

How Do Distance Learners Like to Learn? Shared Learning Preferences in Distance Education

Nephtaly Joel B. Botor

University of the Philippines Open University and University of the Philippine Los Banos
◆ Philippines ◆ nephtaly.botor@gmail.com

ABSTRACT

Using Q-methodology, the present study explored what the learning preferences of distance learners are. To achieve this goal, a Q-set, comprised of 52 items representing earlier models and definitions of learning styles, was developed by sampling meaningful words and phrases from learning style and distance education literatures. Purposefully selected distance learners (n=18) were asked to rank-order the Q-set into a Q-sort. The Q-sorts were subjected to Q-analysis generating three plausible profiles (factors): "Rational Independents" or preference for freedom, flexibility, and goal-orientation; "Sociable Communicators" or preference for dialogue and socialization; and the "Perceptive Existentialists" or preference for items appealing to senses and relating to life's purpose.

INTRODUCTION

The learner is the most essential element in the educative process. Since the learning process best achieves its purpose when it satisfies learners' needs and circumstances, it is indispensable for teachers to *characterize the learner*. In distance education, where teachers and learners are apart during the learning process (Keegan, 1980) and where there is much reliance on pre-packaged materials (Peters, 1971), focus might be given more to learning content than to the learner (Richmond & Cummings, 2005)—learning content and learner being similarly essential elements of the learning process. To satisfy these two elements, it is imperative to characterize the learner prior to course development. This ascertains that the learning content and its presentation cater to majority of learners in the program (Anderson, 2003 in Rhode, 2009) and provide the right mix of independence and interaction (Richmond & Cummings, 2005; Papanikolaou, Mabbott, Bull & Grigoriadou, 2006; Chang, Kao, Chu, & Chiu, 2009).

In characterizing the learner, it is almost impossible not to mention learning style—a concept often referred to differently or used interchangeably with other terms like *learning strategies, cognitive styles, cognitive structures, thinking styles, motivational styles, learning orientations, learning conditions*. An encompassing definition of learning style thus far was that of Keefe (1979, p. 4) which defined learning style as “cognitive,

affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning environment.”

Truly indeed, if teachers and researchers want to know the learner, one aspect to know about is how learners learn. This is what learning style generally means (Coffield, Moseley, Hall & Ecclestone, 2004). Apparently, learning style is a dimension that may favor success in online learning (Schrum & Hong, 2002, in Solimeno, Mebane, Tomai, & Francescato, 2008). To learners, using personal learning approaches brings about satisfaction (Sahin, 2007). To educators and course developers, knowledge of learning styles guides practice (such as that in Liu & Ginther, 1999). These benefits might have been the reasons why education practitioners and researchers have become fascinated with learning style—a fascination that shows in the diverse attempts to define and measure learning style.

Learning Style Models and Distance Education

There are numerous models and definitions of learning style found in literature. Three of the commonly used models are the Jungian model, the Kolbian model and the Sensory model.

Jungian model based on Carl Jung's personality theory views learning style as a stable personality trait. When using this model, researchers categorize learners by attitude and function and distribute them into types and temperaments (Ojure, 1997). Learners are assessed through psychometric inventories like Myers-Briggs Type Indicator or Keirsey Temperament Sorter.

Kolbian model, on the other hand, based on Kolb's experiential learning, is frequently used in distance education research. David Kolb (1984), the proponent of this model, viewed learning as result of the "combination of grasping and transforming experience" (p. 41). He also proposed that learning is cyclical and dependent not just on learning circumstances but also on learning styles. Learning Style Inventory is used to identify how learners learn from experience (Kolb, 1984; Kolb & Kolb, 2005) by categorizing the learner into four learning styles; namely, Abstract Conceptualization, Concrete Experience, Reflective Observation and Active Experimentation. Dağ and Geçer (2009) revealed that out of 54 samples of learning style researches conducted from year 1998 to year 2008, 31.5% used Kolb's model. On the other, Keller and Hrastinski (2007) earlier suggested that more than half of learning style researches using Kolbian model are descriptive and quantitative. A typical direction is to explore the relatedness between learning styles and other learning-related factors (i.e. achievement and/or retention, internet use). Other research interests are the importance of learning style in designing and developing DE courses (Richmond and Cummings, 2005), learning style and student attitude (Federico, 2000) and, learning style and performance (Miller, 2005).

Sensory model—also referred to as the Visual, Auditory, and Kinesthetic/Tactile (VAKT) model—seems to be the most popular learning style model as shown by numerous free and non-standardized online tests and inventories measuring it (e.g. Perceptual Learning-Style Preference Questionnaire by Reid, 1984; 1987). The multiple intelligences (MI) theory—proposing that each individual has a unique profile of intelligences—might be considered an extended version of the VAKT model. Although Gardner (1983), the proponent of MI theory, distinguished multiple intelligences from

learning styles, there are a few studies on distance education that classify learning style preferences based on the MI theory (Riha & Robles-Piña, 2009).

