

Customized Learning Materials for a Language Proficiency Course: A Look into Learners' Learning Style

Aini Faridah Azizul Hassan
ainifaridah@gmail.com
Academy of Language Studies
Universiti Teknologi MARA (UiTM)
Shah Alam, Malaysia

Othman Ismail
othmani@salam.uitm.edu.my
Academy of Language Studies
Universiti Teknologi MARA (UiTM)
Shah Alam, Malaysia

Nor Fazlin Mohd Ramli
norfa707@salam.uitm.edu.my
Academy of Language Studies
Universiti Teknologi MARA (UiTM)
Shah Alam, Malaysia

ABSTRACT

Today, there are countless study materials, printed or online, available in the market. Nevertheless, not all the materials are suitable to the learners' need in terms of learning contents, material presentation and especially learning styles. However, with properly customized learning materials, educators will be able to provide their learners with better learning activities and more personalized learning opportunities. In this study, the Felder and Silverman Learning Style Model (FSLSM), is proposed as a probable learning solution for developing the most appropriate and feasible technology-based or self-learning environment. The purpose of using this solution is to cater the different learners' learning styles. A research question was asked on what learning style(s) is/are preferred by the full-time (FT) and distance-learning (ePJJ) learners. An online Index of Learning Styles (ILS) questionnaire was employed as a measuring instrument. A total of 55 learners from two classes, FT and ePJJ at Universiti Teknologi MARA (UiTM) Shah Alam participated in the study during the Sept-Dec 2013 session. The findings reveal that majority are active, sensing, visual and sequential learners. The implication of this study supports the notion that learners' learning styles can affect their success in language learning. Hence, language instructors, who address their learners' learning styles, can provide their learners with a more effective learning environment.

Keywords: Customized learning materials, personalized learning, students' learning styles distance

learning, technology-based or self-learning environment

INTRODUCTION

There is abundant of ready-made study materials available in the market nowadays for both learners and educators to choose from. Is buying a study material off the shelf the best bet, or is customized and personalized learning software to exact specifications going to provide the best value? Obviously there are two sides of the same coin. The answer lies in investigating the needs or preferences of today's learners' studying in the public education system.

Especially for learners who prefer to learn at a distance or in a blended learning mode, understanding their learning styles is even crucial as they usually learn without an instructor present. A customized learning material would provide the solution to minimize misunderstanding. The learning content would be effectively delivered if the materials match the learners' learning styles. Since these autonomous learners mostly seldom or never meet their instructors, they depend heavily on the learning materials to sustain motivation.

In order to evade loss of motivation and to enhance sustainability of learning in blended mode, the learning sessions need to be well organized and monitored. So when it comes to helping every student learn, following the same sequence and emphasis as in a traditional classroom and online setting will never benefit the learners. Thus, understanding learners' learning styles, providing them with customized and personalized learning materials and ultimately designing a courseware would enhance the learners' learning experience. A courseware would be a probable learning solution most appropriate and feasible for technology-based or self-learning environment. Nonetheless, prior to any development of a stand-alone courseware, a needs analysis of the learner needs or specifically learning styles is most significant.

LITERATURE REVIEW

Learning Style

Owing to the rapid development of internet technologies and the shortcomings of traditional classroom learning, the way of learning is continuing to shift from the physical classroom to online supported learning although the vast majority of students themselves still value face to face teaching environments (JISC, 2006). Providing effective learning in an online environment has become a significant issue (Lin & Chen, 2008). In e-learning, to heighten learning effectiveness, personalization is seen as a process of customizing the learning environment and taking into account students' learning styles, profile, interest, previous knowledge level, goals and pedagogical method (Jing & Quan, 2008). Therefore, learners' individual differences for instance prior knowledge, learning goals and styles are the key principals of personalization.

