meet the deadlines: *“I tend to keep a tight schedule for my studies. “You know! Some courses are pretty demanding and require day to day planning”* (participant 9). Similarly, Participant 18 pointed that planning helps him control his learning: *“I prefer to plan because it helps me keep in control. Usually after class I have a couple of hours and that when I prepare myself to do the work. This had been so helpful so far”*. Moreover, another student pointed that planning helps him compensate for problems with his attention span: *“I don’t have a vast attention span so I like to plan everything I do”* (participant 10). Interestingly, another participant elaborated on how she goes about planning her time:

I usually plan my work by looking at the assignments I am supposed to submit and the time I have, and then I set my schedule. After having a general picture about what I am required to do, I break it down (assignment) down into steps and decide about the time each one is going to take, depending on the time I have, of course (participant 1).

The rest of the American interviewees showed similar attitudes to those of the second and third groups of Moroccan students, who admitted being rather disorganized when it comes

to time management. One of these, for example, admitted the following: *“honestly, I am not good in managing my time... I rarely keep a schedule and if I do I don't commit myself to it”* (participant 5). Another participant added: *“I tend to be a disorganized person... you know, I don't really like being constrained by a must do like thing... I study when I feel like studying”* (participant 16). Participant 4, in his turn, elaborated on his moodiness when it comes to time management: *“honestly, I don't plan my time like day to day. I know some friends who plan every second of their time and stick religiously to their schedule. I am not the kind of person. I prefer to learn things on my own way”*. Like many of Moroccan interviewees, participant 11 reported having a tendency to plan only under the pressure of exams or meeting deadlines: *“I do but, you know, not very often. I plan like when I have assignments to submit or exams. Yeah when I have exams I keep a very tight schedule”*.

As was mentioned earlier, identifying human and material resources is of paramount importance in the process of learning self-direction. Therefore, the interviewees were asked to describe and comment on their experiences regarding information seeking and management. Regarding the Moroccan sample, the data has shown that the majority of the interviewees tend to consider the teacher as the main credible source of educational resources. One of the participants, for example, noted that: *“we don't have to look for books because the teachers give us all what we need”* (participant 8). Similarly, participant 21 believes that the material provided by the teacher is beyond sufficient: *“for me, I rely on the readings given by the teacher. I think that they are more than enough”*. Participant 14, in her turn, reported relying solely on the material provided by the teacher noting that the library does not provide sufficient resources: *“our teachers provide us with a copy of the books and sometimes just titles of books and we look for them in the library but the problem is that we don't find them in there”*. Other students, however, pointed that, in addition to the teachers' material, they tend to seek

information online. Thus, as stated by participant 3, *“for me the only source of information after the teacher is Internet but we have a problem with accessing credible websites”*.

As was mentioned earlier under the theme of love of learning, the examination-focused tendency shown by many Moroccan students seems to negatively influence the way they go about learning. Thus, most of the interviewees indicated that they limit themselves to the material provided by the teachers and hence rarely further their readings. As a case in point, participant 11 noted that: *“well, we read just the books and the handouts that the teachers give us and we try ‘to eat’ them to get a good grade”*. A similar argument was stressed by participant 10: *“I have to get a good mark at the end of the day, so, I just focus on what the teachers say”*. Another student straightforwardly admitted that his peers’ main concern is grades and doing well in exams rather than what they actually learn: *‘to be frank, most of us study only for good marks. When we discuss things in groups, my classmates keep asking if this [the content being discussed] will be in the exam. If the answer is probably not, they just don’t care about it even if it is important’* (participant 1). In the same vein, another student argued that optional or ungraded assignments are neglected by students: *“if the assignment is not going to be counted in the exam, the majority of the students don’t do them”* (participant 22).

Interestingly, some of the interviewees justified this grade-oriented tendency by blaming the assessment system in general and teachers in particular for encouraging rote learning by requiring students to “give” them back what was taught in class. One of the interviewees, for example, wondered: *“what will be the result if I write something that the teacher did not say in class or doesn’t agree with? He can give me a bad mark”* (participant 9). Similarly, another student described his experience with this kind of assessment as he stated: *“I get better marks when I give the teacher back what he taught us than when I write something I got from personal effort and research”* (participant 7). What is more is that some other Moroccan students complained about the number of readings they have to do. For example, as

was phrased by participant 29: *“some teachers give us lots of books but we ask them to tell us if they will be all in the exam, if not we don’t read them”*. In the same vein, Participant 25 admitted that he and his classmates tend to divide tasks among themselves to reduce reading overload: *“each one of us will summarize a part and then we share our notes. Other point that they rely on some websites to get summaries of novels instead of reading the entire book”*. Conversely, some other Moroccan students appeared to be more proactive in their learning. For example, as described by participant 2:

I always summarize all the books and articles given to us by professors in advance. This helped me to follow with the teacher while he explains [sic]. This keeps me always ... [ahead of] other students who haven’t read all the book. I know what the professor expects when he asks questions so I always give good answers.

Unlike most of the Moroccan interviewees, who tend to limit themselves to the material provided by the teacher, their American counterparts seem to be divided in this respect. Thus, some of them consider the teacher as the main content provider while others emphasized their tendency to further their readings and go beyond what is provided by their teachers. With regard to the first group, one of the students stated that *“our professors always give us the readings we are supposed to do... usually with supplementary readings and a detailed course description”* (participant 9). Participant 3 added: *“yeah, professors do that in the beginning of the semester. They give us a list of references that everybody must have right from the outset”*. A similar argument was given by participant 15 who affirmed that: *“we [students] get all that stuff [readings] in the first meeting with the professors... We also get a list of the assignments”*. Conversely, students from the second group have stressed their confidence and ability to identify credible sources of information. One of these, for example, commented: *“I believe I can find information for myself I know which sources are credible and which are not”* (participant 8). Likewise, participant 27 reported: *“I had a course about this [how to find*

credible information] and it has enhanced my ability to find information quickly and easily. Now, I know where to look for information and how to retrieve it and organize it like in a good report". Moreover, participant 9 explained that he tends to expand his readings: "I check the sources given by the teacher but I definitely look for external resources for myself. This helps get different perspectives on the thing". A similar argument was put forward by participant 6: "I get the resources from the teacher, but there is definitely some external sources I might look at. Things that I have decided to look for myself". This tendency to further one's readings was emphasized by another student who summarized her point as follows:

If I have lot of time to do further readings, I check multiple sources and will look it over and consider different options. But if it is kind of last minute, I limit myself to the readings required...I get mad when my classmates discuss things in class that I know nothing about. So. I always try to make sure I know enough about the topic of the lecture (participant 26).

According to the students' accounts described above, it can be said that, Moroccan and Americans students, despite some overlapping arguments, differ substantially in their management of learning. Thus, noticeable differences were identified in various levels between the two groups especially in terms of time management perceived value, material selection and expansion of readings.

4.2.2.5 Self-assessment

As we have seen, particularly with Knowles' (1980) definition of SDL, self-assessment is commonly regarded as another vital component of SDL readiness and lifelong learning in general. Self-assessment, from this perspective, rests on the assumption that learners are willing and have the ability to make informed, conscious and ongoing judgments about their learning progress. This, in turn, also implies that they are aware of their target learning goals and expected outcomes. Capitalizing on the relevance of this construct to the aims of this study,

Moroccan and American students' perceptions of self- assessment, actual engagement and assessment patterns were put under qualitative scrutiny.

Generally, the results have revealed some major differences between Moroccan and American students especially at the level of self-assessment perceived value, level of actual assessment endeavors and patterns. In fact, one of the major findings from this study is that nearly one third of the Moroccan interviewees reported rarely self-assessing their performance prior to the final summative evaluation. Some of these students explained that they lack the mechanisms and confidence to self-assess themselves. For example, as participant 18 noted: *“for me, I do my best during the preparation but I can't know if what I am learning is right or wrong. It is up to the teachers to evaluate what I wrote. I can't know better than them”*. Similarly, another student added: *“I don't know how to evaluate my learning before exams. I always wait for the teachers' evaluation”* (participant 28). Seemingly, as can be understood from their responses, these students need somebody who is more knowledgeable to assess their work. Thus, as participant 9 admitted: *“I don't have the skills to evaluate myself ... Sometimes I think that I answered correctly but I get surprised by a bad mark and other times I expect a bad mark and I get a good one”* (participant 9).

With regard to self-assessment patterns, the rest of the Moroccan interviewees, who tend to self-assess themselves, mentioned five patterns namely writing essays on potential exam questions, mock exams, participation in class and peer evaluation. Yet, these students seem to prefer mock exams as they enable them to make important adjustments to their learning progress before the final graded evaluation. A selection of these patterns is provided below:

I usually try to evaluate myself coz I need to know if I am learning something or not. I choose questions that the teacher may give us in the exam and write essays on them. I always set the time for 1 hour or 1 hours and half and start writing. If I don't like what I wrote, I know that I need more work (participant 3).

We only had one mock exam this semester, if we had more, it will be better. Mock exams are a good idea coz you have an idea about [sic] how the exam will be like. It helps us to self-evaluate coz it tells us a lot about the professor's expectations (participant 8).

Mock exams are beneficial for us in terms of exams. I mean even if the teacher doesn't give us such exams, we will ask him what type of questions we will have in the exam. In the beginning, we ask the teacher if this is going to be in the exam or not (participant 19).

Participation in class, as a way of self-evaluation, was mentioned by a few participants, who admitted waiting for the teacher to confirm or refute the validity of their response. A particular example of this was given by participant 14 reported: *"I would participate in class to know if I have what the teacher is expecting. That's how I personally evaluate myself"*. Another student indicated that he self-assesses himself through the teacher's feedback on his answers: *"I always try to answer the teacher's questions in class. This helps to check if what I have in mind is right or wrong"* (participant 9). A few other participants pointed out that they rely on their peers' feedback to check their progress. For instance, this was reported by participant 7 who stated *"I don't evaluate myself I let my peers do that for me and usually if they are better, they will tell you where you are wrong. And this is how you know where you need more effort"*. A similar argument was put forward by participant 26: *"I evaluate myself through discussions with my classmates. If I know better than them, then, I know that I am doing well. If they know more than me, I know that I am not prepared and that I have to study more"*.

With regard to the American group, from their responses, the American interviewees seem to give more importance to self-assessment than do their Moroccan counterparts as most of them reported self-assessing themselves on a regular basis. For instance, as reported argued by participant 27: *"I tend to evaluate myself regularly. I mean after every performance. I always try to improve the ways I do things. I also usually pre-study so I know what I know and what I don't"*. Another student noted that he self-evaluates himself against some pre-defined criteria:

“I have my objectives and dreams so I tend to always check my progress against what is needed to get there” (participant 14). Participant 3 sees self-assessment as a pre-requisite for improvement: *“If you don’t evaluate yourself, nobody will. You kind of need to know what your weaknesses are and work on them if you want to improve”*. Another participant described how self-assessment helps her in control of her learning especially in terms of updating her knowledge: *“I believe that there are always better ways for doing things. So, I like to keep evaluating myself and updating my knowledge. If I don’t, I will be left behind”*. Furthermore, other students highlighted the role self-assessment plays in helping them remedy to potential problems. In this respect, participant 19 explained: *“when I get my grades I try to seek the problems which made my mark lower and I try to find the problem”*. A somewhat similar argument was advanced by participant 27: *“I get feedback from my professors but I definitely look for other ways to evaluate myself. I try to outdo my peers. So, if someone like got A and I got a B I get mad and try to understand why was it so”*.

Concerning self-assessment patterns, American students mentioned participation in class, asking questions, take-away assignments, peer reviewing and exchanging notes as the most frequently used ways of checking their progress.

I and my friends always exchange our notes. We write reviews of course content and we kind of circulate them among us to get feedback on our work. This helps a lot coz you get feedback on your work and also get what others have understood that you probably have missed (participant 6).

Our professors require us to do the readings prior to their classes, so I usually participate in class to check my understanding of the readings. It kind of helps a lot coz you compare your answers to those of others in your class and also get the teacher’s feedback (participant 25).

I like to do the readings and then take part in class discussions to compare my understanding with those of my colleagues and also against the teachers' expectations. You know! This helps me understand the thing a lot better (participant 11).

Well. I am a very forgetful girl, so for me the best way to self-assess is through writing. When I have time, I write reviews and reports of the things covered without going back to my notes. This gives me an idea if I have grasped the thing or not (participant 3).

There are some professors who require us to submit reading reports before every single class and they are usually scored but this doesn't affect your final grade. I think it is a good idea coz you kind of find your weakness and problems and solve them before the finals. So it helps a lot in the process of preparation (participant 23).

Personally, if I want to assess myself I ask professor questions and I compare their answers to mine and then judge if I got the point. If there is a big mismatch, then I realize I need to put more effort into it (participant 4).

Interestingly, the data has revealed that American interviewees seem to value peer evaluation more than do their Moroccan counterparts. Thus, many of them highlighted the importance of peer evaluation as it allows them get feedback from people who are more or less on the same level and whom they can ask for clarification at any time. As clearly stated in the extracts below, these students find peer discussions of course related content not only useful but also enjoyable:

I like to get feedback from friends and classmates about my performance. When a classmate draws your attention to something or corrects you, you kind of accept it because you feel that it is right... I think your peers are in a better position to validate your understanding of the issue coz you are kind of on the same boat (participant 19).

I prefer my peers' evaluation coz we have the same goals and concerns. It helps a lot to get what everybody think about your performance coz you know two minds are always better than one especially if they are brainy students (participant 16).

...Yeah my friends help a lot with evaluating myself. If they say you are you are wrong or right, you can still always ask clarifying questions. I am very much open to their remarks coz you kind of find them always pertinent (participant 4).

From a broader perspective, and based on what has been discussed above, it can be concluded that Moroccan and American students differ in the ways they perceive and engage in self-assessment. Thus, nearly one third of the Moroccan interviewees admitted lacking the confidence and the necessary knowledge to self-assess themselves. This can also be seen in their assessment patterns which always involve the teacher. As will be discussed in the next chapter, this may be attributed to the pedagogical approaches prevailing in high school where the teacher is the sole responsible for assessing students' performance. American students, on the contrary, seem to have more positive attitudes towards formative assessment as they seek various ways to self-assess themselves.

In sum, and based on what has been discussed so far, it can be said that Moroccan and American students differ substantially in their possession of the attributes associated with self-directed learning readiness such as learning management, level of initiative taking, independent choice, motivational factors and self-assessment perceived value and level of engagement. In fact, while the ability to self-direct one's learning entails that students are able to self-manage various aspects of their learning, many interviewees, especially in the Moroccan group, seem to have some problems with one or more of the above SDL attributes.

4.2.3 Exploring students' psycho-cultural values

This section reports the findings relevant to students' psycho-cultural values of individualism, power distance and uncertainty avoidance as they manifest in the educational context. In fact, unlike the previous section in which the data for each group was analyzed sequentially, the dichotomous nature of the findings in this section made it possible for a concurrent comparison of the two groups.

4.2.3.1 Individualism and collectivism

As was extensively reviewed earlier, the Moroccan and American cultures have been described by Hofstede as being dichotomous in their respective collectivistic/ individualistic cultural orientations. While this view was supported by the quantitative findings, this section puts these results into further qualitative scrutiny.

Generally, the results from the focus group interviews seem to align with Hofstede's description of Moroccans and Americans as being collectivists and individualists, respectively. Thus, most of the Moroccan interviewees exhibited collectivistic traits such as modesty, harmony, indirectness and notable concern for relationships. In relation to modesty, many interviewees pointed that they tend to avoid being at the center of attention. This was, for example, stressed by participant 9: *"I don't like to be the center of attention... I prefer to be a normal person like everybody else... I feel more comfortable"*. Likewise, participant 11 described how he prefers conformity and shuns differentiation: *"I don't like to be different from others. All my friends are modest and I like to be like them"*. In line with these arguments, participant 17 added: *"I don't like to be different from others because being like that will put a lot of pressure on you"*. The importance of modesty was also stressed by participant 7 who argued that expressing uniqueness in the Moroccan cultural context may bring about disrespect: *"you know we are Moroccan, I mean if you try to show that you are special or different from others, people will look at you in a bad way and will not respect you, I guess"*. Moreover, in

relation to harmony and indirectness, many students have shown a great concern for preserving relationship and hence prefer indirectness in managing conflicts. For example, as participant 6 puts it: *“when something happens between me and my friends, I prefer not to confront him coz if I do may be our relationship will be over”*. A similar idea was advanced by participant 15: *“if I have a problem with someone, especially a friend or family member, I prefer to show it indirectly or tell someone else to tell him or her”*. Participant 4, in her turn, stressed her concern for preserving relationships: *“I personally try to forget coz if you keep telling others what they have done to you every time, you lose them all”*.