There are other models besides these three. Felder and Silverman's (1988) model proposing 32 learning styles seconded Kolb's model in terms of frequency of use in distance education researches (Dağ and Geçer, 2009). An example of distance education research using this model is that of Kerr, Rynearson and Kerr (2006) which explored learning style and learning success. Hruska-Reichmann and Grasha's (1982) model, on the other hand, evaluated using the Student Learning Style Scale (SLSS), is commonly used in comparative studies involving distance and face-to-face learners. Diaz and Cartnal (1999) used this model when they compared learning styles between online and on-campus students and found that on-campus students favored collaborative style compared with online students. Aragon, Johnson and Shaik (2002) also used similar model in their studies, which revealed that distance learners tend to be more reflective than face-to-face learners are. Finally, there researchers who use other techniques in assessing learning styles eventually providing a unique model altogether. Chang, Kao, Chu, and Chiu (2009), for instance, classified students in e-learning environment as dilatory, transitory, or persistent depending on their behaviors in browsing learning units.

Characterizing the Distance Learner

Based on these learning style models, the common characteristics of distance learners can be gleaned. For instance, majority of distance learners are adults with "varied learning styles" (Knowles, 1998 in Kerr, Rynearson, & Kerr, 2006, p.101; Sloan Consortium, 2003; Padolina, Saplala & Westergaard, 2007). Technological advancements that enable synchronous interaction and immediate feedback, previously impossible during the correspondence era, might have altered the ways by which distance learners go about the learning process (Dağ & Geçer, 2009).

Moore (1976) found that distance learners tend to earn relatively high scores on *field independence* and deduced that only those who adapt to "non-social learning conditions" (Coggins, 1988, p. 27 in Richardson, 1998, p. 245) can thrive in programs where there is low dialogue. This seems logical since field independent individuals "tend to spontaneously create organizational structures during learning" (Witkin, Goodenough, Moore & Cox, 1977 in Richardson, 1998, p.242) and they are also found "to have better academic achievement in an impersonal learning environment" (Bernt & Bugbee, 1993; Cano, 1999, as cited by Lu, Yu, & Liu, 2003).

Other studies also revealed that distance learners who fall under Abstract Conceptualization category tend to have higher retention rates compared to those who fall under other categories (Kolb & Kolb, 2005). As mentioned earlier, Abstract Conceptualization is one of the four orientations in Kolb's experiential learning theory. It focuses on symbolic complexity. People scoring high on Abstract Conceptualization approach learning logically, analytically, and systematically. Conversely, they are less oriented towards people (Zanich, 1991). Students with this profile, according to Terrell (2002), tend to stay longer in Web-based courses and to be more successful in Web-based learning environment as compared to their counterparts whose learning preference is different.

A distinctive lens

Reviewing the aforementioned learning style models and definitions reveals the trend of viewing learning style as an objective construct and measuring it by psychometric approach. There seems to be no consensus as to which of the models is the best. This lack of a unifying model consequently causes disagreement on the nature and definition of learning style thus giving birth to different theoretical traditions. For instance, there are people who view learning style as a stable personality trait (i.e. Jungian model). Some view it as a relatively changing preference (e.g., Kolb's see Coffield, Moseley, Hall & Ecclestone, 2004).

Hence, the present study took a different stance. It did not adopt any single model, among those available, in exploring the learning style of distance learners. Instead, it considered different viewpoints on learning style as reflected in learning style and distance education literatures and explored which of these viewpoints are meaningful to distance learners. This allowed the investigation of the distance learners' subjective learning preferences and shared subjectivity or viewpoint (International Society for the Scientific Study of Subjectivity, 2009)—their consensus or disagreement—about which learning techniques or methods are likeable and which are not.

Q-METHODOLOGY

Q-methodology, a research technique introduced by physicist/psychologist William Stephenson believed to be "a foundation for the systematic study of subjectivity" (Brown, 1991), was used in gathering and analyzing data. Since the ultimate goal is to check for consensus or disagreement among distance learners' learning preference, Q-methodology is just appropriate as it employs centroid factor analysis that correlates persons, not items, as opposed to R-factor analysis (Brown, 1991) and it has been used already in earlier studies on learning styles in distance education (Liu, 2008; Valenta, Therriault, Dieter & Mrtek, 2001).

Selecting the Person-Set (P-set)

Distance learners (n=47) from the University of the Philippines Open University (UPOU) were purposefully invited to participate in the study through email, chat, and forum post announcement. Eighteen (nine women, nine men, $M_{age}=35.5$, age range: 24-60 years) agreed to participate. At the time of data gathering, most of them (n=10) have been staying at UPOU for two to three years while others (n=8) for less than a year. Seventy-eight percent were students of Master of Distance Education (n=14), the rest Master of Information System (n=2) and Master of Development Communication (n=2). Majority (n=16) preferred distance learning to traditional, face-to-face learning.

Defining the Concourse

First step in Q-methodology is defining the *concourse*—a set of all possible opinions about an issue (Van Exel & de Graaf, 2005). The possibility of a concourse is infinite and there are no strict rules on how to develop it. In fact, it can come in the form of words, phrases, statements, pictures, music, or any artifacts (Brown, 1991). Webler, Danielson and Tuler (2009) defined *concourse* as the "body of literature about [a] topic...usually consist[ing] of text (p. 5)." In adherence to this definition, the author

reviewed DE and learning style literatures by accessing online-published journals, mostly discussed and cited in the first section of this paper. From these literatures, meaningful words and phrases (e.g., “video”, “movie”, “radio”, “song”) related to identifying learning styles were selected to develop the concourse from where the Q-set would be derived.