Notably, learning style is seen as one of the most crucial factors to support personalization (Liu, Gomez, Khan & Yen, 2007). It is widely accepted and reported that

learners have different approach to their learning. Some learners understand best by watching and listening, some prefers text material and others by doing. Matching teaching styles to learning styles can significantly enhance academic achievement and learner's attitude. Bajraktarevic, Hall, and Fullick (2003) confirmed this by a study showing that learners attending an online course that matches with their preferred learning style (either sequential or global) achieved significantly better results than those who got delivered a course that did not match their learning style. In this study, a personalized learning courseware CD is designed based on the Felder & Silverman Learning Style Model (FSLSM) which is considered as the most appropriate and feasible learning style theory with respect to web based learning system design and development and for hypermedia courseware (Carver, Howard, & Lane, 1999). FSLM is also used in research related to learning styles in advanced learning technologies (Graf, Viola, Kinshuk & Leo, 2006). Richard Felder and Barbara Soloman developed an instrument of the model in 1991. The main aim of this learning style model is to describe the most significant learning styles for blended learning students and help instructors to match their teaching strategies with students' learning needs (Felder & Silverman, 1988). It characterizes learners in four dimensions according to their preference in processing, perceiving, getting and understanding of information.

Active / Reflective dimension

This dimension categorises learners in how they process information. Active learners are categorised as retaining and understanding information better by doing something with the learned material such as they like to discuss, apply or explain it to their peers. By contrast, reflective learners tend to think about the concepts quietly first and they prefer to work alone. Also, in order to retain the material more effectively they prefer to review and reflect what they have read, and summarize their reading by writing short summaries.

Sensing / Intuitive dimension

Learners in this group are distinguished based on their understanding of the learning materials. As for sensing learners, they like to learn facts and study concrete learning materials, whereas intuitive learners are more comfortable with abstract materials. Moreover, in order to learn from concrete material sensing learners prefer to solve problems using standard approaches and dislike complicated problems. They learn best when they see how it connects to the real world and they tend to be more practical. Intuitive learners like discovering possibilities and relationships. Moreover, learners in this category tend to be more innovative and like challenges than sensing learners.

Visual / Verbal dimension

In this dimension learners differentiate in the way they get the information. Normally, visual learners when they see pictures, diagrams and movies make them remember best. Their strategy to remember better is using techniques such as highlighting to colour-coding their notes. In comparison, Verbal learners learn best from written and spoken explanations.

Sequential / Global dimension

Sequential learners prefer to learn in a linear way and they tend to follow logical steps in order to find solutions. They are also interested in the details. By contrast, global learners prefer to look at learning materials randomly. They can put things together once they see the 'big picture'. They are interested in overviews and will look for connections between different areas. Therefore, a sequential or free selection of learning path was designed to encourage them to understand the subject better.

PROBLEM STATEMENT

The differences among learners have been the interest of educators and researchers (Tomlinson, 2000; Wolfe, 2001; Tomlinson, 2003; Felder & Brent, 2005; Kingore, 2005). It has been discovered that the students differ in the pace at which they learn, in their readiness to learn, and in which concepts and skills they still need to learn (Tomlinson, 2000; Wolfe, 2001; Tomlinson, 2003; Kingore, 2005). Based on the literature, effective blended learning is not one-size-fits all. It leverages adaptive, data-driven technologies to differentiate content and process according to student responses and readiness levels; motivates students to engage with the material at their appropriate pace and level of challenge; and offers multiple, appropriately sequenced opportunities for interaction through guided and independent practice with timely, substantive feedback (Jordan, 2006; Kosba, Dimitrova & Boyle, 2007; Alevan, Kay & Mostow, 2010; Bojilov, Bojilova, Kachlakeva & Kachlakev, 2010; and Chi, VanLehn, Litman & Jordan, 2011).