Interestingly, a few other Moroccan participants have exhibited some rather individualistic orientations, which supports Triandis’ (2001) argument that not everyone in a collectivistic culture is collectivist nor does it mean that everyone in an individualistic culture is an individualist. Thus, one of the participants, for example, reported enjoying standing out: *“I like to be pointed at and people say that’s an example to be followed”* (participant 26). Another interviewee admitted that she likes to show her uniqueness despite others’ opinion: *“I want to be myself in the way I walk, the way I dress. I don’t care about what other will say about me. I used to hear a lot from others, but that’s ok! you are strange, but strange for you! But for me, it is all right”* (participant 14). This attitude was also emphasized by participant 1 who noted: *“I want to be unique because there are many people who look like each other. I don’t want to be one of those people who don’t have something special. I believe that everyone has something special but people are afraid to express it”*. Likewise, participant 15 admitted the following: *“I prefer to be unique in my own way like being leader of a group. I don’t think we should imitate others. If you want to be a leader I don’t think you should follow others”*.

Another collectivistic tendency shown by many Moroccan students is interdependence in its various manifestations. One of these relates the value given to the opinions of others, especially when important decisions are being made. For example, as pointed out by participant

9: *“I take my family into consideration when I make decision about myself because my success and failure will influence them, too”*. Participant 26 described how his father influenced his choice of the department of English: *“my father influenced my decision. He convinced me to choose the department of English because he wants me to be a teacher of English like him”* (participant 26). Another interviewee mentioned family as a driving force in her learning: *“I study very hard because, you know, I want to prove to my family that I am a good student and that they can count on me especially my father who always complains”* (participant 21). Another way in which interdependence manifests itself lies in the importance given to others advice. Participant 9, for example highlighted her need for others’ advice: *“I always seek advice from others coz I need their opinions before I take any decisions, especially if they are important”*. Interestingly, another student explained: *“of course, I care about others opinion. I mean we have this in our religion... The prophet PBUH says /ma-xa:ba man ista[a;r/ [he who consults people never fails]”* (participant 17). Additionally, other interviewees have admitted their tendency towards relying on others. Participant 7, for example, stated: *“I rely a little bit on myself and I rely on my sister a lot. She is in her 2nd year masters”*. Participant 3, in his turn, reported relying on both himself and on others depending on the situation: *“I rely on myself first but I also rely on people if I need I need them”*.

In contrast to the above collectivistic traits shown by the majority of the Moroccan students, most of their American counterparts exhibited more individualistic tendencies like expressing uniqueness, differentiation and stressing personal goals and achievement. One of the interviewees, for example, asserted: *“I certainly like to maintain my uniqueness... I enjoy standing out a bit”* (participant 2). Another student argued that he strives to maintain his uniqueness: *“of course it is very important for me to maintain my difference from others. I don’t think anyone wants to be like anybody else”* (participant 14). Similarly, participant 6 described his tendency towards standing out: *“I like to be distinguished but I try not to overdo it”*.

Participant 5 also admitted enjoying taking the lead: *“I like to do my own things no matter what... I always go my own direction and enjoy taking the lead”*. In the same vein, participant 22 described argued: *“I like to do things my way and to be different but I don’t like to broadcast the different if you see what I mean”*.

As was mentioned above, many American students highlighted how their learning is based primarily on their personal goals. This was, for example, stressed by participant 15: *“If I like to learn something, then I will, I if I don’t then I won’t. If it is not crucial for me and what I wana do, then I am not gona learn it. I wana be blue so am not gona learn about green, yellow or orange”*. Another student described how he has followed his own personal goals: *“for me my learning is based on myself. If I followed my family I would have done business not an education major. I know that’s the safest thing to do but I wanted to be happy, so I followed my choice”* (participant 21). Unlike their Moroccan counterparts, the results have also shown that American students tend to be more competitive and pay a little attention to others and rarely take their opinions into consideration while making decisions about their future. For example, as one of the students noted: *“all I do is my decision only...My parents want me to be successful and everything but ultimately what I want to do is my decision”* (participant 8). A similar argument was voiced out by participant 4 who pointed out: *“I would do what I wanted to do even though my family doesn’t agree with it coz you know it is my life”*. Participant 19 associated his happiness with choosing his goals rather than those of his family: *“I wana be happy so I will pick mine”*. Similarly, participant 5 asserted that regardless of everything he will prioritize his goals stating that *“I would definitely do what I want to do, no matter what”*. However, some other students admitted taking their families into account when making decision about their future. For example, participant 11 noted: *“I would do what my parents wanted me to do especially if they are dead serious”*.

Moreover, as was mentioned above, the data has also revealed that American students tend to be more competitive and achievement oriented. Thus, one of the participants argued that he strives to outperform his peers: “*It is natural to try to outdo your peers personally try to outdo other people*” (participant 8). Another interviewee shared the same idea as he pointed: “*I try to give my best but I know my limitations. It bothers me a lot when I get like a B and somebody next to me gets an A*” (participant 15). Similarly, participant 14 added: “*I definitely want to be a leader when I can but I don’t want to be at the center of attention at all times... I don’t like the feeling that I am not the best and below other people*”.

Based on their responses, American interviewees appeared to have more positive attitudes towards independence and self-reliance. Thus, most of the participants emphasized that they rely first and foremost on themselves. Participant 9, for example, noted: “*for me, the vast majority of the things I do, I do on my own, but I don’t mind asking other for help*”. Another student sees education as an individual endeavor: “*I believe you can go to people when you need them, but other than that, I believe my education is individual*” (participant 17). A similar argument was advanced by participant 20: “*I strive to do my work as much as I can but I’m not afraid to reach out for help, though*”. Another interviewee indicated that he enjoys assuming responsibility for his learning: “*I don’t need special attention from others. When in a group, I like to take charge of everything and I like to assume responsibility for everything*” (participant 17). Similarly, another student added: “*I like to study by myself I am very independent in that way...my learning is based on myself. I try to figure it out by myself but if I can’t then I go to my professor*”. Additionally, participant 10 highlighted the role of self-reliance in improving her financial situation: “*I try to achieve thing for myself. I see the struggles of my family, like financially, so I want surpass it and I wana make sure that I’m financially stable*”. Interestingly, participant 6 described an ideal learner as someone who is independent and self-reliant:

For me an ideal learner is someone who relies on himself coz you are not gona always have that teacher in your career. Your boss will not always hold your hand the entire time. I think you should be relying on yourself and if you need the teacher as a tool, you can use them but for the most part it's you.

The arguments discussed above largely support both the quantitative findings and Hofstede's classification of Moroccan and Americans as collectivists and individualists, respectively. Thus, while the traits shown by Moroccan students, such as modesty, indirectness and interdependence, are congruent with those shown by collectivistic cultures, those shown by American students are consistent with the cultural traits characterizing individualistic cultures. These, as we have seen, include traits such as uniqueness, differentiation, independence.

4.2.3.2 Power distance

As was discussed in the review of the literature, the nature of the relationship between the teacher and the student is one of the areas in which power distance manifests clearly. This section presents the data relevant to the different manifestations of power distance values in the educational sphere among Moroccan and American university students.

Generally, the results from focus groups have shown that Moroccan students tend to pay more attention to power relations compared to their American counterparts. More specifically, from their responses, Moroccan students seem to give prime importance to maintaining that sort of hierarchy between themselves and their teachers. For example, when students were asked if they want to be consulted about issues related to the syllabus, most of them noted that it is the teacher's job to decide on such issues. One of the interviewees, for example, replied: *"I would say no because it is the teacher's job... We are learners we can't choose that. I think we complain about the way they teach us not what they teach us"* (participant 9). Similarly, participant 20 added that students' role should be limited to learning

what the teachers provide them: *“I don’t think that we can have a say in such matters because we are just students and our job is to learn what the teachers give us”* (participant 20). A similar argument was advanced by another participant stating that: *“I don’t think teachers should ask students about this [syllabus] because there are many students who are not serious and who don’t know what is good and bad”* (participant 16).

Conversely, a few other Moroccan students noted that consulting students on course related issues will increase their motivation and interest in the course. From this perspective, participant 22 argued that: *“I think it is a good idea for the teacher to ask us about what we want to learn. This will motivate us to learn more and also like what we learn”*. In line with this, another student suggested: *“the teacher may provide us with his syllabus and give us the chance to suggest our readings and include them in the course...This will make his classes more interesting”* (participant 3).

With regard to the American sample, and unlike most of their Moroccan counterparts, the majority of the interviewees stressed that they should be consulted about various issues related to their learning. One of the participants, for example, stressed that students’ opinion about the course should be taken into consideration: *“teachers should definitely ask the opinions of students frequently about the syllabus and the dynamics of the class ... There are some teachers who make the syllabus open to discussion and ask us how we want it”* (participant 7). Another somewhat similar argument was put forward by participant 28: *“I am with that [consulting students about the syllabus] coz you need to get all sides of the situation and then decide”* (participant 28). Interestingly, participant 17 associated students’ involvement in the process of decision making with the degree of retention: *“they [some teachers] should acknowledge that they are teaching for a certain perspective. There are teachers who do that, and they are the classes I get the least from”*. Another student argued that monopolizing decision making by the teacher hinders benefiting from students output on certain issues: *“if*

they are really strict about what to do and how you have to do everything, for me I almost feel uncomfortable coz sometimes someone can have a better idea and we just miss it" (participant 8). However, like most of the Moroccan students, a few American students have also shown some reservation regarding consulting students about the syllabus. One of these, for example, argued that students are not well informed to have a sound say in such issues: *"honestly, I don't think students are in a position to make decisions about the course content. I think the teachers are the ones to do this coz they are more knowledgeable and specialized"* (participant 26). Another student mentioned the negative effect this may have on the flow of the class: *"I think that teachers should ask students' opinion but not very frequently that it disrupts the flow of the class"* (participant 24).

Another area in which power distance shows clearly lies in the nature of the student-teacher interaction, more precisely at the level of expressing disagreement or giving contradicting arguments to those of the teacher. The results have shown that Moroccan students pay more attention to the notion of face more than do their American counterparts. Thus, the majority of them reported avoiding disagreement with their professors at all costs. This was for example stressed by participant 12: *"I respect my teachers so I'm not going to disagree with them. They are your teachers and they know better and they do things one way for a reason"*. Similarly, participant 2 added: *"I prefer not to disagree with my teacher coz he is the teacher and he must be respected by everyone"*. Participant 3, in his turn, mentioned respect as the main reason for avoiding disagreement with his teachers: *"for the sake of respect, I avoid disagreeing with my teachers... and because they will not like it and this may create unnecessary problems with them"*. In line with these arguments, participant 11 commented: *"sometimes I prefer not to participate in the debate at all than disagreeing with the teacher coz he may take it personal and may humiliate you"*. A few other participants, however, indicated that expressing disagreement or avoiding it depends on the professor. Participant 7, for example, noted: *"it*

depends on the professor, if the professor is open to it, then yes, otherwise, I don't think it is worth making tensions". Another student stating that "I think I can disagree with some of them but still I don't think we should lose that sort of hierarchy. They are still teachers and we must have some respect for them" (participant 16).

Unlike the case with most of the Moroccan interviewees, their American counterparts stressed that they can disagree with their teachers and express their opinions freely in their presence regardless of whether they conform with or contradict those of their teachers. Participant 2, for example, explained: *"I feel totally free to disagree with them. They should have an open mind and should accept students' disagreement"*. Participant 7 argued that expressing his opinions is what matters most for him: *"I think I can express myself freely. They can say that I am wrong but at least I got it out"*. Similarly, participant 6 pointed out: *"when I believe in something I am not afraid to disagree. If they have a strong sense, I won't have any problem disagreeing with them"*. Participant 5 commented on his experience with expressing his opinions: *"I did it many times and I sounded like an idiot coz I was wrong but I don't care. This is me, so I'm not gona just change or conform coz I am not gona expect someone else to change"*.

A few other American participants noted that they prefer indirect and less confrontational ways of expressing disagreement. Thus, as phrased by participant 12, *"90 percent of the time I don't have any problem giving an opinion on something but I will put it in a way that doesn't offend anybody or, you know, cause any sort of argument"*. Similarly, participant 10 suggested: *"students can disagree with the teacher but shouldn't bring it in front of everyone. Go and tell him in person"*. Another student indicated that she prefers to do it discreetly: *"most of the time I can disagree with my teachers...but I can wait until the end of the class...But I wouldn't say hey teacher you are completely wrong coz it is disrespectful"* (participant 28). Participant 11, in his turn, pointed out that expressing disagreement depends

on the issue being discussed: *“I can, but it depends... if it is something like math, there is no grey area so it is either right or wrong. But still I won't have an issue approaching a professor about something and say you are wrong”*.

According to the data discussed above, it can be said that Moroccan and American students differ in the extent to which they perceive and attend to power differences between themselves and their teachers. Thus, as we have seen, Moroccan students pay more attention to the power differential in educational related aspects more than do their American counterparts. It is noteworthy that the implications of these differences as they relate to students' SDL readiness and their acceptance and use of web 2.0 for learning will be discussed in the next chapter.

4.2.3.3 Uncertainty avoidance

As was the case with the first two cultural dimensions, students' uncertainty avoiding/accepting tendencies were explored during the focus group interviews. Generally, the results are somewhat consistent with the quantitative findings which have shown that Moroccan student are more uncertainty avoiding compared to their American counterparts in various education related issues.

More specifically, with regard to the Moroccan sample, the data has shown that most of the Moroccan interviewees have a general preference for controlled and lecturing-based learning environments. One of them, for example, pointed: *“for me, I feel more comfortable when the course is limited coz when it is not, it is hard for me to prepare and I don't know what the exam will be like”* (participant 13). Another student argued he gets lost when the course is open: *“when the course is open and the teacher talks about many things at the same time, we get lost”* (participant 19). Similarly, another student expressed his preference for limited

amount of information: The uncertainty related feelings associated with large content and open discussions were also reported by participant 16:

Honestly, I prefer those teachers who give us just some handouts. I don't like those teachers who just come talk like that...there are some teachers who give us two or three books and when he comes to class he keeps moving from one to the other and sometimes takes about other things. We really don't really feel comfortable with that.

Additionally, other students have shown a great need for the teacher as a directive force whose role is to minimize uncertainty, especially in relation to assessment. From this perspective, participant 13 stated: *"honestly, I prefer those teachers who explain things in class and who gives [sic] hints on what will be in the exam"*. A similar argument was stressed by participant 7 who voiced his need for structured learning and predictability in terms of assessment: *"there are some teachers who deviate from the lesson and this makes it hard for us coz we will not know what to expect in the exam"*.

From their responses American students appeared to be more comfortable with open and less structured learning environments compared to their Moroccan counterparts. For instance, participant 19 expressed his preference for tasks with synthesis questions: *"I prefer the kind of task which say read the following books and find out what they all connect to"*. With regard to students' attitudes towards voluminous content, one of the interviewees pointed: *"I don't mind large content. Sometimes the course seems overwhelming in the beginning but after a while of searching here and there it doesn't seem overwhelming any more"* (participant 4). Likewise, participant 19 reported: *"for most of the classes, professors would throw loads of stuff in front of us each time and it is up to you to decide what it is important. So I got quite a bit used to handling that"*. Moreover, participant 15 expressed his preference for open discussions and debate rather than lecturing: *"there are some teachers who would like us to read from the text but I would like to know where those questions come from... I think it will be*

better if teachers spend more time debating the material". In the same vein, participant 2 argued that she finds herself more in project-based learning: *"I don't like to be constricted... I prefer those teachers who give us projects to do or books to review. I find this interesting coz you learn a lot more and you discover new things"*. However, like the majority of the Moroccan students, some American students have reported their preference for structured instruction especially in terms of content: *"I don't mind larger amounts of information but generally the more black and white things are the easier they are to understand...I like learning smaller things first before reaching the large and big picture"* (participant 3). Likewise, participant 15, in her turn, noted that she likes more manageable amounts of information: *"I think it should be digestible, I don't like to spend more than one hour boring through one subject"*.