Developing the Q-set and the Condition of Instruction (SH)

From the concourse, the final Q-set—that is the array of stimulus-items to be presented to the participants—were selected by stratified random sampling. First, the items in the previously-developed concourse were grouped based on their similarities. For example, the words “video” and “movie” were placed on the same group as they refer to visual stimuli. On the other hand, the words “radio” and “song” were placed on the same group as they refer to auditory stimuli. Representative sample statements were then randomly taken from each group using fishbowl technique. This procedure drew out 52 statements for the Q-set. These statements were randomly numbered and presented in a spreadsheet alongside with the *Q-matrix* simulating a quasi-normal distribution scores ranging from -4 (“most not preferred”) to +4 (“most preferred”). The *condition of instruction*—a set of specific directions on how to rank-order the Q-set—was also incorporated in the spreadsheet to guide distant learners in Q-sorting activity.

Most Not Preferred					Most Preferred				
-4	-3	-2	-1	0	1	2	3	4	
(2)	(3)	(6)	(9)	(12)	(9)	(6)	(3)	(2)	

Figure 1: Q-matrix showing the fixed distribution of the Q-set

Q Sorting

The Q-set spreadsheets were emailed to 18 distance learners (P-set) who then performed Q sorting by rank-ordering the statements on the Q matrix (see Appendix). This process differentiates Q-methodology from the usual survey method where participants are constrained to rank items based on fixed scales. As opposed to survey method, participants who rank-orders the Q-set can freely arrange the items based on their personal opinion in an issue. In the present study, participants placed preferred items to the right side of the matrix while non-preferred items to the left side of the matrix. Finally, the distant learners answered a short online survey where they explained preference or non-preference for notable statements.

Q Analysis

The Q-analysis is considered as the “scientific base of Q” (Van Exel & De Graaf, 2005, p. 8). In this process, Q-sorts were analyzed using PQMethod 2.11, a free statistical software by Schmolck (2002). PQMethod software performs centroid factor analysis or primary component analysis and varimax or judgmental rotation to “identify groups of participants having similar and alternate viewpoints” (Valaitis, Akhtar-Danesh, Eva, Levinson & Wainman, 2007). These statistical procedures reveal groups of shared viewpoints (*factors*)—referred to as *profiles* since they also represent a psychosocioemotional sketch of the distance learners. PQMethod software has a feature

to create *representative Q-sort* for each factor. This Q-sort consolidates how participants in a specific factor group arranged the Q-set.. It can also identify *distinguishing statements*—statements in the Q-set that differentiate a factor from the rest.

Labeling the factor relied much on analyzing the items in the individual and representative sorts. Several rounds of interpretations of representative and individual sorts were done before settling down on the final factor label. Explanations derived from distance learners through survey and follow-up inquiries on their Q-sorts contributed to the richness of the statements' meanings.

Profiles of Shared Learning Preferences Among Distance Learners

After Q analysis, three meaningful factors representing plausible *profiles* of shared learning preferences emerged. These factors explained 56% of the total variance. Table 1 (see next page) presents how the distance learners loaded in each of the three factors (or *profiles*) labeled *Rational Independent* (Factor 1), *Sociable Communicator* (Factor 2), and *Perceptive Existentialist* (Factor 3).

Table 1: Factor Loadings for Centroid Factor Analysis with Judgmental Rotation of Learning Preferences

Distance Learner	Rational Independent	Sociable Communicator	Perceptive Existentialist
1	.59	0.11	0.20
2	.51	-0.08	0.43
3	.60	0.49	0.06
4	.73	0.19	0.08
5	.55	0.32	0.43
6	.55	0.44	0.01
7	.07	0.58	0.15
8	.21	0.86	0.23
9	.21	0.86	0.23
10	-.08	0.32	0.56
11	.31	0.35	0.65
12	.17	0.09	0.66
13	.43	0.38	0.47
14	.57	0.42	0.44
15	.51	0.49	0.24
16	.48	0.31	0.38
17	.26	0.52	0.55
18	.32	0.50	0.49

Note: Factor loadings of representative sorts in **bold**. All values rounded off to nearest hundredths.

Thirteen of the 18 Q-sorts were automatically flagged by PQMethod software: seven for Factor 1, three for Factor 2, and three for Factor 3.

Rational Independent

Seven distance learners shared preference for Factor 1 labeled *Rational Independent*. Table 2 presents distinguishing statements for this factor.

Table 2: Distinguishing Statements for Factor 1, Rational Independent (n = 7, p<.01)

Statement	Rational Independent	Sociable Communicator	Perceptive Existentialist
Internet	4	1	2
Online forums	3	-2	0
Classmates	2	0	0
Graphs	2	-2	-2
Sense of direction	1	3	4
Deliberate	1	-1	-2
Correspondence	1	-2	-1
Modules	0	3	-1
Drawing	0	-3	1
Just whenever	0	-3	-4
Color	-2	0	3
Radio	-2	0	1
Dancing	-4	-1	-1

Most distinctive among *Rational Independents* was their strong preference for "internet" (+4) and "online forums" (+3). Although non-distinctive to this factor, strong preference for "freedom to move" (+4) and strong non-preference for "deadlines" (-3) were also apparent which affirmed liking for flexibility and dislike for rigidity. Astoundingly, "deadlines" (-3) were strongly non-preferred because it limits a person and make people *feel like being given a boundary to move* as Distance Learner 4 said.