UiTM offered learning opportunities to both full time and part time learners. The fulltime learners are mostly high school leavers with Sijil Peperiksaan Malaysia (SPM) while the part time learners are usually adult learners. These adult learners come from different backgrounds and have chosen distance learning as the mode of learning. Most of them chose this mode of learning due to career and family commitments. Based on these facts, these learners prefer flexible learning to accommodate their shortcomings. On the other hand, the full time students are exposed to traditional classrooms which allow the learners to learn directly from their lecturers. In order to understand the learning styles of these two groups of students, a case study was conducted to compare and contrast their learning styles so that properly designed learning materials can be developed. Therefore, this study is conducted to ascertain whether a customized learning material would meet the needs of these learners especially those adult learners.

The objectives of the study are as follows:

1. To determine the learning styles of UiTM full time learners?
2. To determine the learning styles of UiTM e-PJJ learners?

Hence, the research questions of the study are:

1. What are the learning styles of UiTM full time learners?
2. What are the learning styles of UiTM e-PJJ learners?

METHODOLOGY

In order to investigate the learning style of learners, a case study was performed where 55 learners from UiTM participated. 23 learners were from the full time course whereas the other 32 learners were full time learners via distance mode (e-PJJ). To identify the learning styles of the learners, they completed an online questionnaire developed by Felder and Solomon (1991). In the next section, this questionnaire is briefly discussed and later the results of the study are presented.

RESEARCH INSTRUMENT

The Index of Learning Styles (ILS) contains a 44-item questionnaire in categorizing the learning styles according to FLSM. This test is an instrument used to assess preferences on four dimensions of learning (Active vs. Reflective, Sensing vs. Intuitive, Visual vs. Verbal, and Sequential vs. Global). These preferences are expressed with values between +11 to -11 per dimension. This range comes from the 11 questions that are posed for each dimension. When answering a question, for example, with an active preference, +1 is added to the value of the active/reflective dimension whereas an answer for a reflective preference decreases the value by 1. Thus, each question is answered either with a value of +1 (answer a) or -1 (answer b).

The ILS has been used and investigated by many researchers to identify learners' learning styles. A study conducted by Felder and Spurlin (2005) support the reliability, validity and suitability of the instrument.

FINDINGS

This section presents the results of ILS for full time and e-PJJ learners. 55 learners (23 full-time and 32 e-PJJ) participated in this study (see Table 1). According to the ILS results, if the score falls on a scale 1-3, the learners are considered as fairly well balanced on the two dimensions of that scale. However, those who score on a scale 5-7, have a moderate preference for one dimension of the scale and will learn easily in a teaching environment which favors that dimension. Finally, score on a scale 9-11, indicates that a learner has a very strong preference for one dimension of the scale and will have real difficulty learning in an environment which does not support that preference.

Table 1 shows the overall results of the ILS for both groups, that is, full time (FT) and e-PJJ learners. Figure 1 indicates the ILS results for full-time learners only and categorizing them into the three main scales, well balanced, moderate preference for one dimension and strong preference for one dimension. On the other hand, Figure 2 represents the ILS results for e-PJJ learners.

Table 1

ILS results for full time and e-PJJ learners

DIMENSION	SCALE	FT	e-PJJ	DIMENSION	SCALE	FT	e-PJJ
ACT (ACTIVE)	11			REF (REFLECTIVE)	11	1	
	9		1		9		
	7		3		7	2	
	5	6	6		5		1
	3	2	4		3	4	5
1	4	9	1	4	3		
SEN (SENSING)	11		2	INT (INTUITIVE)	11		
	9	2	1		9		
	7	3	2		7		
	5	2	3		5	2	6
	3	6	5		3		4
1	4	6	1	4	3		
VIS (VISUAL)	11		6	VRB (VERBAL)	11		
	9	7	5		9		
	7	3	1		7		
	5	5	6		5	1	
	3	2	5		3		1
1	4	5	1	1	3		
SEQ (SEQUENTIAL)	11			GLO (GLOBAL)	11		
	9	1			9		
	7	1	1		7		1
	5	3	4		5	2	3
	3	6	7		3	1	5
1	4	3	1	5	8		

As shown in Figure. 1, in the active and reflective dimension, majority of the full-time learners (60.9%) have a well-balanced preference for both dimension and only (4.3%) of the learners have a strong preference for reflective dimension. The same result could be seen in the sensing and intuitive dimension, (60.9%), of the learners have a well-balanced preference and only (8.7%) of the learners have strong preferences for sensing dimension. However, for visual and verbal dimension, (39%) of the learners have moderate preference for one dimension and (30.4%) of the learners have strong preference for visual dimension in comparison to verbal dimension. As for the last dimension, sequential and global, (69.5%) of the learners have a well-balanced preference.