The extent to which Moroccan and American students show a need for regulations and guidelines is another important difference that emerged from the data. In fact, the results have shown that many Moroccan respondents have a notable need for certainty. This was for example reported by participant 2 who described the extent to which he needs directions from his teachers: *"I prefer to be told exactly what I should do... You know we need to have directions because if I don't I may do it this way and the teacher wanted it done in a different way"*. Similarly, participant 26 affirmed: *"of course if I'm going to do something, I will do it in the way the teacher asked me to do it because if I do something of my own he wouldn't like it and he will complain"*. In line with these arguments, participant 3 added: *"I prefer the one [activity] guided by the teacher because the teacher knows best"*.

However, some other Moroccan interviewees have reported being more risk taking when it comes to learning. One of these described his preference for independent learning especially one that involves trial and error: *"I prefer teacher who let us do things by ourselves...I enjoy learning from my mistakes"* (participant 1). A similar argument was stressed by participant 8: *"for me, I believe in the proverb that say [sic] nothing ventured nothing gained."*

So you have to take risks if you want to learn something". Moreover, in relation to assessment, participant 5 pointed: *"I like open questions because we can write our own ideas we will not be forced to write what the teacher gave us in the class we will have to use our vocabulary"*.

With regard to the American interviewees, the results have shown that students have mixed feeling towards risk taking. Thus, from their responses, these students can be divided into two relatively even groups: those who stressed the importance of creativity and finding their own ways of doing things and those who have shown the need for guidelines. As for the first group, one of the participants indicated: *"I prefer less guideline. There is something good about struggling with a problem especially... They call that novelty"* (participant 2). Similarly, participant 9 added: *"I always keep an open mind and check out new methods. I am not afraid of trying new things even"*. Participant 17, in his turn, voiced his need for more freedom and flexibility: *"I don't like to be constricted. I don't like strict guidelines because you don't learn that much if you don't take risks"*. Another student described his tendency towards risk taking: *"I don't think they should ever tell you that you should do it like this to figure out information. I like trying things out for myself. You kind of want to find out your way"* (participant 26). In line of these arguments, participant 6 explained:

I think if you stick to guidelines, how you really compare the people who deserve a better grade than the people who got just stuck to the guidelines. I think those who are more creative deserve better grades than those who stick to the guidelines because they have done it in a smart way.

Conversely, those American participants who have shown a need for guidelines provided various justifications in favor of predictability and maximizing certainty. One of them, for example, noted that: *"in the majority of the cases I like very straightforward instructions. I prefer the teacher to tell me read A, B and C... But still can do it the other option"* (participant 12). Another student reported that she waits for the teacher's guidelines to avoid making wrong choices: *"I wait for my teacher to tell me exactly how he or she wants the assignment to be done"*

because sometimes when you follow your instinct. It is not right” (participant 20). In the same vein, participant 24 warned against risk taking: “If you follow your perspective and don’t follow the outlook, you probably end up doing it the wrong way”. Additionally, like many Moroccan students, participant 28 related his need for predictability to grades and assessment: “I always want the best possible grade. Regulations are very important they definitely set the ground rules. You know what they expect of you. I think it is good because you know how to act and behave”.

Based on the sample quotes analyzed above, it can be concluded that Moroccan and American students differ in their avoidance of uncertainty. In fact, despite some overlapping tendencies, Moroccan students have shown more need for predictability in different aspects of their learning, especially in terms of content and instructions, compared to their American counterparts, who have emphasized their preference for less controlled learning environments such as open-ended tasks and project based learning.

In sum, this section has explored the cultural values of individualism, collectivism, power distance and uncertainty avoidance as they manifest in the educational sphere. As stated earlier, the findings seem to support both the quantitative findings and Hofstede’s classification of the Moroccan culture as being collectivistic, large in power distance and uncertainty avoidance compared to a more individualistic, low in power distance and uncertainty accepting American culture. It is worth noting that an account of the implications of these difference as they relate to students’ self-directed learning readiness and web 2.0 acceptance and use is provided in the next chapter.

4.2.4 Web 2.0 use in higher education

This section presents the findings related to Moroccan and American university students' web 2.0 use. Herein, six major issues are dealt with namely: web 2.0 access, use frequency, patterns of use, web 2.0 use motivating factors, web 2.0 use for self-directed learning and students' network literacy.

4.2.4.1 Web 2.0 access and use frequency.

As was discussed earlier, while access to technology is unarguably one of the most detrimental factors in its acceptance and use, the results from this study have shown a large difference between Moroccans and Americans at the level of both access to the internet and use frequency. In fact, out of the 29 Moroccan participants taking part in the qualitative study, only 16 reported having access to the internet at home. These students spend between two to six hours online daily using both their personal computers and or smartphones. For example, as reported by participant 2: *“actually, I use it internet most of the day sometimes up to six hours”*. Another student added: *“I spend between 2 and 6 hours online everyday”*. Other students, however, reported spending two hours maximum on a daily basis. For example as stated by participant 27: *“I go online at night but I don't exceed two hours”* (participant 27).

The remaining 13 students, who have limited internet access at home, reported going to WI-FI- enabled spots like cafés or cybercafés when they need internet access. These students reported spending between one to three hours online each time they get connected. For example, as one of these students stated: *“I don't have internet at home. So, when I need something, I go to the cyber café and stay for 2 to 3 hours”* (participant11). Another participant added: *“I use the internet only when I have something in my study to look for or to communicate with my sister in the USA”* (participant 15). Participant 16, in his turn, explained: *“If there is Wi-Fi, I use my phone. If there isn't, I go to a café and stay there until I finish my work...usually between 2 to three hours”*. Similarly, another student admitted using the internet only in times of need:

“I use the internet from time to time when I have something to look for... I put credit in my phone or go to a café with Wi-Fi” (participant 25).

In contrast to the above accessibility issues reported by Moroccans, all the American participants reported having high internet connectivity both at home and in the campus facilities. Like the first group of the Moroccan interviewees, these students reported spending between 3 to 6 hours online on a daily basis. For example, as noted by participant 2: *“I stay connected for about 6 hours a day... I use my smartphone more often”*. Participant 3 added: *“I spend at least four hours doing papers and stuff like that”*. Another interviewee commented on his internet use: *“I access these websites [social networks] every day and I spend probably three hours total every day”* (participant 7). Participant 23, in his turn, stressed the importance of getting connected: *“I can’t spend a single day without checking out my email box and my Facebook and Twitter accounts, and of course the UB learns”*.

Based on these results described above, it is clear that there is a big digital divide between Moroccan and American students at the level of internet access. Thus, unlike their American counterparts, nearly half of the Moroccan interviewees have limited internet access. This means that accessibility remains a major obstacle for many Moroccan students, which will put them in a disadvantage when it comes to information access.

4.2.4.2 Web 2.0 technologies and their use patterns

With regard to students’ web 2.0 use patterns, the data has generally revealed some major differences between the two groups in terms of both the type and number of web 2.0 tools used as well as the purposes for which they are utilized. For example, the Google search engine was found to be the most commonly used site among Moroccan students for educational purposes followed by YouTube and data sharing sites such as slide share. For example, as reported by one of the interviewees: *“for learning, I use websites like google and YouTube. I*

also use the slide share and wiki-answers from time to time” (participant 11). Likewise, participant 3 added: *“I go to Google for my studies but I prefer to use YouTube because I think I remember ideas better coz you can hear and see the explanation”*. Another student admitted relying on Google and other literature websites: *“for me, I use Google when I have something to look for. I also use e- notes or spark notes. They are sites for summarizing novels”* (participant 7). Additionally, participant 6 pointed out that he prefers using YouTube for learning: *“whenever I need something, YouTube is my first source of information... I start with it because when you see it on a video, it is always better because you don’t have to read much to understand”*. Interestingly, the results have shown that most Moroccan students have negative attitudes towards using Wikipedia for their learning. For example, as noted by participant 4: *“I wouldn’t search for information on Wikipedia I would go to credible sources. That’s kind of unprofessional”*. Likewise, participant 16 affirmed: *“Wikipedia is not a credible source. Our teachers said that we must find authorities like books or articles or something that we can trust”*.

In relation to the American sample, YouTube and the university website were often mentioned as the most commonly used sites for educational purposes, followed by blogs. For example, participant 2 described her preference for YouTube: *“I am a more of a YouTube person when it comes to learning. It can kind of helps if you have extra time at the end of the day. I also rely on UB learns a lot coz you find everything about school in there”*. Another student added: *“YouTube is very helpful. It is a primary source for me. I have used YouTube a lot in the past two years as an education major”* (participant 18). A somewhat similar argument was voiced by participant 28: *“I spend more doing homework and looking at my professor’s post at UB learns and if I need more on something, I usually go to Google or YouTube”* (participant 28). Participant 7 summarized his educational interaction with technology stating: *“the first thing I usually do is my email...and from there to other websites pretty much. You*

know! It depends on what I'm using. The UB resources. I use the library quite a bit. I use the UB mail. You know! I do some sorts of search on YouTube".

Unlike the Moroccan interviewees, many American students also reported using blogs and Google docs as educational tools. For example, participant 25 reported: *"in one of the classes, the professor asked us to create blogs and each one of us would write on an issue and then everybody including the teacher is supposed to give feedback to all the blog entries"*. Likewise, another student added: *"I remember for some classes, the professors asked us to react to some video lectures on their blogs"* (participant 2). Moreover, participant 22 described how she used Google Docs for learning: *"our professor used Google docs with us last term. We would work collaboratively on a project. It is really interesting coz you see the project growing from scratch and what everybody is contributing to it"*. Interestingly, like their Moroccan counterparts, apart from a few exceptions, most American students also reported avoiding using Wikipedia as an educational tool: *"I don't trust it [Wikipedia] coz it allows anyone to define terms and stuff like that and you know! Not everybody is an authority"* (participant 20). Similarly, participant 28 affirmed: *"I wouldn't go to Wikipedia to find answers for my questions because it is not credible, right?"*

For entertainment purposes, Facebook and YouTube were the most commonly used sites by Moroccan students. In fact, Facebook was by far the most popular social networking site among Moroccans as nearly all the interviewees reported having a Facebook account. Examples of entrainment related purposes for which Facebook is used include communicating with friends, checking people's statuses and sharing photos. For example, as reported by participant 2: *"Facebook is number one for me. I use it to communicate with my friends and family and find out about the funny things my friends share"*. Participant 14, in her turn, pointed out that she uses Facebook only for fun. As she puts it, *"Facebook is the greatest websites. I use it mostly for social reasons like communicating with friends, checking statuses and sharing*

news and funny stuff". Interestingly, as will be discussed later in more detail under the theme of interaction, in addition to entertainment, some Moroccan students reported using Facebook for learning purposes. For example, as participant 4 puts it: *"I use Facebook from time to time to ask my friends some questions about studies and to share some news about the university"*. Another student reported being a member of a face group in which students discuss course related content: *"I am a member of a group and we post questions and we get answers. There is a lot of interaction going on every day"* (participant 5). Moreover, some other interviewees reported using YouTube as a recreational tool. Participant 4, for example, stated: *"for me, I use YouTube just for downloading songs and checking the lyrics"*. Similarly, participant 16 added: *"when I want to have some fun, I watch some pranks on YouTube or listen to music. Sometimes sports vids"* (participant 16).

Like the Moroccan respondents, Facebook and YouTube were reported as being the most commonly used sites for entertainment among American students. Thus, the majority of them reported using Facebook to keep in touch with their friends, check their postings and share their own posts. For example, as pointed by participant 19: *"I use Facebook like daily. All my friends are on Facebook so it kind of connects us even when the school year is over... We exchange news and other stuff"*. Another participant added: *"I use Facebook to keep in touch with my friends at UB and back home. I spend like a lot of time online checking out my friends' posts. Sometimes I post photos and what I do during the day"* (participant 3). Similarly, participant 14 expressed his love for this site: *"I love Facebook coz people share lots of funny stuff. I enjoy reading what others share about their lives"*. Furthermore, as was mentioned above, many American students reported using YouTube as a recreational tool. For example, as indicated by participant 16: *"I go to YouTube for my musical interests. Sometimes I watch movies and sports, too"*. Likewise, participant 10 added: *"in my leisure time I go to YouTube ...*

You can find anything you want in there like funny stuff like win and fail compilations. I really enjoy watching that kind of stuff”.

In contrast to the Moroccan students, many of their American counterparts also reported using microblogs and other social networking sites such as Myspace. For example, as phrased by participant 13: *“I mostly just scroll through what my friends are saying about school and everything. I usually tweet jokes or what I do during the day”*. Another interviewee pointed out that Twitter offers him the chance to meet others with similar interests: *“I use twitter at least every other day...I use it for networking coz it is a good place to meet other game developers”* (participant 9). Similarly, participant 7 explained: *“I have an account on Twitter and I access it like every day. I spend probably two hours total every day tweeting funny stuff”*. Participant 3, in his turn, described his use of Myspace: *“I use Myspace to keep in touch with my family members in other states also to communicate with my new friends at UB”*. Interestingly, as will be discussed in what follows, the American interviewees described various ways in which they have used social networks and microblogs such as Twitter for educational purposes. For example, as participant 23 reported: *“I spend some time reading my friends and professors’ tweets and check the YouTube links they give us to watch and review”*.

4.2.4.3 Motivating factors behind students’ use of web 2.0

As was discussed earlier, a lot has been written about the educational affordances of web 2.0 technologies. Thus, it has been strongly argued that, if appropriately exploited, these technologies are capable of providing students with unprecedented learning opportunities. Building on this argument, this study has explored the different motives for which Moroccan and American university students use web 2.0. More specifically, the thematic analysis of the data yielded the following: convenience, engagement and interaction, expanding learning opportunities, sharing and enhanced communication. It is worth noting, however, that these use motives were stressed to varying degrees among the two groups.

4.2.4.3.1 Convenience

Convenience was often cited as one of the most motivating factors behind Moroccan and American university students' use of Web 2.0 for learning. In fact, the interviewees from both groups described the various ways in which web 2.0 technologies offered them a more flexible and convenient access to learning material. In relation to the Moroccan sample, for example, most of the interviewees felt that web 2.0 technologies offer them new ways of easy, flexible and personalized access to information. From this view, as participant 7 noted: *"with these technologies, we can access information fastly [sic] anytime and anywhere just from our phones"*. Likewise, another student explained how the internet makes access to knowledge an easy task: *"thanks to the internet, access to information has become very "very" easy. I mean everything is there, you just need to click"* (participant 15). More particularly, participant 11 described the flexibility YouTube provides its users, especially in terms of personalized learning: *"I like using YouTube coz we access the same thing many times and you can pause the video and take notes and replay it whenever you are ready to continue"*. In the same vein, participant 24 added: *"Whenever I need something I start with YouTube because when you see it on a video and it is always better just reading"*. Other students mentioned multi-functioning as an important aspect of convenience explaining that web 2.0 technologies enable them to combine learning with pleasure and enjoyment. This was, for example, suggested by participant 25 who stated: *"online learning is really great. I mean you can get information easily while having fun with your friends or by listening to your favorite songs"*. Participant 3 in her turn, highlighted the academic and communicative assets of these technologies arguing that she can study while keeping in touch with her friends: *"using web 2.0 is very (very) interesting because it enables us to learn and communicating [sic] with others at the same time"*.