Preference for "freedom to move" was mostly due to personal reasons. Freedom to move seemed important in leveraging time as when Distance Learner 1 said that *some of the assignments demand more time compared to others*. It seemed important likewise in *balancing many things to do in life* as expressed by Distance Learner 2 or in becoming more creative as expressed by Distance Learner 4.

Notwithstanding the shared preference for freedom, *Rational Independents*, alongside some distance learners, tend to prefer "course guides" (+3), "graphs" (+2) and "goal-oriented" (+2) and tend to dislike "just whenever" (-1) and "clutter" (-4) that seemed to imply preference for structure and direction. Distance Learner 2 affirmed this when she said:

In Distance Learning, it is much more important that all the aspects of instructional design, structure and mode of delivery are organized and structured. It is highly important that there is a sense of direction and not "just whenever"...successful completion of the course and student learning will depend if everything follows a certain goal and this is communicated well to the learners.

Related to this shared preference for structure and direction was preference for items valued in learning experience. For instance, Distance Learner 3 preferred items like the internet and the jigsaw because he believed that *such items are valuable in terms of learning* and he *could even learn many things just through those items alone*. Distance Learner 1, on the other hand, preferred the "internet" because it is a *great source of free books, information, source people, courses, videos etc.* and it allows him to accomplish his desired activities (i.e., *to publish and share...work in blogs, videos etc.*). Apparently, *Rational Independents* had the tendency to evaluate activities and embark only to those that relate to their learning goals. Conversely, they shared dislike for activities they deemed nonsense. It is distinctive to *Rational Independents* to have shared strong non-preference for "dancing" (-4), "radio" (-2), and "color" (-2) because they cannot do activities related to these (Distance Learner 1) or they are not just the type of person who do these (Distance Learner 3).

Preference for "conversations" (+3), "webcast" (+2), "email" (+2) and "classmates" (+2) showing possible preference for dialogue was also notable although these items, except the last, did not distinguish *Rational Independents* from distance learners significantly loading on other factors.

Sociable Communicator

Three distance learners shared preference for Factor 2 labeled *Sociable Communicator*. Table 3 presents distinguishing statements for this factor.

Table 3: Distinguishing Statements for Factor 2, Sociable Communicator (n = 3, p<.01)

Statement	Rational Independent	Sociable Communicator	Perceptive Existentialist
Personal contacts	0	4	0
Modules	1	3	-1
Chat	0	2	-1
Color	-2	0	3
Different situations	1	-2	0
Drawing	0	-3	1

Sociable Communicators distinctively shared strong preference for "personal contact" (+4) and "chat" (+2). This came with strong preference for "conversations" (+3), "new friends" (+2), "tutorial" (+2) and "email" (+2) seemingly connoting preference for learning activities that allow socialization and interaction. *Sociable Communicators* seemed to prefer learning experiences through which they can expand their network and find new acquaintances. They also preferred items that enable them to communicate—send and receive message and feedback—at a distance. They however seemed to prefer instant feedback since although they preferred tools that allow communication, they had strong non-preference for "online forums" (-2) and "correspondence" (-2), tools where feedback might be delayed.

Astoundingly, they have strong preference for "course guide" (+4) and "modules" (+3). As Distance Learner 7 shared, these serve as his *guide to study*. They also have apparent preference for "sense of direction" (+3), "freedom to move" (+2), and "goal

oriented" (+2). Distance Learner 18, who did not loaded significantly but loaded highly in Factor 2 shared that sense of direction that relates to *order* gives her *sense of confidence and stability*.

Perceptive Existentialist

Three distance learners shared preference for Factor 3 labeled *Perceptive Existentialist*. Table 4 presents distinguishing statements for this factor.

Table 4: Distinguishing Statements for Factor 3, Perceptive Existentialist (n = 3, p<.01)

Statement	Rational Independent	Sociable Communicator	Perceptive Existentialist
Color	-2	0	3
Opportunities	0	0	3
Music	-1	-1	2
Compassionate	-1	0	2
Drawing	0	-3	1
Novel	-3	-3	1
Course guide	3	4	1
Email	2	2	-1
Modules	0	3	-1

Perceptive Existentialists distinctively shared preference for items like "opportunities" (+3) and "compassionate" (+2) ". Alongside strong preference for "freedom to move" (+4) was their strong preference for "sense of direction" (+4), "goal oriented" (+3), and "value" (+2). *Perceptive Existentialists*, unlike *Rational Independents*, seemed to associate these terms to deep existential issues than to pragmatic value in distance learning. Distance Learner 11, for instance, explained her preference for sense of direction by saying:

At my age, sense of direction/life mission is important. I already need to start acting on my life mission and vision with full focus and with passion to be where and how I want to be in my 30s or my 40s.