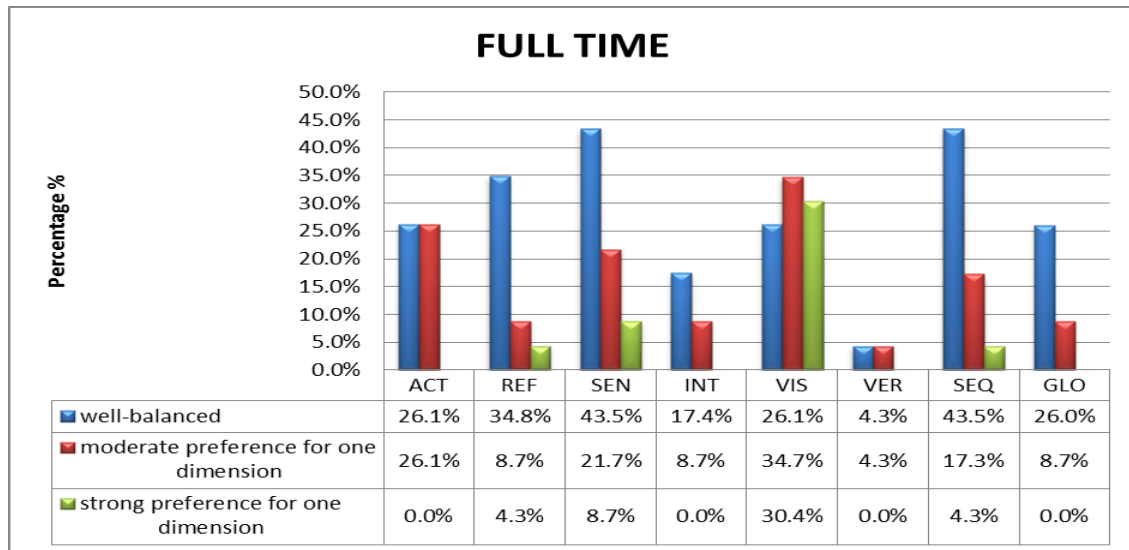


Figure. 1. ILS results for full-time learners

Meanwhile, Figure. 2 indicated the ILS results for e-PJJ learners. In the active and reflective dimension, most of the learners (65.6%) have a well-balanced preference in both dimension and only (3.1%) of the learners have strong preferences in active dimension. As for the sensing and intuitive dimension, (56.3%) have a well-balanced preference whereas (34.5%) have moderate preference for one dimension and (9.4%) have strong preference for sensing dimension. For visual and verbal dimension (43.7%) of the learners have a well-balanced preference and (34.4%) of them have strong preferences for visual dimension. Meanwhile, for sequential and global dimension, it can be concluded that majority of the learners have a well-balanced preference.