Similar to the above arguments, American students, in their turn, have also highlighted the notion of convenience as a major reason for using web 2.0. One of them described how it

can help its users get access to resources which are hard to find: *“web 2.0 provides particular usefulness in providing resources that would be difficult to access otherwise. e.g. Library of congress, archive.org, especially for physically disabled people”* (participant 14). Interestingly, like many Moroccan students, American interviewees felt that YouTube provides a convenient source of knowledge. Participant 20, for instance, described how YouTube promotes personalized learning noting that it *“is probably one of the most useful ones in the internet. Coz I can do my job regardless of what time of the day it is. Again I can find something specific to what I’m looking for”*. Similarly, participant 15 added: *“...It [YouTube] is great coz you can sit back on your easy coach and learn from what professionals post in response to people’s queries... there are professors who post lectures there, too”*. Another student explained how the UB learns, an e-learning platform for students at the UB (see the researcher’s own version in appendix C) provides another convenient and flexible tool for personalized learning: *“we use the UB learns. That’s a huge platform. They put all the homework in there. You can see the teachers explaining the lesson in real time. You can upload your papers to that, too”* (participant 7). In line with this, participant 6 commented on the various advantages UB Learns provides students with:

Most teachers put their classes on UB learns and make all their lectures and PDFs accessible to students. So if you missed the class, you can go back. They put the homework there so you can download them right to your computer. You can access it anywhere like.

Interestingly, American interviewees also highlighted the ways in which the internet provides a good combination of learning and pleasure. Thus, as participant 14 described it: *“what’s interesting about the internet is that you can learn while having a good time, may be doing other things like listening to favorite music or connecting with others”*. Likewise, Participant 9 added: *“I use web 2.0 to entertain myself and for connecting with other students*

and stuff like that". Additionally, participant 6 explained how the internet provides its users with various avenues to learning especially through social tagging:

You can access a lot of interesting stuff... instead of just looking for information in one book. You can look anywhere in the internet finding good sources, I guess. Say you don't understand something, you can always put it on Facebook and tag people you think may help and get explanation instantly from your friends and their friends, too. It is like a snow ball.

Based on the sample quotes described above, it can be said that both Moroccan and American students generally see web 2.0 technologies as a flexible and pleasurable source of information. These students have cited various benefits to using web 2.0 for learning including easy access, abundances of learning resources, multi-tasking and pleasure.

4.2.4.3.2 Interaction

Interaction emerged as another recurrent reason for which web 2.0 is being used by both Moroccan and American students. The data from the Moroccan sample has shown that Moroccan interviewees believe in the role web 2.0 technologies can play in enhancing interaction. For example, as noted by participant 5: *"with Facebook you can easily find your classmates and you can form a group and discuss topics. I am a member of a group and we post questions and we get answers and there is a lot of interaction every day"*. Participant 11 added that Facebook allows its users to get help when needed: *"if you have a problem or you don't understand something. A lot of your Facebook friends will interact with your post and will explain things to you until you understand"*. Other students highlighted the role social networks can play in offering shy or introvert student the chance to interact with others and to express their views and opinions more freely. From this perspective, participant 7 explained: *"I can ask the questions which I couldn't ask in class on Facebook coz I don't feel embarrassed... Not like in the classes you have to ask your question in front of everyone and you may make a*

silly mistake". In line with this argument, participant 27 noted: "I like these discussions coz they give us the chance to freely share our ideas coz without feeling shy". Similarly, participant 8 highlighted the freedom Facebook offers him to express himself: "I use Facebook to express my views and opinions and how I feel every day. My friends interact with my comments and the things I share". In the same vein, participant 16 elaborated on her experience with Facebook interaction:

We have a group for the class. We use it to post updates on our courses or questions. Sometimes I post things related to psychology and we open a discussion about them. But most of the students only post the news about catch ups.

American students, in their turn, also highlighted the interactive potential of web 2.0 technologies. However, in their case, the interaction was not limited to students but also included teachers. For example, one of the interviewees commented on his experience with Facebook interaction.

The professor usually leaves a question or message on his wall. The students should react to it. This always generates a great deal of discussion because everybody in the class has to write something. Sometimes students react to each other and professor would intervene from time to time to clarify things or just monitor the discussion (participant 9).

Likewise, participant 3 explained how Facebook was used inside the class and how it generated healthy debate: "there are classes using Facebook... When you are in the lecture hall you can post comment as the lecture goes on and they see it and the teacher and the students would react to it sometimes. This creates a great deal of debate" (participant 3). In the same vein, participant 26 reported on his experience with Facebook interaction: "people participated often in the groups I was on. For every assignment there was a good deal of discussion".

Interestingly, other participants described how Facebook, Twitter and Goggle Docs can offer new and engaging ways of learning:

Facebook helps me a lot with my studies. I mean you can learn a lot from your peers especially when they answer the questions. You discover new things that you didn't know about... Sometimes you learn from your peers more than the professor (participant 11).

I remember once the professor during class let use our phones and log to twitter to ask questions and we have to hashtag the class to those questions. And eventually she would read off what we said and she would comment on those questions and students' answers (participant 26).

I used web 2.0 for some classes I had in the past like. We open a Google Doc and we all contribute to it. And it kind of makes things a lot easier coz we can all add to it at the same time. It is like having a cloud that you can constantly use (participant 5).

Accordingly, it can be said that both Moroccan and American students are aware of the interactive potential of web 2.0 technologies. However, in practice, Moroccan students' use of web 2.0 to interact with their teachers outside the classroom hours seems to be very minimal compared to that of their American counterparts.

4.2.4.3.3 Expanding learning outside the classroom

Expanding learning outside the classroom also emerged as another recurrent purpose for which Moroccan and American students use the internet. In fact, the interviewees from both groups seem to believe in the role web 2.0 technologies can play in extending their learning beyond the university walls. Regarding the Moroccan sample, for example, many interviewees described how web 2.0 helped them learn outside the classroom. One of these noted that online resources help him enhance his understanding of certain issues: *"I use the internet at home to look for something I don't understand or want to know more about"*. Similarly, participant 9

gave the example of YouTube and how it has helped him develop his understanding of some grammar lessons: *“I just want to mention something related to YouTube. I used it last semester in grammar. It was really (really) helpful concerning phrases and clauses. I mean there are native speakers who are explaining these things”*. In line with this argument, participant 22 added: *“there are lots of things to see in YouTube. There are some American teachers who explain like some grammar lessons... even study skills”*. Another student described her experience with Facebook and how it provided her with the opportunity to work collaboratively with others: *“I use Facebook to chat with my friends about our studies. Last year, during examinations, we formed a group and divided tasks and then at night we share our work”*. Interestingly, one of the participants argued that Facebook group discussions would be more fruitful if teachers joined them. This, for him, will give students another chance to contact teachers beyond the class hours:

I think it would be very helpful if we had our teachers in our Facebook groups. This will make our discussion more interesting and efficient and many students will be motivated to join... it will also give us the chance to ask question that we couldn't ask in class (participants 24).

As for the American groups, the participants not only highlighted the role web 2.0 plays in expanding their learning beyond the university walls, but also suggested some new ways of doing so. One of the interviewees for example pointed out that web 2.0 offers users the possibility to consult professionals: *“you can use it sometimes to contact experts through their sites and it is free, too... it is very useful and you can get it anytime”* (participant 24). A similar argument was advanced by participant 6 who noted: *“you can use social networking sites to meet people in your field. Connecting with other students and stuff like that. If you need help, people will be there”*. Interestingly, participant 27 highlighted the role Twitter and Facebook can play in bringing people from the outside world to the academic context: *“I think it will work because a lot of people gather in twitter and Facebook. It is great way to meet people....It*

brings people together and you can use it for learning". Other students mentioned the role social networking sites can play in getting different perspectives on certain issues. For instance, as suggested by participant 2: *"you can use these websites [social networks] to look at how other people think about some issues... You can see different approaches on things and to further the professor's point of view"*. Interestingly, another student described how some of his instructors have used Google Docs and YouTube to extend learning beyond the class: *"probably 5 out the 7 professors used YouTube and Google docs as supplementary tools but it was sporadic"*. In the same vein, participant 7 commented on his experience with Google Docs and how it provided them with a flexible way to learn to interact virtually.

We would open a Google doc and we all contribute to it. And it kind of makes things a lot easier coz we can all add to it at the same time. It is like having a cloud that you can constantly use. It is a good way coz it is hard to meet every time as schedule can be difficult to change"

Accordingly, despite the differences in use patterns, it can be said that Moroccan and American students perceive the role web 2.0 can play in providing them with new personalized educational opportunities capable of expanding learning beyond the university walls. Thus, the interviewees from both groups described various ways in which they have used web 2.0 to accessing multiple perspective and enriching their understanding of certain issues. Indeed, as argued above, the video-taped lectures YouTube makes available to its users provide them with an excellent platform to learn outside the classroom.

4.2.4.3.4 Enhanced communication

Communicating with others, be they friends, family members or teachers, is another most frequently cited reason for which Moroccan and American students use web 2.0. In fact, the majority of the Moroccan interviewees asserted that social networks offer them new ways of keeping in touch with others. For example. As was noted by participant 15: *"these websites*

[social networking websites] *are good coz they are connecting us... using Facebook keeps me in touch with my friends. It gives me the possibility to contact other people all over the world*". Participant 7, in his turn, added: *"Facebook offers us the possibility to communicate with people anytime that suits us"*. In the same vein, reported on how Facebook allows her updated about her friends: *"for me, I use Facebook coz it keeps in touch with all my old and new friends and see their photos, news and whatever they post in their wall"* (participant 8). Interestingly, as was mentioned earlier, some students proposed social networking as an alternative way to contact teachers beyond the class time. For example, as suggested by participant 26, *"I think that using social networks can help us be more connected with our teachers because we don't have their e-mails"*. In line with this, participant 2 noted that *"teachers can use Facebook to inform us about important announcements like catch ups or when they are not coming. Sometime I catch the bus early in the morning but at the end the teacher doesn't come"*. The communicative role social networks can play between teachers and students was also highlighted by participant 8: *"I think it will be a good idea if all teachers have Facebook accounts. This will help us communicate with them more easily"*.

Similar to the above arguments, American students, in their turn, also mentioned various ways in which social networking can be an effective communicative tool. For example, as suggested by participant 17: *"Facebook is great way to keep in touch with friends as well as making new connections"*. Participant 20 described his use of Twitter in more or less similar terms: *"I use twitter coz all my friends use it. It is a great tool to keep in touch with them and it is free and easy to use"* (participant 20). Interestingly, one of the participants reported on how Facebook was found to be a better communicative tool compared to e-mails:

The professor would post reminders on his wall to remind everybody about assignments and when they are due. At first, he used to email us but somebody suggested using Facebook and he agreed and everybody liked the idea coz it eventually worked (participants 12).

However, in contrast to the Moroccan interviewees, who suggested the use of social networks to keep contact with their teachers, students- teacher communication is not an issue for most American interviewees. Thus, based on their responses, most of them reported communicating with teachers' through e-mails. Participant 23, for example, described how he tends to e-mail his teachers on various issues related to his learning: *"I would use e-mail for classes, anything that has to do with the lesson, anything like with homework, if I had questions if I need help or making appointment so staff like that"*. Similarly, participant 6 commented on how e-mailing can be a convenient communicative tool: *"most of the time I contact them through e-mails because it makes it easier for the professor to get back to you when they get a chance"*. Interestingly, participant 21 justified why he prefers e-mails to contact his teachers: *"I know that some do [have Facebook and Twitter accounts] but they don't want ask to contact them that way [through social networks] coz they want to separate academia from their personal stuff...But they reply swiftly. It is just like Facebook but more professional"*.

According to the quotes described above, communicating with others is one of the major purposes for which students from both cultural groups use web 2.0. Yet, as previously noted, Moroccan student-teacher interaction through these technologies is still limited compared to that of the American group.

4.2.4.3.5 Sharing

As was discussed in the literature review, Web 2.0 offers new avenues for sharing user generated content. Therefore, the interviewees from both groups were asked if and how often they share content using web 2.0 technologies. The findings have shown some differences between the groups, especially in the type of content these students tend to share. In fact, it was found that the majority of the Moroccan interviewees share more personal material like photos and videos than academic material. For example, as admitted by participant 2: *"honestly, I just share photos, videos and funny things like sayings"*. Similarly, participant 3 noted: *"for me,*

just personal things like photos or funny videos... sometimes how I feel". In fact, only a few Moroccan students mentioned some of the ways in which their teachers and friends shared educational content. One of these, for example, reported: *"I have many people including some teachers in my contacts list and they post some resources that can be helpful in our studies"* (participant 5). In the same vein, participant 17 added: *"one of my classmates used his Facebook to share with us some articles about sociolinguistics"*. Another interviewee noted that some of their teachers are using social media for sharing educational resources: *"one of our teachers posted books on his Facebook wall for us to upload and read... He also posted a mock exam"* (participant 6). However, when students were asked if they have ever contributed content to wikis or blogs, most of them reported having never done so. In this respect, one of the participants explained: *"I have never contributed any content to Wikipedia coz I don't wana mislead people coz I am not a knowledgeable person"*. Another student added: *"personally I have never thought of contributing anything to those"* [wikis or blogs] (participant 8).

Unlike the Moroccan interviewees, the data has shown that their American counterparts share both personal and educational content. In relation to the first, one of the participants reported: *"on social media sites, occasionally sharing pictures and updating statuses"* (participant 9). Another interviewee added: *"I upload picture of myself once in a while, sometimes screen shots of my computer"* (participant 6). In relation to educational content sharing, one of the students explained: *"for classes, you can like upload to a blog. You have assignments like you have to read other people's blog and comment on their blogs"* (participant 11). Another student elaborated on his experience with sharing educational material: *"I remember one of our classes last year, a student created a group for that class, and we would post updates, homework, etc. Yes, I had that for two or three classes actually"* (participant 23). Participant 14 described a similar experience: *"my friends usually tweet course updates and campus events. Facebook also is good for sharing. It is really useful I use it like daily to share*

stuff and to learn about campus and check out my friends statuses” (participant 14). Moreover, participant 19 elaborated on his teachers’ use of technology to share educational videos and other material: *I sometimes have professors actually post a video or a link to the video and say review it in your free time. And I have had some professors post lecture in there, too. Some students uploaded videos”*. Interestingly, however, the results have shown that American students rarely share user generated content. Like their Moroccan counterparts, when American students were asked if they have ever contributed anything of their own production to wikis, only two students reported having done so. The first noted that he *“contributed content to Wikipedia a handful times I would say”* (participant 4). The second admitted having tried but failed to do so: *“I did. It was a term I tried to define. My definition was not accepted and I was really disappointed”* (participant 16).

According to the above arguments, sharing material, be it educational or entertaining is another important aspect of Moroccan and American students’ use of web 2.0 technologies. However, what is worth noting is that despite the new avenues web 2.0 technologies have made available for the publication of user generated content, it was found that sharing user generated content was very limited among both groups, especially among Moroccan students.

4.2.4.4 Students’ web 2.0 use for self-directed learning

As was stressed previously, much has been written about the ways in which web 2.0 technologies can enhance self-directed learning. Thus, as argued by many scholars, networked learning has given rise to new learning opportunities capable of providing students with new avenues to exercise more responsibility over their learning. From this perspective, Moroccan and American students’ perceptions of and actual use of web 2.0 for self-directed learning were put under qualitative scrutiny.

The results generally indicate that both Moroccan and American students have relatively positive attitudes towards using web 2.0 for autonomous learning. More specifically, from their

responses, the Moroccan interviewees seem to believe in the role web 2.0 can play in enhancing independent learning. For example, one of the students noted: *“I believe it [web 2.0] opens up new dimension for learning coz you can find whatever you are looking for quickly and you don’t need to ask the teacher...there are millions of videos on YouTube, which can explain things to you”* (participant 5). Similarly, another participant pointed out that the web provides an opportunity for students to be independent: *“I think that using the internet can help us be more independent coz we can find everything we need for our studies. You just need to look for it”* (participant 12). Participant 14, in his turn, highlighted how the easy access to educational material can help students do autonomous research: *“I think that these new web technologies can help students have access to unlimited books which will help them in their studies and while writing their research”*. In line with this, participant 26 gave the example of how YouTube can help students learn independently, especially when it comes to language learning. *“YouTube can help us learn by ourselves coz you can watch documentaries in English. Listen to native accent and you can repeat it many times until you learn it.*

Despite the above positive arguments, when Moroccan students were further asked if they have ever used web 2.0 to initiate and work on an independent learning project, only a minority affirmed having done so. A selection of students’ comments on their experiences is provided below.