This statement opened up for one of the themes in this factor that was *purpose*. Distance Learner 12 captured this theme when he equated "sense of direction" with *having a purpose*. "Opportunities" were viewed as *doors for growth (life, career, family, faith, etc)*, being "compassionate" as *helping other people*, and "value" as *quality, sincerity, and genuineness*.

Another perceptible theme in this factor was *perceptiveness*. There was an agreement among *Perceptive Existentialists* in preferring terms that appeal to the senses: "color" (+3), "music" (+2), and "pictures" (+2). Distance Learner 11, for instance, shared her liking for music:

I like music because I can sing and I am particular with the type of music that I listen to. I can relate songs and music to almost every aspect of my life, be it work, school, relationships, service, faith or personal journey.

Distance Learner 11 also added that she preferred "color" since she equated it to *art* and *creativity*. This similarly revealed probable inclination to aesthetics.

Consensus Statements

Consensus statements are items preferred collectively by the participants. These items do not statistically distinguish distance learners into any factor. Table 5 presents notable consensus statements. All distance learners shared strong preference for "conversations" (+2 to +3) and strong non-preference for "deadlines" (-3 to -4).

Table 5: Consensus Statements (non-significant at $p < 0.05$)

Statement	Rational Independent	Sociable Communicator	Perceptive Existentialist
Visualize	0	0	1
Deadlines	-3	-4	-3
Video	2	1	1
Partner	-1	-1	-1
Scrabble	-1	-1	-2
Computer	-2	-1	-2
Pictures	1	1	2
Mobile	0	1	0
Board games	-1	-2	-1
Signs	-1	-1	0
Conversations	3	3	2
Option	1	0	1

Items such as "make a model", "frequent break" and "telephone" were also consensus statements non-significant $p < .01$.

DISCUSSION

Since the present study did not employ probabilistic sampling and statistical methods, it cannot generalize applicability of results to other populations. Three plausible factors of shared learning preferences among UPOU distance learners however emerged from Q-analysis: *Rational Independents* shared preference for freedom, flexibility and goal orientation. *Sociable Communicators* shared preference for dialogue and socialization. *Perceptive Existentialists* shared preference for items that appeal to senses and that relate to life's purpose.

As theorists warned teachers against the danger of labeling students by learning style (Coffield, Moseley, Hall & Ecclestone, 2004), the profiles in this study do not box distance learners into categories. Centroid factor analysis correlates persons, not items, as opposed to R-factor analysis (Brown, 1991). The profiles then consist of distance learners who share similar preferences and not of items that characterize a person into a category. Hence, the profiles only reveal viewpoints that are commonly shared by a number of distance learners.

This study did not also intend to propose a new model or categorization of learners. Earlier review of literatures demonstrated how diverse the learning style models are and how researchers and practitioners valued each of these models differently (Papanikolaou et al., 2006). Instead, it was the goal of this study to contextualize learning style in distance education by understanding it from genuine viewpoints of distance learners. If there are labels and categories, their aim is merely to act as heuristic device to facilitate discussion and understanding.

Nevertheless, meaningful trends of shared viewpoints can be gleaned from the results of this study, especially in terms of distance learners' learning preferences.

Flexibility and Convenience

Shared preference for freedom and flexibility among *Rational Independents* supports the study of Valenta, Therriault, Dieter and Mrtek (2001), which revealed that learners share value for time, structure and convenience ("being able to learn at one's own pace", p. 117). Although preference for "freedom to move" distinguished *Rational Independents* from the rest of the distance learners, it can be gleaned that both *Perceptive Existentialists* and *Sociable Communicators* had average to strong preference for it.

What could have been the reason/s for this unified preference for flexibility and convenience? At this point, it is essential to note that all of the participants have personal responsibilities either at work or at home. All of the distance learners in this study are, in fact, employed and are facing constrains in attending the typical, face-to-face graduate programs, which makes distance education the most viable option to continue education. It is common to hear stories of distance learners who have found refuge in distance education in times when attending graduate school is almost impossible. This seems to epitomize what Peters (1971) claimed to be one of the humanitarian purposes of distance education, and that is to make education accessible particularly to marginalized clusters of the society. Truly, the term "marginalized" does not only refer to people who lack financial resources for education but also to those who lack time and chance to study due to personal circumstances (i.e., working professionals).

Shared preference for flexibility and convenience also tends to be evident in distance learners' degree of preference for mobile technology. Mobile and SMS (short messaging system; also known as "text messaging system"), which were averagely preferred, might not be strongly valuable in the distance learners' present learning experience but they were viewed as necessary such that they were not placed in the leftmost side of the Q-matrix, during the Q-sorting activity. Ramos, Trinona, and Lambert (2006), in a Philippine study on the use of SMS in non-formal distance education, approximated that 80% of their respondents were open to learn via mobile technology (p. 74). Motlik (2005) affirmed this trend on the potential use of mobile technology in education particularly in developing country.

The constraints due to personal responsibilities and the affordances of technology (i.e., Internet, mobile) are probably factors that lead distance learners to take chances on distance education.

Interactive but Structured

Sociable Communicators who had consistent preference for using interactive tools and for establishing relationship also revealed strong preference for modules. This implied a relatively equivalent preference for dialogue and structure, two of the elements related to transactional distance (Moore, 1997).

Structure and dialogue are inversely related (Moore, 1997). Moore proposed that where there is high dialogue, there is less structure, vice versa. Albeit inversely related, distance learners appear to require optimal degree of both to maximize the learning experience. For instance, noting this relationship would show that delaying feedback tends to increase distant learners' need for structure, presumably, found in learning materials such as the module. Sometimes, it is impossible to make sensible comments without first reading the assigned article or others' posts unless there is significant amount of previously learned information related to the topic. In fact, in certain online classes, the module alongside other reading texts is a common starting point for discussion.

The emergence of the *Sociable Communicators* profile may also be understood in the light of Anderson's (2003) equivalency theorem. Anderson summarized the bottom line of a longstanding debate in distance education by saying that no single means is superior in terms of delivering distance education. Instead, he posited that if one of three interactions—student/content, student/student, student/teacher—is at a high level, the other two can be offered minimally or not at all without having significant loss in the quality of learning experience. Nonetheless, although this theorem may sound antithetical to what was earlier mentioned regarding optimal need for both structure and interaction, it must be noted that Anderson also posited that high levels in more than one of these interaction mode might provide “a more satisfying learning experience.” If this is so, then it is probable that a person enrolled in a distance program who has a chance to interaction will take the opportunity to interact (e.g. dialogue, communicate) as this can increase one's satisfaction as a learner.

Yes to Goal, No to Clutter

Regardless of inclusion in any of the factors, distance learners shared preference for goal orientation and non-preference for clutter. This goes well with literatures describing adult learners as result-oriented individuals. Notably, all of the participants in this study are adults. As adults, they tend to embark deliberately on learning activities and to “have specific results in mind for education” (Rochester Institute of Technology, 2009).

Sahin (2007) revealed that personal relevance or the opportunity to link course content to personal experience highly predicted satisfaction among distance learners. Distance education is unique because the learning process does not only take place within the class but also in the distance learner's immediate environment.

This like for goal and dislike for clutter might be supportive for distance learners especially in beating the demands of distance learning. For example, Song and Hill (2007) emphasized that “communication in an online learning context is mostly written as opposed to verbal in a classroom context” (p. 34). In Silvia (2007), academic writing is an organized activity that must follow a routine, and a writer must stick to schedules and set goals.

Vartan Gregorian, President of Carnegie Corporation said that—

In an age overwhelmed by information...the ability to read, comprehend, and write—in other words, to organize information into knowledge—can be viewed as tantamount to a survival skill (Graham & Perin, 2007, p. 2).

These propositions only show that writing—a mainstay in distance education—is an organized and goal-oriented act, which while supporting the distance learners' achievement of their academic goals might be reciprocally honed in them in the process.

Scope and Limitations

It is encouraged among researchers using Q-methodology to conduct post-sorting interviews after Q-analysis to allow participants to elucidate the meaning of their Q-sorts. This study did not however push further to the interview, which might have added more meaning to the distance learners' interpretation of the statements in the Q-set. Nonetheless, to compensate for the interview, a short survey with open-ended questions was administered allowing participants to explain their most preferred and most non-preferred items. Other Q-studies also made use of this technique to draw out information from participants (Valaitis et al., 2007). Responses in this survey were used to explore the meaning given by distance learners to the items in the Q-set.

CONCLUSION

Beyond exploring the consensus and disagreements among distance learners' subjective learning preferences, the study only shows how diverse learning preferences could be. This poses a challenge among distance educators and distance education administrators to make sure that learning preferences of distance learners enrolled in their academic programs are appraised and that information gathered from their appraisals are used to inform course development and decision-making. To distance learners, on the other hand, awareness of own and others' preferences is contributory to consciously responding to the academic demands of distance education. Indeed, there may be no single best learning approach or preference, as this may be circumstantial, but being aware of these factors surely gives everyone a head start towards meaningful, beneficial and satisfying distance education learning experience.

REFERENCES

- Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *The International Review of Research in Open and Distance Learning*, 4 (2). Retrieved January 1, 2011 from <http://www.irrodl.org/index.php/irrodl/article/view/149/230>.
- Aragon, S. R., Johnson, S. D., & Shaik, N. (2002). The influence of learning style preferences on student success in online versus face-to-face environments. *American Journal of Distance Education*, 16(4), 227–244.