I agree, I have learnt lots of things by myself from YouTube such as tenses and phonetics. There are many teachers there. They explain things in a very simple and good way. What is good about YouTube is that the videos are always there. You can watch them whenever you want and they are really enjoyable. You know! Seeing and hearing is not like just reading... This videos can help us learn without waiting for teachers to explain things to us” (participant 5)

When I joined the department of English, I had a great problem with grammar especially tenses. My teacher corrected me all the time when I speak in class. But one day I decided to improve

my grammar. So I kept going to YouTube and watched lot of videos about tenses. This improved my English a lot. Now I don't make those silly mistakes and I speak freely" (participant 11).

Personally, I have taken a free online course about study skills. It wasn't asked by the teacher I just found a link on Facebook and I registered in it. I have learnt many good things. Now I am aware of my study skills and I can do things better. This experience encouraged me to start learning things for myself" (participant 23)

Like the Moroccan interviewees, their American counterparts have also shown positive attitudes towards using web 2.0 for promoting their autonomy. One of the participants, for example, noted that the internet is everywhere and hence should be used for learning: *"it will be a decent idea [using Web 2.0 for learning] because I mean it's already in many parts of life, it's only natural that eventually students are going to use for their learning"* (participant 15). Participant 11 argued that if students do not use the web for independent learning, they will be left behind: *"if you are a college student, and you don't use the internet to learn on your own, you are going miss lots of interesting stuff coz knowledge keeps changing"*. In the same vain, another students added explained that *"teachers are there just to show you the way and it is up to you to build your knowledge... the internet has made self-studying a lot easier"* (participant 25). In line with this, participant 11 stated: *"I enjoy learning this way [independently] coz it is more engaging and you feel more responsible for what you are doing... It is so helpful and makes you up to date"*. Like the arguments put forward by some Moroccan interviewees, participant 7 noted that YouTube provide an excellent for independent learning. *"I really encourage students to use YouTube to learn on their own. It is interesting because you can see how they are simplifying complicated things"*.

Like the Moroccan interviewees, these students were also asked to elaborate on their actual experience with self-directed learning projects. From their responses, American students have shown more use of the internet for managing self-initiated learning projects compared to

their Moroccan counterparts. A selection of these students' experiences with these projects is provided below:

Yeah, I remember last year I had a problem with a course of Stats. I didn't have the basics coz I haven't studied that before. The teacher assumed that we know what he was talking about. I was depressed coz I couldn't keep up with the rest of the class. So I decided that I must solve this problem. I went on YouTube and started watching videos about that course...everything was there and it wasn't as complex as I expected. It took me two to three weeks to eventually manage to master that course (participant 16).

I had a similar experience. I have looked at statistical methods on YouTube when I was analyzing data for my paper for one of my courses. And they show you how to go through them and that's a big help. Vs the cheer of paper that says do this do that. Stats analysis was a nightmare for me but thanks to some effort and YouTube I got a rid of it (participant 19).

I learnt how to fix my car window using YouTube. I had a problem with that window for quite some time...There was a guy who posted a fifteen minute video on how to fix your car window. I followed the steps and it worked (participant 5).

I had a class about Greek mythology. I didn't understand what the teacher was talking about in the beginning, it was about Oedipus the King, I think. But after doing some research on the net, I found a lot of stuff about the author, the plot, summaries of the novel, characters and what critics say about it. Now I enjoy discussing this in class with the professor coz I understand almost everything he says (participant 13).

According to the accounts discussed above, and in support of both the quantitative findings and the hypothesis put forward in this study, Moroccan and American students differ in their level of web 2.0 use for self-directing their learning. This, as will be discussed in more depth in the next chapter, is a result of many interrelated factors.

4.2.4.5 Students' network literacy

Students' network literacy is one of the major issues that coupled students' shift towards online learning. In fact, as was discussed earlier, many scholars have expressed serious concerns about students' ability to use the internet effectively and safely. In this study, Moroccan and American students' network literacy was explored, especially in terms of their ability to judge the credibility of online information and ethically use it.

With regard to the Moroccan sample, most of the interviewees seemed confident in their ability to judge the reliability and credibility of online sources. For example, as noted by participant 12: *"I don't trust every source of information. If I am looking for something, I usually look in books not anything written by anybody"*. Another student described his way of evaluating the validity of online information by stating that: *"before judging the credibility of the information, I would look elsewhere and compare but if it is from an authority I would accept it. But if I can't judge, I will ask the teacher to tell me if it is right or not"* (participant 3). Likewise, participant 16 added that students should be selective and that they have to rely on authorities: *"you shouldn't be some kind of random guy. For example, if we are talking sociolinguistics you are not gona quote anybody. You need authorities such as Ferguson or Fishman"*. Another student pointed that he relies only on information whose source is properly cited: *"If the source is there, it is fine, but if it is not there, how are you going to know if the information is credible?"* (participant 27). In the same vein, participant 6 explained that he can distinguish between credible and incredible websites noting that: *"Wikipedia is not a good source of information... No, it is impossible to rely on Wikipedia because our teachers said that we must find authorities like books or articles"*. A similar argument was given by participant 16: *"I wouldn't search for information on Wikipedia I would go to credible sources. That's kind of unprofessional"*.

With regard to issues related to the ethical use of online information, more precisely academic honesty, Moroccan students seem to be divided into two groups: those who trust their ability to cite online resources properly and those who acknowledge having problems in this respect. In relation to the first group, one of the participants argued that he knows what constitutes academic dishonesty and how to avoid it: *“I know what plagiarism is and I always write the resources and the name of the author and date of publication”* (participant 11). Another participant 1 reported having a course about academic honesty: *“we have a course about research methodology and I think I’m fairly skilled”*. In line with this argument, participant 22 confirmed: *“our teacher gave us a handout about this. It contained everything about how to write all the information about the sources”*. Another participant described how she improved her skills in this regard: *“I have done some research about this before. My brother taught me how to cite the resources he said that I will need it for my BA dissertation”* (participant 14).

Unlike the above arguments, participants from the second group admitted lacking sufficient knowledge related to the proper citation conventions and rules. One of these, for example, confessed: *“to be frank, I still don’t know how to cite sources well. We had a course about this but the teacher moved quickly and I didn’t understand well”* (participant 16). Similarly, participant 23 added: *“I am not good in that. I don’t know how to cite the websites I take information from”*. Participant 10, in her turn, pointed out that students know the danger of academic dishonesty but lack sufficient knowledge to avoid it: *“I don’t think I am good in citing references yet...I think that most students know that plagiarism is bad but they don’t know how to avoid it”*. In support of this, participant 3 stated that: *“many students plagiarize without knowing it because they don’t know how to cite their sources...I think that teachers are also responsible for this because they should teach us how to avoid it”*.

Concerning the American group, the interviewees also emphasized their competence in evaluating the credibility of online resources and information. One of the participants, for example, noted that students should rely on authorities: “*we have to make sure the source we are reading from is an authority in the field*” (participant 5). Another interviewee suggested consulting multiple sources as a way of judging the reliability of online information: “*getting information from different sources is the best way to judge its validity*” (participant 16). In line with this point, participant 9 explained: “*if there is no source, there is a big chance that whatever is written there is not reliable. But I will if it is from a reliable source like .edu or .org*” (participant 9). Additionally, like most of their Moroccan counterparts, American students also reported avoiding the use of Wikipedia a source of information: “*I don’t trust it [Wikipedia] coz it allows anyone to define terms and stuff like that, and you know! Not everybody is an authority*” (participant 20). Similarly, participant 28 noted: “*I wouldn’t go to Wikipedia to find answers to my questions because it is not credible, right?* Despite these rather negative attitudes towards the use of Wikipedia as a source of information, a few students noted that they find it a good starting point. Thus, as argued by participant 4: “*I find it (Wikipedia) credible but if you are doing research obviously you can’t cite it as a source. It is a useful starting point though because of the references on the bottom of the page*”. Another student elaborated on his use of Wikipedia:

I usually use it if I need quick information, if I need substantial information on a subject I usually go to the library or more credible websites but for quick or a little bit of information like the date of some event in history I go to Wikipedia that’s the stuff I believe is trustable from Wikipedia (participant 10).

With regard to academic honesty, and unlike the second group of the Moroccan interviewees, most American students indicated that they know what constitutes academic dishonesty and the dangers associated with it. For example, one of the participants reported: “*I*

had a course called academic integrity. The professor introduced us to the dangers of cyber-plagiarism and how to avoid it". Another student described her ability to avoid unethical use of online information: "I can say that I am pretty skilled in that. I had a basic course about this in high school and also in my first year at UB" (participant 11). Participant 22, in her turn, noted: "if I use something from the internet, I always make sure I cited the source coz our professor are very strict about that [plagiarism]...I mean if you are caught, you will get failing a grade". Nevertheless, some interviewees explicitly admitted that many students resort to plagiarism. This was, for example reported by participant 12: "I'm aware that some students are doing I know a friend who bought a paper online and got away with it but I will never do that coz it is against the honor code of UB". Another student argued that academic dishonesty is one dark side of web 2.0 use: "I think that web 2.0 provides a huge amount of information but it is quite difficult to control its use... It can also result in plagiarism which I think students do a lot" (participant 17).

The data discussed above has revealed that students from both samples seem to be relatively confident in their ability to find reliable sources of information. While this is a good sign of students' network literacy, the data has also shown that students from both groups intentionally or unintentionally engage in academic dishonesty. Thus, as reported above, while Moroccan students admitted having problems with the ethical use of online information, especially with the conventions of proper citations, their American counterparts, despite their know-how, still engage in academically dishonest behaviors.

4.2.4.6 Summary of the findings

This chapter has reported and described the qualitative results from this study. As was the case for the quantitative counterpart, it has revealed some major findings, which, in many respects, converge with those obtained from the quantitative investigation. First, it was found that Moroccan and American students differ substantially in their possession of the attributes associated with self-directed learning. These include initiative, independent choice, intrinsic motivation, control of learning, time and resources management and self-evaluation. Second, the results relating to students' psycho-cultural values have shown that the Moroccan students possess those traits associated with collectivistic, large power distance and high uncertainty avoiding cultures compared to their American counterparts, who exhibited those cultural values characterizing more individualistic, small power distance and low uncertainty avoiding cultures. These findings provide support for both the quantitative findings and previous research, and hence further validate Hofstede's multidimensional matrix. Third, and more importantly, these cultural differences were found to have some bearings on students' readiness for self-directed learning readiness. Thus, the findings from the focus group interviews provided further insights into the understanding of the association between individualism and self-directed learning readiness. In fact, American students have shown those traits that cultural psychologists and educationalists associate with individualism and self-directed learning more than did their Moroccan counterparts. These include the importance of independent choice, initiative, self-reliance, intrinsic motivation, self-study and self-evaluation. With regard to the relationship between SDL readiness and the power distance, the results have shown that the large power distance tendencies of Moroccan students had some negative bearings on their readiness for self-directed learning. Thus, while independent choice, initiative, self-reliance are important characteristics of self-directed learners, many Moroccan students have shown a great dependence and reliance on their teachers in various aspects of their learning starting from goal

setting, learning material selection to assessment of learning outcomes. Conversely, American students' small power distance orientations instilled in them a sense of control and responsibility for learning as they showed more positive attitudes towards independence, autonomy, initiative and self-reliance. Similarly, and unlike the results from the quantitative findings, which did not reveal any statistically significant relationship between uncertainty avoidance and self-directed learning readiness, the qualitative findings provided some insights into the understanding of link between the two variables. Thus, while risk taking is an important characteristic of self-directed learners, Moroccan students were found to be high risk averse which, in turn, influences negatively their readiness to assume responsibility for their learning. Fourth, with regard to web 2.0 use, the results have revealed a great digital divide among the groups at the level of both internet access and use frequency, which means that accessibility remains a major problem for Moroccan students. Moreover, the data has revealed some major differences in the types of web 2.0 the tools used, the purposes for which they are used as well as their use patterns. For instance, in relation to the latter, it was found that Moroccan students are not fully exploiting the various benefits web 2.0 technologies can account for especially when it comes to enhancing their learner autonomy compared to their American counterparts. Thus, only a minority of these students have reported having actually used these technologies for educational purposes compared to the vast majority who use it for recreational ends. Fifth, in terms of network literacy, especially in relation to evaluating the credibility of online information, the results have shown that the majority of both the Moroccan and American students, at least as they claim, have relatively sufficient knowledge and skill in this respect. However, with regard to academic honesty, it was revealed that many Moroccan students still lack adequate knowledge in citing conventions compared to their American counterparts who implicitly acknowledged their engagement in academic dishonesty despite their knowledge of its danger.

Chapter five: Discussion and conclusions

5.1 Introduction

This study has attempted to empirically address the cross-cultural dimensions of web 2.0 acceptance and use for self-directed learning in the Moroccan and American higher education settings. In so doing, it has clearly stated its aims, provided a comprehensive theoretical background for operationalizing them, adopted validated conceptual frameworks and, most importantly, made use of a solid mixed method triangulation design. It has also sequentially analyzed the results obtained. In what remains, an attempt is made to concurrently discuss and reflect on the study's major findings. This chapter also offers a summary of the main findings and their implications along with the study's limitations and recommendations for future research.

5.2 Self-directed learning readiness

In this study, we attempted to comparatively measure Moroccan and American university students' self-directed learning readiness. In fact, as was stressed earlier, assessing the latter is of critical importance to determine the extent to which Moroccan higher education, as compared to its American counterpart, is preparing its students to successfully face the increasing demands of today's globalized higher education. The results, both quantitative and qualitative, generally indicate that Moroccan students are less ready to self-direct their learning compared to the American students. Thus, the findings from the independent sample t-test have revealed that Moroccan university students $M=150.84$ scored significantly lower than did their American counterparts $M=157.29$. Interestingly, these results, at least those relating to the American sample, are highly consistent with those reported in previous cross-cultural comparative studies. For example, in a study comparing self-directed learning readiness across developed and underdeveloped nations, Adenuga (1991) found out that "American students in

the population studied were significantly more ready for self-directed learning than their counterparts from less developed nations” (p.102). Besides, in a more recent study measuring SDL among American university students, Huynh et al. (2009) reported a strikingly similar SDLRS mean score to the one found in this study. According to these scholars, their American subjects had a mean score of ($M=157.62$) and a range of scores from 100 to 197.

In fact, as was reported earlier, Moroccan students’ low SDL readiness level can be attributed mainly to the domains of self-management and self-control in which they scored significantly lower than did their American counterparts. With regard to self-management, for example, it was found that Moroccan students scored significantly lower than did their American counterparts with a mean difference of -2.52. Fisher et al. (2001) explain that a low score in this domain reflects students’ inability to effectively deal with some managerial aspects of their learning such as setting specific times for studying, applying systematic approaches in their learning, and seeking additional information and resources when needed. Interestingly, these arguments align with the study’s qualitative findings which have revealed that nearly one third of Moroccan students tend to be disorganized, reactive and moody in the management of their learning compared to the majority of their American counterparts who appeared to be more organized, reflective and proactive learners. Similarly, in relation to self-control, the results have shown that Moroccan students also scored significantly lower than did their American counterparts with a statistically significant mean difference of -2.77 and confidence interval of 95%. With these scores and according to Smedley’s (2007) guidelines for interpreting them, it can be said that, compared to their American counterparts, Moroccan students still lack some of the attributes relating to the self-control domain such as the ability to set one’s own learning goals, initiative, self-reliance and the ability to evaluate one’s learning outcomes. These findings are consistent with those obtained from the focus group interviews. Thus, as we have seen under the themes of initiative, choice and self-assessment, which deeply relate to the self-

control domain, unlike most of the American interviewees, who have both reported having a general tendency towards making independent choices and highlighted the benefits they get from making them (such as finding their own ways, building their own perspectives of things and better involvement in the task being undertaken), at least one third of their Moroccan counterparts have expressed their reluctance, and in some cases their inability, to make independent choices and, instead, show more reliance on their teachers' choices and strive to match their tastes. With regard to initiative taking, many Moroccan students admitted having rarely initiated any projects on their own. In contrast, most of their American counterparts displayed a general tendency towards taking initiative and highlighted the role it plays in enhancing their learning. Moreover, in relation to self-assessment, it was found that, in contrast to the majority of American students, who seem to give prime importance to regular self-assessment, almost one third of their Moroccan counterparts have reported having rarely self-assessed their performance prior to the final summative evaluation.

Based on the above arguments and on earlier analysis of the data, it can be argued that, compared to their American counterparts, many Moroccan university students still lack some of the attributes associated with self-directed learning readiness. These include effective time and resources management, initiative, independent choice, confidence, acceptance of responsibility and self-assessment. In fact, the results from this study provide support for researchers' conviction that self-directed learning is not for everyone and that people are more likely to become self-directed learners if they are born in cultures which nurture it (Joblin, 1988; Braman, 1998; Guglielmino & Guglielmino, 2006, 2011; Holtbrugge & Mohr, 2010). Thus, it was revealed that the variances in Moroccan and American students' possession of SDL readiness attributes was influenced by the nature of the psycho-cultural values they have at the top of which is individualism values, which were found to be a strong predictor of students' SDL readiness levels.

5.3 Psycho-cultural values

Another important aim of this study was to examine the Moroccan and American cultural values from the lenses of Hofstede's multidimensional model, which as we have seen, considers the Moroccan and the American cultural context as being entirely divergent across all its dimensions. Thus, while, for example, Moroccans are described as collectivists and high in uncertainty avoidance, their American counterparts are classified amongst individualistic, and low uncertainty avoiding people. Interestingly, the study's findings, both quantitative and qualitative, support this classification and hence provide further empirical cross-cultural validation for Hofstede's multi-dimensional matrix in the Moroccan and American higher education contexts.

5.3.1 Individualism

As was reported previously, the results from the quantitative phase. More specifically from the Man Whitney U test, have revealed that individualism was significantly lower for Moroccan students than for their American counterparts and hence empirically supports Hofstede's description of the Moroccan and American societies as collectivistic and individualistic, respectively. These results- at least as they relate to the American culture- are highly consistent with previous empirical findings from cross-cultural comparative research. Merkin and Ramadan (2010), for instance, found that Syrians college students were more collectivistic than their American counterparts. Similarly, Oishi et al. (2005) found that Japanese university students scored higher in collectivism and interdependence than did US students. Besides, in an extensive review of cross-cultural comparative research on individualism and collectivism, Oyserman, Coon and Kemmelmeier (2002) concluded that the most defining characteristics of individualists were personal independence, emphasis on personal responsibility, freedom of choice, personal autonomy, and self-fulfillment. Collectivism on the contrary, is "linked to a sense of duty to group, interdependence, harmony,

and working with the group” (Jackson & Hog, 2010, p.229). Interestingly, these traits converge substantially with the qualitative findings from this study. Thus, as was discussed previously, most of the Moroccan interviewees have shown those characteristics that researchers associate with collectivistic people such as interdependence, modesty, harmony, indirectness and care for preserving relationships (Hofstede, 2001; Triandis, 2001; Oyserman, Coon & Kemmelmeier, 2002; Sadiqi, 2008; Jackson & Hog, 2010). In relation to modesty, for example, the majority of the Moroccan subjects indicated that they tend to avoid expressing uniqueness, standing out in the crowd or being at the center of attention. Interestingly, in one of the few comparative studies undertaken in the Moroccan context, Veltri and Elgarah (2009) compared Moroccan and American students’ use patterns of social networking and reported that while US users provided detailed information about their personality, Moroccan users, kept their profiles modest. This, according to them, reflects US users’ tendency to stand in the crowd and Moroccan users’ tendency to avoid uniqueness and differentiation. Moreover, Jackson and Hog (2010) pointed that most collectivistic cultures value social reciprocity, obligation, dependence, and obedience. These scholars attribute this to the nature of child rearing in collectivistic cultures in which modesty, conformity, obedience and reliability are emphasized. With regard to interdependence, many Moroccan interviewees admitted having a general tendency towards relying on others and taking their opinions into consideration when they are making decisions about their future. In this respect, Triandis (2001) asserted that in collectivistic societies, group goals take precedence over individual ones noting that collectivists may subordinate their personal goals in favor of the collective ones.

In contrast to collectivistic traits displayed by most Moroccan students, their counterparts from the US have exhibited more individualistic attributes such as expressing uniqueness, self-reliance, competition, differentiation and prioritizing personal goals and achievement. For example, unlike the Moroccan students’ interdependence tendency, most of

the American interviewees reported relying first and foremost on themselves and rarely taking others' opinions into consideration while making decisions about their future. Consistent with these results is Jackson and Hog's (2010) point that individualists "strive to maintain distinctive personal attitudes and opinions and prefer self-directed behavior and independence of groups... [and] tend to see themselves as unique from others" (p.228). According to these scholars, this can be attributed to type of child rearing prevalent in individualistic cultures where the "the children of individualistic parents understand that they are to leave home once they reach a certain age or education level" (p.230).

Based on the above findings and scholars interpretation of them, Moroccan students can be described as cultural unit which values modesty, harmony, cooperation, interdependence and underplay uniqueness and differentiation. American students, on the contrary, can be regarded as a cultural unit which emphasizes uniqueness, personal goals, independence, self-reliance, and competitiveness. Nevertheless, it should not be taken it for granted that all Moroccans are collectivistic or to label all Americans as individualistic. Thus, as was mentioned earlier in the qualitative analysis, some subjects of both groups have expressed opposite cultural orientations. Thus, some Moroccans have shown some rather individualistic values such as expressing uniqueness and differentiation while some of the their American counterparts have shown more collectivistic traits such as modesty, interdependence and willingness to sacrifice one's goals in favor of the ones of the family. This resonates strongly with Triandis' (1994) argument that regardless of whether a person is a collectivist or an individualist, s/he is not either idiocentric or allocentric (the terms used to describe the manifestations of individualism and collectivism at the individual level) since both personality orientations can be found within both individualistic and collectivistic cultures. Thus, it is "just a question of degree as in some cultures more situations are sampled allocentrically, and in other cultures more situations are sampled idiocentrically" (Triandis, 1994, p. 46). In short, these arguments implicitly warn

against uncautiously overgeneralizing the results especially that many researchers like Hermans and Kempen (1998) criticized the dichotomous conceptualization of cultural orientations emphasizing how globalization brought about a third or a global culture.

5.3.2 Power distance

The power distance dimension, as operationalized in this study, measured the extent to which the teacher-student relationship is based on equality and flat relationships versus the importance of maintaining a strict hierarchy and power differential between students and teachers. In fact, the results from the Mann-Whitney U test have shown that the Moroccan students scored significantly higher in the power distance than did their American counterparts. In other words, it was revealed that while the relationship between Moroccan students and their teachers is one in which power and hierarchy are important building blocks, its counterpart in the US is generally characterized by equality with little attention being paid to the social and organizational hierarchy. In support of these findings, Spencer-Oatey (1997) studied power distance in China and Britain and found that Chinese students (classified as large power distance) were more accepting to the power differential between them and their teachers than did their British counterparts (small in power distance) who were less accepting of the differences in power allocation. In this respect, Jackson and Hog (2010) explained that while in small power distance, subordinates, students here, tend to be independent, confrontational and comfortable interacting with their superiors; in large power distance cultures subordinates are extremely submissive and show a great deal of dependence on their superiors.

Interestingly, the qualitative results not only aligned with the above arguments but also provided more insights into the understanding of the different manifestations of power distance in the educational sphere. Thus, as stated above, it was revealed that Moroccan and American students differ substantially in their perceptions of the teacher-student relationship. More

specifically, from their responses, Moroccan students were more concerned with maintaining that sort of organizational hierarchy between themselves and their teachers. For example, when these students were asked if they want to be consulted about issues related to the syllabus, many of them have shown reluctance noting that it is the teacher's job to decide on such issues. Conversely, the majority of their American counterparts stressed that they should be consulted about various issues related to their learning and that their teachers should take their opinions into consideration. Another interesting finding from this study, that deeply captures the effect of power distance, lies in the importance given to the motion of face by Moroccan and American students. Thus, it was found that whereas Moroccan students reported their concern for losing face and hence avoid disagreement with their professors, their American counterparts, have shown little concern about this issue noting that they find it quite normal to disagree with their teachers and express contradictory opinions in their presence. These findings converge with the findings reported in previous research. Merkin and Ramadan (2010), for example, conducted a comparative study involving Syrian and American students and found that Americans (i.e. low power distance) pay little attention to face as they tend to be very confrontational and use direct and face-threatening expressions more than Syrian students (i.e. high power distance) who strive to maintain face. In another similar study, Oetzel et al. (2003) argued that people in small power distance cultures, Americans here, are more primarily concerned with saving their face and to a lesser degree that of the other, whereas people in high power distance cultures have greater mutual-face concerns. In short, and based on these arguments and on earlier analysis of the data, it can be argued that Moroccan and American students differ substantially in the extent to which they observe and pay attention to power distance in educational contexts. This, as will be discussed later in this chapter, has some bearings on both students' readiness for SDL and their acceptance and utilization of web 2.0.

5.3.3 Uncertainty avoidance

Consistent with Hofstede's description of the Moroccan and American cultures as high and low uncertainty avoiding, respectively, the results from this study, particularly those from the Man Whitney U test, have shown that the uncertainty avoidance was significantly higher for Moroccan students than for their American counterparts. This finding, at least as it relates the American sample, converges with other cross-cultural comparative empirical findings. Güss, Fadil and Strohschneider (2012), for example, reported higher levels of intolerance of ambiguity among German students than their American counterparts. Jackson and Hog (2010), in their turn, found that whereas Western cultures are more uncertainty oriented, people in Eastern cultures strive for reducing complexity and increasing predictability by constantly showing the need for more clearly spelled out instructions. In line with these arguments, the focus group interviews have also uncovered some interesting differences in uncertainty avoidance tendencies between Moroccan and American students. For example, in terms of learning environment, Moroccan students have shown a general preference for more controlled and structured learning environments, with limited content and clear guidelines, in which the teacher's major role is to minimize uncertainty. American students, on the contrary, appeared to be more comfortable with open and less structured learning environments such as project based learning. For example, unlike their Moroccan counterparts, these students appeared to be more risk taking as they stressed the importance of creativity and findings their own ways of doing things. These different tendencies shown by each group align with the arguments recently put forward by Pinpathomrat et al. (2013) who explained that students from high uncertainty avoidance cultures, Moroccans here, prefer tasks with a definite outcome and clear guidelines more than unstructured and active learning processes which involve a certain level of uncertainty. In the same vein, Jaju et al. (2002) as cited in Holtbrugge and Mohr (2010) pointed that unlike students from high uncertainty avoiding cultures who "value the information and

knowledge delivered by the instructor and consider it as the best explanation to the problem”, low uncertainty avoiding students, tend to value originality and independent work (p.627). Based on the above findings and scholars’ points, it can be said that Moroccan and American students have different degrees of tolerance of ambiguity.

In summary, this section has comparatively discussed the findings relating to the cultural values of individualism/collectivism, power distance and uncertainty avoidance in the Moroccan and American cultural contexts. Based on the results, it can be said that the Moroccan and the American university students taking part in this study, at least as measured by the aforementioned Hofstede’s cultural dimensions, have dissimilar cultural mindsets. This fact, as will be discussed in what follows, has strong bearings not only on students SDL readiness, but also on their acceptance and use of web 2.0.

5.4 Cultural values and self-directed learning readiness

Building on many scholars’ arguments that people are strongly influenced by aspects of their cultural backgrounds in ways that can shape, constrain and even limit their ability to be self-directing (Candy, 1991; Brockett & Hiemstra, 1991; Braman, 1998; Rogers, 2002), this study has attempted to empirically decipher and understand the ways in which Moroccan and American students’ cultural values can influence the growth of their self-directed learning readiness. As was discussed earlier, the results have revealed that American students are significantly more ready for self-directed learning than their Moroccan counterparts. Nevertheless, questions still remain about the factors that contributed to this difference. Part of the answer can be found in Joblin (1988) somewhat old argument that self-directed learning “will not just happen naturally” (p.120) and that we are more likely to become self-directed if we are born into cultures which nurture it. While Joblin’s argument implies that there are some cultural variables that promote, or impede, people’s readiness for learning self-direction, recent research, both theoretical and empirical suggest that the cultural values of individualism, power

distance and uncertainty avoidance could be such variables (Braman, 1998; Guglielmino & Guglielmino, 2006, 2011; Holtbrugge & Mohr, 2010).

One of the most interesting findings from this study is the significant amount of variance in students' SDL learning readiness accounted for by the construct of individualism. Thus, as was comprehensively reported earlier, the results from correlational analysis have revealed the existence of a moderately strong and statistically significant relationship between individualism and self-directed learning readiness. The results from the regression analysis provided further support for this association. Thus, individualism made a statistically significant contribution to the regression model for both samples with a Standardized Coefficients $\beta=.488$, $R^2=.240$, $p < .001$ for the Moroccan respondents and $\beta=.556$, of $R=.560$, $R^2=.303$, $p < .001$ for the American respondents. Simply put, individualism was able to predict and explain 24% of variance in Moroccan and SDLR scores and 30% of that of their American SDLR counterparts. The high predictive power of the model among American students indicates that individualism has a stronger impact on American students than on their Moroccan counterparts. Interestingly, these results align with the findings reported by the few previous studies found in this respect. For example, in study examining the effect of individualism on Korean and American students' SDL readiness, Lee and Lindner (2005) noted that individualism scores accounted for a 31% of the variance in SDL readiness scores between the two samples. Similarly, in more recent study, Guglielmino and Guglielmino (2011) found that high individualism scores strongly correlated with high SDLR scores noting that their model generated a $\beta=.69$, $p < .004$ and $R = .69$; $R^2 = .48$, $p < .004$. These researchers concluded that individualism is a strong predictor of SDL readiness as it was able to explain 48% of the variance in self-directed learning readiness.

Interestingly, the qualitative findings from this study provided further insights into the understanding of the association between individualism and self-directed learning readiness.

Thus, as was previously reported, American students exhibited those traits that cultural psychologists and educationalists associate with individualism and self-directed learning more than did their Moroccan counterparts, namely the importance of independent choice, initiative, self-reliance, intrinsic motivation, and self-evaluation. In this respect, Chen (1983) argued that “the emphasis on autonomy in adult education is appealing to the individualistic dream” (p. 45). In line with this is Jackson and Hog’s (2010) assertion that unlike collectivists who tend to be interdependent, individualists “prefer self-directed behavior” (p.228). In the same vein, Holtbrugge and Mohr (2010) explained that while individualist students “prefer those forms of learning for which input from and interaction with others are least important” (p.626), their collectivist counterparts are more likely “to tap into the knowledge of others and... show inability, or even unwillingness to rely on concrete experience” (p.623). Accordingly, the construct of individualism questions the universality of self-directed learning readiness and suggest, though implicitly, that a self-directed approach to learning may be specific to students from individualistic cultures.

Unlike the findings discussed above, which provide converging support for the association between the construct of individualism and SDL readiness, the quantitative results from this study, did not reveal any statistically significant relationship between power distance and SDLRS for both samples. Thus, the Pearson correlation coefficients between this dimension and the total SDLRS were $r=-.134, p<.064$ for the Moroccan respondents and $r=.060, p<.397$ for their American counterparts. These results contradict those reported by Gugliemino and Gugliemino (2006) which have revealed the existence of negative and statistically significant relationship between power distance and SDL readiness scores. These scholars explained that people’s acceptance of the fact that some members of the society will hold lesser roles regardless of merit or initiative is expected to influence negatively their readiness to assume responsibility for their own actions. However, in a subsequent study, Gugliemino and

Gugliemino (2011) themselves reported similar results to the ones obtained from this study as they found no association between power distance and SDLR. According to their results, power distance did not account for any additional variance in SDLR scores beyond the 48% accounted for by the Individualism dimension.