- Bernt, F.M. & Bugbee, A.C. (1993). Study practices and attitudes related to academic success in a distance learning program. *Distance Education*, 14 (1): 97–112.
- Brown, Steven R. (1991). A Q Methodological tutorial. Eight postings to QUALRS-L@UGA. Retrieved November 11, 2013 from <http://facstaff.uww.edu/cottlec/QArchive/Primer1.html>.
- Cano, J. (1999). The relationship between learning style, academic major, and academic performance of college students. *Journal of Agricultural Education*. 40 (1): 30–37.
- Chang, Y., Kao, W., Chu, C & Chiu, C. (September 2009). A learning style classification mechanism for e-learning. *Computers & Education*, 53(2), 273-285.
- Chanock, K. (2004). Autonomy and responsibility: same or different?. *Proceedings of the Independent Learning Conference 2003*. Retrieved January 11, 2013 www.independentlearning.org/ila03/ila03_chanock.pdf
- Coffield F., Moseley, D., Hall, E. and Ecclestone, K. (2004) *Learning styles and pedagogy in post-16 learning : a systematic and critical review*. London: Learning and Skills Network.
- Dağ, F. & Geçer, A. (2009). Relations between online learning and learning styles (World Conference on Educational Sciences 2009). *Procedia Sociable and Behavioral Sciences*, 1: 862–871.
- Diaz, D. P., & Carnal, R. B. (1999). Students' learning styles in two classes: Online distance learning and equivalent on-campus. *College Teaching*, 47(4), 130-135.
- Federico, P. (2000). Learning styles and student attitudes toward various aspects of network-based instruction. *Computers in Human Behavior*, 16 (4), 359-379.
- Felder, R., & Silverman, L. (1988). Learning and teaching styles. *Journal of Engineering Education*, 78(7), 674–681.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Garrison, R. (2000) Theoretical Challenges for Distance Education in the 21st Century: A shift from structural to transactional issues. *The International Review of Research in Open and Distance Learning*, 1 (1). Retrieved January 11, 2013 from <http://www.irrodl.org/index.php/irrodl/article/view/2>.
- Graham, S. & Perin, D. (2007). Writing Next: Effective strategies to improve writing of adolescents in middle and high school. *A Report to Carnegie Corporation of New York*. New York: Alliance for Excellent Corporation. New York: Carnegie Corporation. Retrieved January 11, 2013 from <http://www.all4ed.org/files/WritingNext.pdf>.

- Hruska-Riechmann, S., & Grasha, A. F. (1982). The Grasha-Riechmann student learning style scales. In J. Keefe (Ed.). *Student learning styles and brain behavior* (pp. 81-86). Reston, VA: National Association of Secondary School Principals.
- International Society for the Scientific Study of Subjectivity (2009). *About Q methodology* (online). Retrieved <http://www.qmethod.org/about.php>.
- Keegan, D. J. (1980) On defining distance education. *Distance Education* 1(1), 13- 36.
- Keller, C. & Hrastinski, S. (2007). Do learning styles matter in online education? In N. A. Buzzetto-More, N. A. (Ed.). *Principles of effective online teaching*. New York: Informing Science Press.
- Kerr, M. S. , Ryneanson, K., & Kerr, M.C. (2006). Student characteristics for online learning success. *Internet and Higher Education*, 9: 91–105.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Upper Saddle River, New Jersey: Prentice Hall.
- Kolb, D., & Kolb, A. (2005). *The Kolb Learning Style Inventory—Version 3.1 2005 Technical Specifications*. Hay Group. (Online version) Retrieved June 1, 2009 from www.learningfromexperience.com/images/uploads/Tech_spec_LSI.pdf.
- Liu, C. (2008). An empirical research of e-learners' learning styles by Q-methodology. *International Journal of Innovation and Learning*, 5 (6), 633-650.
- Liu, Y., & Ginther, D. (1999). *Cognitive Styles and Distance Education*. *Online Journal of Distance Learning Administration*. 2 (3). Retrieved from <http://www.westga.edu/~distance/liu23.html>.
- Lu, J., Yu, C., & Liu, C. (2003). Learning style, learning patterns, and learning performance in a WebCT-based MIS course. *Information & Management*, 40: 497–507.
- Luk, S.C. (1998). The relationship between cognitive style and academic achievement. *British Journal of Educational Technology*, 29 (2): 137–147.
- Miller, L. M. (2005). Using learning styles to evaluate computer-based instruction. *Computers in Human Behavior*, 21, 287–306.
- Moore, M. G. (1976). Investigation of the interaction between the cognitive style of field independence and attitudes to independent study among adult learners who use correspondence independent study and self directed independent study. *Dissertation Abstracts International*, 37, 3344A.
- Moore, M. (1997) Theory of transactional distance. In Keegan, D. (Ed.) *Theoretical Principles of Distance Education* (1997), 22-38. New York: Routledge.
- Motlik, S. (2008). Mobile learning in developing nations. *International Review of Research in Open and Distance Learning*, 9 (2). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/564/1039>.