While further empirical quantitative research is needed to settle down the inconsistencies surrounding the relationship between power distance and self-directed learning, the results from the focus group interviews indicate that Moroccan students' large power distance tendencies have some negative bearings on their readiness for learning self-direction. Thus, while independent choice, initiative, self-reliance are important characteristics of self-directed learners, many Moroccan interviewees were found to relatively lack some of them. These students still see the teacher as the main credible content provider whose knowledge is seldom if ever questioned. For example, when the Moroccan participants were asked if they wanted a say in syllabus-related issues, many of them indicated that it is the teacher's job to decide on such matters. In this respect, Biggs and Watkins (1996) explained that students in high power distance cultures are discouraged to question or challenge their teachers' knowledge. Holtbrugge and Mohr (2010) in their turn, have argued that high power distance cultures strive to maintain "the competency differential" between the teacher and the students by discouraging active learning and experimentation for fear that the outcome would "contradict or put into question the information that is being provided by the teacher" (p. 226). On the contrary, American students' small power distance instilled in them a sense of control and responsibility of learning as they showed more positive attitudes towards independence, autonomy, initiative and self-reliance. For example, unlike their Moroccan counterparts, these students emphasized their need for more freedom and desire to have a say in the decision making process relevant to the learning. From their responses, these students tend to find it quite normal to disagree with their teachers and freely express their own opinions in the

presence of the teachers, which the majority of Moroccan students tend to avoid at all costs. These arguments explicitly indicate the nature of power distance prevailing in a given culture can play a key role in promoting or impeding the development of self-directed learning readiness. Thus, unlike the case in the US culture, where students perceive teachers as equals and agents whose role is to facilitate learning, their Moroccan counterparts tend to see their teachers as experts and authority figures, whose knowledge or opinion should not be questioned, and hence prefer those learning styles that allow them to maintain their dependence on them.

Similar to the power distance dimension, the correlational analysis between uncertainty avoidance and SDL readiness did not reveal any statistically significant relationship between the two variables. From a quantitative perspective, this means that the nature of the scores, be they high or low, on this dimensions has no effect on students' readiness for self-directed learning readiness. However, the results from the qualitative analysis do, though implicitly, suggest some link between the two variables. Thus, the data from the focus group has shown that Moroccan students exhibited more uncertainty avoiding characteristics in various educational contexts compared to their American counterparts. For example, while self-directed learning requires a certain level of risk taking and individual initiative, many Moroccan students were found to be high risk averse with a general preference for interdependence as a way to increase certainty. American students, on the contrary, appeared to be more risk taking with a general preference for learning environments which involve trial and error like project based learning. Unlike their Moroccan counterparts, who stick to their traditional way of doing things and rely solely on teachers input, these students stressed the importance of creativity and finding their own ways of doing things. These different tendencies, some researchers argue, have some implications on students' perceptions of autonomy. Jackson and Hog (2010), for example, explained that unlike certainty oriented people, individuals from more uncertainty accepting

cultures tend to be actively engaged in the situation and enjoy finding new information about the self. Likewise, Jaju et al. (2002) as cited in Holtbrugge and Mohr (2010), emphasized that unlike learners from low uncertainty avoidance cultures who value independent work and originality, students from high uncertainty avoidance “value the information and knowledge delivered by the instructor and consider it as the best explanation to the problem” (p.627). These arguments suggest that the uncertainty avoidance dimension can explain, though theoretically, differences in students SDL learning readiness found between Moroccan and American students. In short, the findings from this study, regardless of how inconsistent they may seem to be, along with these scholars arguments, provide a good starting point for the understanding of the association between uncertainty avoidance and SDL readiness.

In sum, the results from this study provided further insights into the understanding of the effect of cultural values on SDL and added empirical support for the relevance of Hofstede’s (1980) model in explaining cross-cultural variances in SDL, especially the individualism/collectivism dimension, which proved to be a strong predictor of SDL readiness. However, more research is needed to settle the inconsistencies surrounding the relationship between the cultural values of power distance and uncertainty avoidance and SDL readiness to eventually provide a consistent understanding and a clear picture of the nature of the relationship between the two.

5.5 Web 2.0 acceptance and use in higher education

Another major aim of this study was to investigate the cross-cultural dimensions of web 2.0 acceptance and use in the Moroccan and American higher education contexts. In doing so, this study examined three main issues: level of web 2.0 acceptance, the psycho-cultural factors affecting the adoption process, students' web 2.0 use patterns along with their implications especially as they relate to promoting learner autonomy.

As was extensively discussed previously in the conceptual framework chapter, this study utilized an extended version of the Unified Theory of Technology Acceptance and Use (UTAUT) (Venkatesh et al., 2003) to examine Web 2.0 uptake among Moroccan and American university students. The findings from this study provide further validation for the robustness of UTAUT model in the Moroccan and the American higher education contexts as they align strongly with those reported in many cross-cultural comparative studies (Marchewka, Liu & Kostiwa, 2007; Latif et al., 2011; Deng, Liu & Qi, 2011; Cheng et al., 2011; Göğüş et al., 2012; Nassuora, 2012; Chang, 2013). Thus, as was theorized by UTAUT, the constructs of performance expectancy, effort expectancy, and social influence were found to have a direct impact on students' behavioral intention to use web 2.0. Facilitating conditions and behavioral intention were also found to have a direct influence on students' Web 2.0 use behavior (operationalized in this study as Web 2.0 use for SDL).

More specifically, with regard to the Moroccan sample, the Pearson correlation coefficient revealed a positive and moderately strong relationship between performance expectancy and behavioral intention to use Web 2.0 with an r of $.493^{**}$, $p < .001$. Effort expectancy and social influence positively correlated with behavioral intention with an $r = .423^{**}$ and $r = .499^{**}$, $p < .001$, respectively. In relation to the American sample, the correlation coefficient $r = .508^{**}$, $p < .001$ uncovered a slightly stronger and positive relationship between performance expectancy and behavioral intention to use Web 2.0 for learning than that of their

Moroccan counterparts. Effort expectancy and social influence also positively correlated with behavioral intention with respective r coefficients of $.581^{**}$ and $r=.394^{**}$ $p < .001$. These coefficients suggest that while Moroccan students' behavioral intention to adopt web 2.0 is primarily influenced by social influence followed by performance and effort expectancy, respectively, web 2.0 adoption among their American counterparts is primarily determined by performance expectancy followed by effort expectancy and to a far lesser extent by the social influence construct. The results from the regression analysis provided further insights into the understanding of these acceptance profile differences between two groups. Thus, the effect of social influence was the strongest web 2.0 acceptance predictor ($\beta = .414$, $p < .00$) for the Moroccan sample, followed by performance expectancy ($\beta = .304$, $p < .00$), and effort expectancy which had a relatively weak impact on behavioral intention ($\beta = .117$, $p = .00$). For the American sample, performance expectancy was the strongest ($\beta = .414$, $p < 0.00$), followed by effort expectancy ($\beta = .304$, $p < .00$) while social influence had the lowest impact on behavioral intention ($\beta = .117$, $p < .00$). Most importantly, the model was able to predict 41% ($R^2 = .410$) of the variance in Moroccan students' behavioral intention to use web 2.0 while it was able to explain up to 52% ($R^2 = .525$) of that of their American counterparts.

As was explained earlier, unlike the predictors of performance expectancy, effort expectancy and social influence, which UTAUT theorized to be indirect determinants of Web 2.0 use behavior, the other two predictors, i.e. facilitating conditions and behavioral intention, were posited to be direct predictors of students' web 2.0 use behavior. As was reported earlier, the quantitative results provided empirical support for this conceptualization for both samples. For example, in relation to the association between facilitating conditions and students' web 2.0 use behavior, the correlation coefficients were $r = .465^{**}$ and $r = .448^{**}$ $p < .001$ for Moroccan and American students, respectively. These coefficients show the existence of a moderately strong and statistically significant relationship between the facilitating conditions and students

use behavior which, in turn, indicates that the adoption of web 2.0 in educational purposes is strongly influenced by the existence of favorable conditions, especially relating to issues of accessibility and technical support. Similarly, behavioral intention also positively correlated with students' web 2.0 use behavior for the Moroccan and American samples with correlation coefficients of $r = .317^{**}$, $p < .001$ and $r = .477^{**}$, $p < .001$, respectively. Interestingly, the results from the multiple regression analysis have shown that the effect of facilitating conditions was stronger ($\beta = .403$, $p < .001$) for Moroccans than for their Americans counterparts ($\beta = .251$, $p < .001$), while it was the other way around for behavioral intention as its effect was stronger for Americans ($\beta = 0.325$, $p < .001$) than for Moroccans ($\beta = 0.180$, $p = .007$). This means that Moroccan students pay more attention to facilitating conditions in their use of web 2.0 compared to Americans who seem to take facilitating conditions for granted and focus more on their personal intention to use web 2.0. In fact, these results align strongly with the findings relating to internet access levels between the two groups. Thus, as was reported earlier, a significant digital divide between Moroccan and American university students at the level of internet access was uncovered. Thus, while the quantitative results have shown that the majority of the American students (98%) reported having a reliable internet access, only 74% of their Moroccan counterparts reported having so. The qualitative results have shown an even larger digital divide between the two groups as only 17 of the Moroccan interviewees (58%) reported having access to the internet compared to 100% of their American counterparts. This means that accessibility remains a major problem for Moroccan students. This finding was also reported by other Moroccan scholars (Sbihi et al., 2009; Azrar, 2013). For example, in her study, Azrar (2013) mentioned the lack of necessary equipment and training as two major reasons that affected Moroccan university students' use of web 2.0 for educational purposes.

So far, the results from this study apart from adding further validation to UTAUT, have uncovered interesting differences in web 2.0 acceptance profiles between Moroccan and

American university students. Thus, for example, while Moroccan students have shown higher levels of social influence, facilitating conditions and lower levels of performance expectancy and behavioral intention, their American counterparts have displayed higher levels of performance expectancy, behavioral intention and lower levels of social influence and facilitating conditions. These results, as will be discussed shortly, are consistent with previous cross-cultural research findings which have reported large differences in acceptance profiles between students from different cultural backgrounds (Straub et al., 1997; Srite & Karahanna, 2006; Veltri & Elgarah, 2009; Im et al., 2010; Nistor et al., 2014).

5.5.1 The cross-cultural dimensions of web 2.0 acceptance

As was noted earlier, this study has responded to scholars' ongoing emphasis on the relevance of Hofstede model in understanding cross-national differences in technology acceptance levels and use. In so doing, it has taken the risk of unraveling the intricacies of educational technology acceptance in the Moroccan and American higher education contexts by examining the moderating effect of three of Hofstede's cultural dimensions (namely individualism, power distance and uncertainty avoidance) between UTAUT's determinant constructs of performance expectancy, effort expectancy and social influence as predicting variables and behavioral intentions to use web 2.0 as the outcome variable.

As was previously reported, the results from the first moderation analysis refuted the hypothesis assuming that individualism will have a moderating effect between performance expectancy and behavioral intention to use web 2.0. Thus, it was found that this dimension did not account for any additional increase or decrease in the *R* square beyond the 23% ($R^2 = .239$, $\beta = 493$, $p < .001$) and 35 % ($R^2 = .354$, $\beta = 598$, $p < .001$) accounted for by performance expectancy for the Moroccan and American samples respectively. Interestingly, despite failing to support the aforementioned hypothesis, these results are still highly consistent with Im et al's. (2010) argument that the impact of performance expectancy on behavioral intention to use

technology is more likely to be greater in individualistic cultures than in collectivistic ones. These scholars explained that individualistic people tend to adopt things easily if they see that they will bring about recognizable benefits such as better performance. In support of these arguments, the findings from the current study have shown that performance is an important predictor of technology acceptance among Americans than among Moroccans as it was able to predict 35% and 23% of these respective samples' intention to use Web 2.0.

Unlike the case with performance expectancy, the results from the moderating effect of individualism between social influence and behavioral intention yielded conflicting results. Thus, while individualism did not account for any additional effect on social influence for Moroccan students beyond the 30% ($R^2 = .303$, $\beta = 554$, $p < .001$) accounted for by the free model, moderation, however, took place for the American sample. Thus, the moderator was able to account for statistically significant 7% increase in the predictive power of the model from 18% ($R^2 = .180$, $\beta = 429$, $p < .001$) originally accounted for by the free model to 25% ($R^2 = .257$, $\beta = .292$, $p < .000$). In fact, while these results contradict Zakour's (2007) expectation that individualism would negatively moderate the effect of social influence on behavioral intention to use technology (cited in Nistor et al., 2014), they resonate strongly with Im et al's. (2010) assertion that effect of social influence on behavioral intention to use technology will be stronger for collectivists than individualists. As these scholars put it, "it is obvious that users in a more collectivistic and higher power distance culture will be affected by others when making decisions on technology adoption" (p.11). These results, despite their inconsistencies, still partly confirm the second part of the fourth hypothesis stating that the impact of social influence will be stronger for Moroccans than for Americans as it predicted 30% and 25% of the behavioral intention to use web 2.0 for these respective samples.

Interestingly, the results also refuted the fifth hypothesis assuming that the effect of social influence on behavioral intention will be significantly moderated by power distance.

Thus, as was reported earlier, no major additional effect was accounted for by the power distance dimension (moderator) beyond the 30% and 18% accounted for by social influence for the Moroccan and American samples, respectively. As stated above, even though no moderating effect was found between the constructs of social influence and behavioral intention, the results are still interesting in the sense that they align with many scholars' arguments that when it comes to technology acceptance, higher power distance people, Moroccans here, are more likely to be influenced by the social context (Straub et al. 1997; Srite & Karahanna, 2006) Nistor et al. 2014). Srite and Karahanna (2006), for example, explained that power distance exerts its influence through the notion of compliance which, according to them manifests when a person accepts influence from another individual because he "hopes to gain some favorable reaction from the other and avoid punishment" (p.687). That is, individuals from higher power distance cultures are more likely to be affected by others when making decisions about technology adoption which the results proved true for the Moroccan sample, as it predicted 30% of their intention to use web 2.0 compared to only 18% of that of their American counterparts.

As for the moderating effect of uncertainty avoidance, the results partly confirmed the sixth hypothesis stating that the effect of effort expectancy on behavioral intention will be significantly moderated by the uncertainty avoidance dimension Thus, as was reported earlier, while effort expectancy accounted for 15% ($R^2 = .151$, $\beta = 394$, $p < .001$) of the variance in behavioral intention to use web 2.0 for the Moroccan sample and 36% ($R^2 = .364$, $\beta = 604$, $p < .001$) of that its American counterpart, a slight moderation has taken place for the Moroccan sample with an R^2 increase from .15 to .17. This means that the predictive power of the model increased with 2% thanks to the moderating effect of uncertainty avoidance. For the American sample, however, the effect of uncertainty avoidance was found to be statistically insignificant $\beta = 049$, $p = .336$ with no major change in R^2 . Aside from the moderation effect, these results indicate that effect of effort expectancy is stronger for the American students than for their

American counterparts which implies that the US students' intention is affected more by how easy it is to use web 2.0 compared to their Moroccan counterparts. Even though these results are somewhat contradictory with what was hypothesized in this study, they are highly consistent with those reported by Im, Hong and Kang (2010), who also found that effort expectancy had a greater impact on behavioral intention in the U.S than in Korea which are respectively classified as low and high uncertainty avoiding.

Based on the findings discussed above, Hofstede's cultural dimensions have shown a limited effect as moderating variables between the determinant factors and intention to use the web 2.0 for educational purposes in the Moroccan and American higher education. However, the findings do suggest that students' cultural values of individualism/collectivism and power distance have a direct influence on some of UTAUT's determinant factors, namely social influence, performance expectancy, and behavioral intention. Thus, for example, while social influence was found to be the most important predictor of technology acceptance for Moroccan students, behavioral intention had a little effect on them. Conversely, social influence had a little effect on American students whose adoption of technology is primarily determined by performance expectancy. The effect of behavioral intention on use behavior is greater in the US sample than in the Moroccan sample and thus indicating that American students' decision to use Web 2.0 is based on their own intention rather than on other external factors or pressures. These differences, as many scholars argue, can be attributed to the effect of the collectivism/individualism and high/low uncertainty avoiding tendencies characterizing the Moroccan and American students, respectively. In relation to social influence, for example, Im et al. (2010) asserted that effect of social influence on behavioral intention to use technology will be stronger for collectivists than individualists, which was proved true in this study. Similarly, in relation to behavioral intention, Veltri and Elgarah (2009) pointed that the intention to use technology is directly influenced by the level of uncertainty noting that users

from high uncertainty avoiding cultures would show less use intention compared to low uncertainty avoiding cultures.

5.5.2 Web 2.0 use patterns

As we have seen, much has been written about the educational affordances of web 2.0 and the ways in which they can contribute to a significant shift towards more andragogical paradigms of learning. Thus, it has been strongly argued that- if appropriately exploited- the interactive and the participatory nature of web 2.0 technologies, such as social networks, blogs and wikis, can provide learners with a plethora of active and engaging learning opportunities capable of promoting self-directed and lifelong learning. This section comparatively reflects on and discusses the findings relevant to the ways in which Web 2.0 technologies are currently being used by Moroccan and American university students.

More specifically, the data from this study has shown that social media is currently the most popular web 2.0 tool among both Moroccan and American university students. Thus, in line with findings reported by scholars in various parts of the world (Sbihi et al., 2009; Požgaj & Vlahovi, 2010; Atici & Bati, 2010; Azrar, 2013), the results have shown that Facebook is currently the most pervasive web 2.0 application among both samples. However, in terms of usage patterns, the results have revealed that Moroccan students used it far less often for educational purposes compared to their American counterparts. Thus, apart from a few suggestions made by some Moroccan students about the ways in which social media can promote interaction, especially among shy and introvert students, and facilitate the sharing of educational material and updates of campus events, most of the their actual use of the social software was limited to recreational and social purposes such as keeping in touch with friends, sharing photos and videos and other personal updates. American students, on the contrary, in addition to the social and recreational uses, also elaborated on the ways in which they and their teachers have used the social networking sites, namely Facebook and to a lesser extent

Myspace, as educational tools. For example, these students reported utilizing Facebook as a platform for posting questions about course related content, discussing issues of common interest, reacting to posts by others, getting timely feedback and sharing educational material.

Despite the various educational benefits associated with blogs, the results from this study show that only a minority of Moroccan students, 13%, use them as platform for learning compared to 36.5% of their American counterparts. While these percentages clearly reflect that Moroccan students have less positive attitudes towards blogging compared to the American students, the qualitative results have uncovered an even larger gap between the two groups in terms of their educational use patterns. Thus, while the Moroccan interviewees admitted having rarely relied on blogs as educational tools, many of their American counterparts have reported having used them for a variety of educational purposes such as reading each other's blogs, reporting on videos posted by teachers, and reacting to posts by other bloggers. These results are somewhat consistent with Weyant and Gardner's (2010) findings that "32% of all American adults go online to read someone else's blog; 15% work on someone else's webpage or blog; and 11% create or work on their own online journal or blog" (p. 68). Similar results have been found in relation to students' uptake of microblogs in that it was revealed that Moroccan students used Twitter far less often than did their American counterparts. These students cited various benefits that they got from micro-blogging such as communicating more effectively with teachers, posting questions and getting timely feedback. While there is no clear justification for the Moroccan students' low uptake of micro-blogs, one of the interviewees attributed his disuse of Twitter to its very low popularity among Moroccans. Therefore, the collectivist tendencies of Moroccan students could be one of the reasons behind this fact.

In spite of the participatory nature of wikis and the promising educational affordances associated with their use especially in terms of facilitating users-generated content, the results from this study revealed that they are ranked among the least preferred web 2.0 technologies

especially among Moroccan students. In fact, the qualitative findings uncovered some skeptical attitudes towards using wikis for learning from both samples. With regard to Moroccans, for example, the majority of the interviewees reported avoiding the use of Wikipedia as a source of information due to both its questionable credibility of its information and their teachers' warnings against its use. Somewhat similar attitudes have been shown by most American students who also regard Wikipedia as an incredible source which they cannot neither confidently rely on nor cite as a source. While these results clearly show that wikis are not an appreciated educational tool among both cultural groups, they are somewhat consistent with previous research. For example, in a study examining web 2.0 use among higher education, Meyer (2010) found that Wikis were the least acceptable tools among his participants. For the Moroccan respondents, while the results from this study are highly consistent with those reported by Azrar (2013) they do not support those reported by Sbihi et al. (2009) who have found a moderate uptake of wikis among Moroccan students.

This study has also revealed some interesting differences in students' use of web 2.0 technologies, especially relating to sharing user generated content and communication. In relation to the former, apart from video and photo sites, a significant gap was found in terms of sharing user's generated content. In fact as reported earlier, Moroccan students have significantly underrated their rates of contribution to web 2.0 sites compared to their American counterparts. Thus, for example, while over three thirds of Moroccan students admitted their reluctance to share their ideas and opinions through blogs or wikis, more than half of their American counterparts have reported using web 2.0 to share their opinions, post questions and react to other posts or questions by others. This may be due to the high uncertainty avoidance tendencies of these students. In relation to communication, a large disparity between the two groups was found in terms of students' use of web 2.0 to contact teachers. Thus, unlike their American interviewees who reported great reliance on e-mails as means of student-teacher

communication, most of the Moroccan interviewees reported having limited communication with teachers beyond class hours. While this difference is understandably expected given the vast organizational and structural differences between the Moroccan and American higher education contexts, some cross-cultural psychologists also attribute this to cultural factors such as differences in power distance levels and communication styles, previously discussed in the review of the literature (especially with Hofstede, 2011; Hall & Hall, 1990). With regard to the former, Devereaux and Johansen (1994), for example, stressed that it might be difficult to get people to use certain technologies such as computer-mediated communication in high power distant cultures, where status dictates every aspect of interpersonal communication. In relation to differences in communication styles, as explained earlier, Moroccan students are classified among high context people and hence are more likely to prefer direct and face to face encounters with teachers than their American counterparts, who tend to be more comfortable with low context means of communication such as e-mails. In line with this reasoning, Westbrook (2013) argued that students who are accustomed to high-context teaching style are more likely to show resistance to low context modes of communication, e-mails here, between teachers and students.

Another interesting difference in technology use, which depicts vividly the digital divide between the Moroccan and American higher education institution relates to students use of the university website. In fact, as reported previously, the qualitative findings have uncovered a large disparity in this respect. Thus, unlike Moroccan students, who tend to rely on their own effort to access information, which can sometimes be very demanding and frustrating, American students rely primarily on the university websites as a main source of learning material. These students have a very sophisticated university platform which allows them to access everything they need in their studies including the university online libraries, asynchronous and synchronous lectures, material, and courses. Unlike Moroccan students, each

and every student has his/her own space which keeps him/her updated about everything related to his/her studies (see appendix C for the researcher's own online space). While Moroccan students are clearly at a disadvantage in this respect, as the university sites does not provide equal educational opportunities to its American counterpart as it is, in most of the cases, limited to communicative purposes such as posting announcements and updates about events; these students reported relying more on Google and YouTube educational as educational tools in addition to sites containing summaries of literary works such Spark notes and E-notes.

Importantly, in addition to the difference in the levels of web 2.0 uptake and use patterns discussed above, this study has also uncovered some major differences in terms of students' network literacy levels. Thus, as serious concerns have been raised about students' ability to make an effective and ethical use of online sources, this study examined three main aspects of network literacy, namely students' ability to find online information, evaluate its credibility and to understand the ethical issues related to its use. Based on the self-reported results obtained from this study, it can be said that Moroccan students are less equipped with the necessary knowledge to make an effective and ethical use of online information compared to their American counterpart. Thus, significant differences in self-reported expertise levels were found in all the aforementioned aspects. With regard to academic honesty, for example, the results have revealed a large gap between Moroccan and American students' level of understanding the ethical issues surrounding the use of online information. In fact, many students, in the focus groups, admitted having problems appropriately citing their sources compared to their American counterparts who have reported having taken courses in this respect. However, it is worth noting that, since knowing does not always lead to doing, many American students implied, that despite their knowledge of its danger, many American students engage in unethical use of online information and in many cases resort to cyber-mining.

5.5.3 Self-directed learning and web 2.0 use

Capitalizing on scholars' ongoing emphasis on the importance of investigating the link between students' level of SDL readiness and their utilization of web 2.0 for SDL, this study has empirically addressed this issue among Moroccan and American university students. As was reported earlier, a strong and statistically significant association between the two variables for both groups was uncovered. More precisely, the results from the regression analysis have shown that the effect of self-directed learning readiness on students' use of web 2.0 for SDL was significantly stronger for American students ($\beta = 0.559, p < .001$) than for their Moroccan counterparts ($\beta = 0.434, p < 0.001$). The model was able to explain 18% ($R^2 = 0.185$) of the variance in Moroccan students' use of web 2.0, while it was able to predict 30% ($R^2 = 0.309$) of the variance for their American respondents. These results confirmed the hypothesis stating that there will be a statistically significant correlation between self-directed learning readiness and web 2.0 use such that students with higher levels of SDL readiness would also have higher levels of web 2.0 use for educational purposes.

While these results clearly show the existence of a strong association between SDL readiness and web 2.0 use, the question that remains to be answered is if and to what extent Moroccan and American university students actually use web 2.0 for self-directing their learning. While answering this question may deceitfully seem easy to some, providing a comprehensive answer for it is far complex than one might think, as it requires both revisiting the premises of the theory of andragogy and deeply deciphering the unstated aspects of students' Web 2.0 use for learning. In relation to the former, as we have seen with Knowles (1980), self-directed learning is defined as process in which the learner takes the initiative in diagnosing his learning needs, setting his goals, choosing appropriate learning material, implementing appropriate learning strategies and evaluating his/her learning needs. The results from this study, both quantitative and qualitative, have revealed that, compared to their American

counterparts, who exhibited more characteristics associated with SDL readiness, Moroccan students lack some key elements involved in the process of self-direction such the confidence to take the initiative in setting their own learning goals, choosing the necessary material to achieve those goals and confidently assessing their learning outcomes. These students have shown complete reliance on their instructors in almost every aspect of their learning. This approach to learning clearly contrasts the premises of self-directed learning readiness growth, especially as conceptualized by the Grow's (1991) Staged Self-Directed Learning Model, which illustrates how the learner should gradually move from the first "dependent stage" in which most learning is teacher-directed to the last "self-directed" stage in which learners are "able and willing to take responsibility for their learning, direction and productivity" (p.134). Based on the results obtained from this study, it can be argued that Moroccan students are less prepared to successfully deal with the transition from the pedagogical approaches prevailing in high school to the andragogical paradigms prevailing, or at least should prevail, in higher education. Consequently, these students fail to smoothly move from the teacher-directed approaches to learning to self-directed learning ones and instead maintain their dependence on their teachers, as they used to do in high school, especially in relation to setting goals, material selection and evaluation of learning outcomes.

With regard to web 2.0 use patterns, the results have shown that, compared to American students, their Moroccan counterparts tend to use web 2.0 for social and recreational purposes more than a platform for independent learning. This fact can be understood if we carefully consider the unstructured nature of online environments in which learners can be easily swept away if they are not fully aware of the learning goals for which they are online. Thus, as was discussed previously, using web 2.0 for self-directed learning is contingent on students' possession of high levels of SDL which Moroccan students lack. For instance, as we have seen under themes of initiative and choice, Moroccan students rarely take the initiative in setting

their own learning, independently choose the learning material nor do they confidently evaluate their learning outcomes. Therefore, apart from some students, who actually elaborated on their experiences with self-directed learning projects, the rest of the Moroccan students tend to rely on the teacher as source of material and use web 2.0 for learning only when they are compelled to search for information to enrich their knowledge of issues relating to learning goals that they neither set for themselves nor see as relevant to their needs. This, in turn, maintains in them a passive and grade-oriented approach to learning.

5.6 Summary and conclusions

The results from this study provide a comparative picture of the current state of self-directed learning readiness among Moroccan and American university students along with their educational acceptance and use of web 2.0. The findings clearly suggest that compared to their American counterparts, Moroccan students' readiness for self-direction is a reasonable extent impacted by their lack of some of the attributes associated with the domains of self-control and learning management. These students tend to underestimate their ability to think responsibly and creatively about their learning which eventually hinders a smooth shift towards more andragogical approaches to learning in higher education. Besides, the results indicate that cultural factors play a major role in either enhancing or impeding the growth of SDL readiness. Nevertheless, instructors can promote students' SDL readiness by providing them with learning opportunities capable of boosting their learning management skills and motivational strategies, which will eventually encourage them to actively engage in their learning and maximize their acceptance of responsibility.

With regard to web 2.0 acceptance and use, the findings have not only further validated the Unified Theory of Acceptance and Use of Technology (UTAUT) in the Moroccan and American higher education context, but also revealed that Moroccan and Americans differ significantly in their web 2.0 acceptance levels and use patterns. Thus, while, for example,

social influence was found to be the most important predictor of technology acceptance for Moroccan students, social influence had a little effect on American students' whose adoption of technology is primarily determined by performance expectancy. The effect of behavioral intention on use behavior is greater in the US sample than for Moroccans and, thus, indicating that American students' decision to use Web 2.0 is based on their own intention rather than on other external pressure. Moreover, large differences both in terms of the level of uptake of educational technology, the types of applications involved and use patterns were found between the two samples. In relation to the latter, for example, it was found that American students utilize web 2.0 for educational purposes more than do their Moroccan counterparts, whose educational uptake of these technologies is still in its embryonic stage. More specifically, the data has shown that web 2.0 use for self-directed learning was higher among American university students than their Moroccan counterparts.

In relation to cultural values and their implications, the findings from this study added empirical support for Hofstede's multi-dimensional matrix which described the Moroccans and Americans as having divergent mindsets especially across his dimensions of individualism/collectivism, power distance and uncertainty avoidance. These differences had various implications on both self-directed learning readiness and web technology acceptance, especially the individualism/collectivism values which were found to be a strong predictor of self-directed learning readiness and a moderator of the relationships between some of the UTAUT constructs. This means that any efforts to introduce SDL projects or integrate technology in the field of education, especially to culturally diverse students, should take cultural factors into consideration.

5.6.1 Limitations of the study

Despite the researcher's effort to rigorously adhere to the regulations that govern scientific inquiry, this piece of research, like any other piece of scholarly endeavor in the social

sciences, is not free of some shortcomings and limitations. The convenience sampling procedure used in this study somewhat confines the generalizability of its findings. Thus, the data collection was limited to two universities and hence the results may not be representative of all the population under study which includes all Moroccan and American university students. The qualitative data collection process proved more daunting than originally estimated as the enrollment of the participants was far more demanding than expected both in terms of time and cost. For example, in many cases, due to availability issues, it was extremely difficult to get the adequate number of the participants in each focus group and thus, in many cases, compelled the researcher to postpone many sessions and sometimes cancel them altogether. In this respect, it is also worth noting that since the focus groups interviewees were moderated by the researcher alone, some degree of subjectivity remains a possibility. Another shortcoming, that is common in the social sciences, relates to the use of the focus groups as an obtrusive self-reporting data collection instrument. Thus, a risk of biased information remains a possibility especially that the interviewees were given a focus group protocol with a detailed description of the purpose of the study. Another inevitable methodological limitation of this study relates to the adoption of a cross-sectional design and it is therefore necessary to acknowledge the fact that the participants' perceptions of the issues under investigation may change over time and hence the findings may not be generalizable beyond the time the study was carried out.

5.6.2 Recommendations for future research

This study has attempted to examine how psycho-cultural values relate to and manifest in the educational sphere by unraveling the relationship between a multiplicity of complex and interrelated variables such as psycho-cultural values, SDL readiness and web 2.0 acceptance and use. Investigating this kind of multidisciplinary issue has proved to be incredibly complex, and hence providing a comprehensive understanding of its various aspects is beyond the scope of any single study. Accordingly, future researchers are advised to consider a number of

recommendations stemming from the present undertaking. This study has contributed empirical knowledge to the fields of cross-cultural comparative psychology and educational technology by validating the SDLRS and UTAUT models in the Moroccan and American higher education context; it would nevertheless be more interesting to compare more than two cultures along with including all Hofstede's dimensions rather than the three used in this study. It will also be interesting to examine cultural values at the individual level to see if cultural differences exist within a single culture as many researchers started to argue for. Additionally, the findings from this study could have been more comprehensive and interesting if the population was extended to include teachers. Thus, getting their perspectives on issues related to students' readiness for SDL and web 2.0 use could have added more depth to the results. Therefore, future researchers are advised to expand their samples to include the faculty. It is also advisable to examine a larger sample and conduct within-group comparisons of technology acceptance and self-directed learning using gender and age as variables. Future researchers are also advised to replicate this study to validate the research models developed in this study, be they the extended UTAUT or the extended SDLRS in other cross-cultural settings. Also, with the increasing globalization, it would be more interesting to carry longitudinal studies, rather than cross-sectional, to see if cultural values vary with time.

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