- Ojure, L. (1997). An Investigation of the Relationship between Teachers' Participation in 4MAT Fundamentals Training and Teachers' Perception of Teacher Efficacy (a dissertation). Retrieved from <http://scholar.lib.vt.edu/theses/available/etd-6197-102045/unrestricted/Oj6241.pdf>
- Padolina, M.C.D, Saplala P.E., & Westergaard, M.L. (2007). Theories of Distance Education - 1. Foundations of Distance Education: Experiences from the Philippines. Quezon City. Quezon City: University of the Philippines Open University.
- Papanikolaou, K. A., Mabbott, A., Bull, S. & Grigoriadou, M. (May 2006). Designing learner-controlled educational interactions based on learning/cognitive style and learner behavior. *Interacting with Computers*, 18(3), 356-384.
- Peters, O. (1971) Theoretical aspects of correspondence instruction. In Mackenzie, O. and Christensen E.L. (Eds.) *The changing world of correspondence study*. University Park and London: Pennsylvania State.
- PQMethod [computer program]. Version 2.11 (adapted from mainframe-program Q method written by John Atkinson, 1992). Neubiberg, Germany: University of the Bundeswehr Munich; 2002.
- Ramos, A., Trinona, J., & Lambert, D. (2006). Viability of SMS technologies for non-formal distance education. In J. Baggaley (Ed.) *Information and Communication Technology for Sociable Development*, 69-80. Jakarta: ASEAN Foundation. http://www.aseanfoundation.org/documents/ICT4D_book_v2.pdf
- Reid, J. (1984). Perceptual Learning-Style Preference Questionnaire. Retrieved May 29, 2009 from <http://lookingahead.heinle.com/filing/l-styles.htm>
- Reid, J. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, 21 (1), 87-110.
- Rhode, J. (2009). Interaction Equivalency in Self-Paced Online Learning Environments: An Exploration of Learner Preferences. *International Review of Research in Open and Distance Learning* 10(1). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/viewArticle/603/1178>.
- Richmond, A. S., & Cummings, R. (2005). Implementing Kolb's learning styles into online distance education. *International Journal of Technology in Teaching and Learning*, 1(1), 45-54.
- Richardson, J. (1998). Field independence in higher education and the case of distance learning. *International Journal of Educational Research*, 29: 241-250.
- Riha, M. & Robles-Piña, R. (2009). The Influence of Multiple Intelligence Theory on Web-Based Learning. *MERLOT Journal of Online Learning and Teaching* 5 (1) [online version]. Retrieved from http://jolt.merlot.org/vol5no1/robles-pina_0309.htm.
- Rochester Institute of Technology (2009). *Adults Learners*. Retrieved from http://online.rit.edu/faculty/teaching_strategies/adult_learners.cfm

- Sahin, I. (2007). Predicting Student Satisfaction in Distance Education. *Turkish Online Journal of Distance Education* 8(2): 113-119. Retrieved from http://tojde.anadolu.edu.tr/tojde26/pdf/article_9.pdf.
- Schmolck, P. (2009). The QMethod Page. (Online articles). Retrieved last July 10, 2009 from <http://www.lrz-muenchen.de/~schmolck/qmethod/#PQMethod>.
- Schrum, L., & Hong, S. (2002). From the Field: Characteristics of Successful Tertiary On-line Students and Strategies of Experienced Online Educators. *Education and Information Technologies*, 7(1), 5–16.
- Silvia, P. (2007). *How to Write a Lot*. US: American Psychological Association.
- Sloan Consortium. (2003). Sizing the Opportunity: The Quality and Extent of Online Education in the United States, 2002 and 2003. USA: Sloan Consortium.
- Solimeno, A., Mebane, M. E., Tomai, M. & Francescato, D. (2008). The influence of students and teachers characteristics on the efficacy of face-to-face and computer supported collaborative learning. *Computers & Education* 51: 109–128
- Song, L. & Hill, J. (2007). A Conceptual Model for Understanding Self-Directed Learning in Online Environments. *Journal of Interactive Online Learning*, 6 (1), 27-42. Retrieved from <http://www.ncolr.org/jiol>.
- Terrell, S. R. (2002). The effect of learning style on doctoral course completion in a Web-based learning environment. *Internet and Higher Education*, 5(4). 345-352.
- Valaitis, R., Akhtar-Danesh, N., Eva, K., Levinson, A., Wainman, B. (2007). Pragmatists, positive communicators, and shy enthusiasts: three viewpoints on Web conferencing in health sciences education. *Journal of Medical Internet Research* 9(5):e39. [PubMed DOI: 10.2196.]
- Valenta, A., Therriault, D., Dieter, M. & Mrtek, R. (2001). Identifying student attitudes and learning style in distance education. *The Journal of Asynchronous Learning Networks*, 5 (2), 111-127.
- Van Exel, N. J. A. & de Graaf, G. (2005). Q methodology: A sneak preview. (Online article). Retrieved June 1, 2009 from <http://www.qmethodology.net>.
- Webler, T., Danielson, S., & Tuler, S. (2009). Using Q method to reveal social perspectives in environmental research. Greenfield MA: Social and Environmental Research Institute. Retrieved from: www.serius.org/pubs/Qprimer.pdf

Witkin, H. A., Moore, C. A., Goodenough, D. R., & Cox, P. W. (1977). Field-dependent and field independent cognitive styles and their educational implications. *Review of Educational Research*, 47: 1-64.

Zanich, M. L. (1991). Learning styles / teaching styles. Unpublished Manuscript, Indiana University of Pennsylvania, Teaching Excellence Center, Indiana, PA. Retrieved <http://www.coe.iup.edu/rjl/instruction/cm150/selfinterpretation/kolb.htm>.

APPENDIX

Q-set

color	radio	deliberate	freedom to move	forums
visualize	jingles	different situations	make a model	webcast
graphs	frequent break	deadlines	drawing	tutorials
video	classmates	just whenever	sense of direction	Internet
underline	partner	goal-oriented	scrabble	computer
pictures	new friends	emotions	jigsaw	mobile
novel	personal contacts	compassionate	board games	telephone
signs	conversations	value	modules	SMS
music	option	strengths	chat	correspondence
read aloud	opportunities	dancing	email	course guide
self help	clutter			