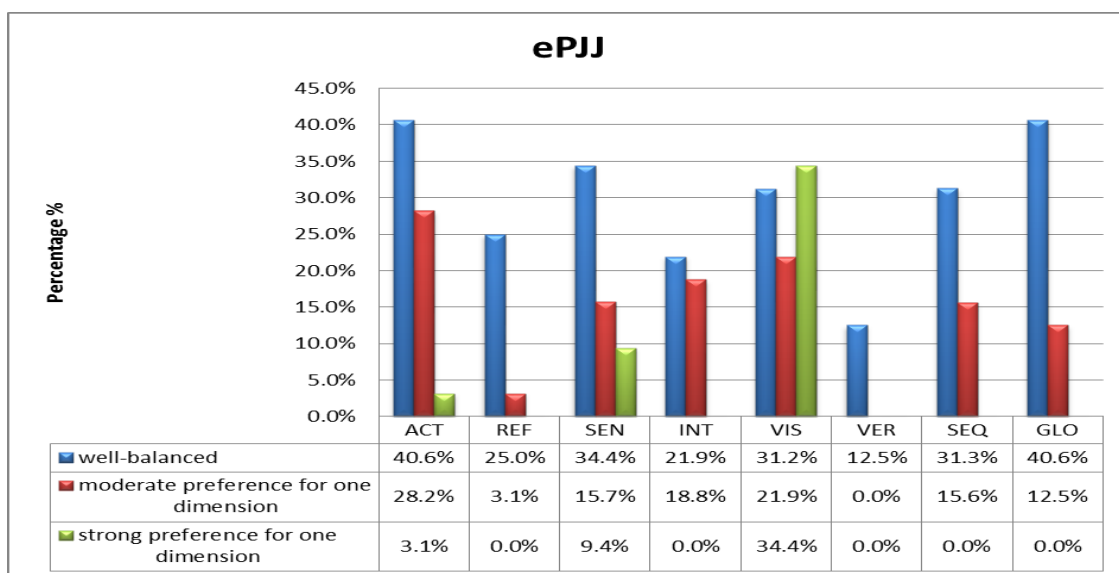


Figure. 2. ILS results for e-PJJ learners

The result of the study found that learners in both modes have strong preference for visual dimension when it comes to the way learners' receive information. Therefore, these two groups of learners would benefit from visual stimulus like pictures, diagrams and movies. This common finding of both groups of learners would mean that educators should customize learning material by providing visual stimulus. To illustrate, these learners may learn faster if the learning contents are presented in graphic organizers.

However, there is a big gap between full-time learners and e-PJJ learners in information processing, perception and understanding. The full-time learners are mostly sequential learners who need more instructions and guidance. Information or learning content needed to be presented explicitly to them. On the other hand, more than half e-PJJ learners tend to be more active, intuitive and global in their learning styles as compared to full-time learners. In other words, e-PJJ learners who are part time and adult learners prefer to work in groups, discover possibilities and relationships and absorb material randomly. Educators must consider this unique learning style when customizing learning materials. Adult learners are more independent and thus problem solving activities outside the confines of a classroom would benefit them the most.

DISCUSSION AND CONCLUSIONS

The preliminary findings of this study indicate that in language learning, learning styles need to be considered in the concept, designing and creating the language materials. This is because if the educators want to optimize their learners' learning, it can only be done if they consider not only their approach in teaching but also their need to customize learning materials based on the different learning styles of the learners. The most common challenge for educators in blended learning is insufficient time. Educators are often burdened with giving feedback and uploading learning materials online. These tasks are inevitably time consuming. The findings of this study could help educators to prepare, choose and pick the appropriate learning materials that fit their learning styles. This, therefore, saves time and cost not only of the educators but also for the learners.

As for the learners themselves, knowing their preferred learning styles can also be used to encourage metacognition on how best they learn. Metacognition allows learners to regulate and monitor their learning pace and performance (Flavell, 1979). Thus, learners should be aware of their learning styles so that they are able to minimize learning discrepancies in terms of a mismatch between learning materials and learning styles. Also, by being able to recognize their own strengths and weaknesses in learning, they will become successful learners.

The findings also challenge the notion of one-size-fits-all approaches to the construction of e-learning environments, and in particular, those which place a total emphasis on text-based learning materials. As mentioned by Vattam and Kolodne (2006), educators in the traditional classroom are often constraint to a single method of teaching due to time, material and environmental factors. Nonetheless, educators in e-learning environments could also be bounded by these constraints if they do not realize the importance of learners' learning styles. Especially

learners who are learning at a distance, they require a more flexible and variety of teaching methods and designs. As illustrated by the findings of this study, e-PJJ learners who are part time and adult learners appear to be more active, intuitive and global in their learning styles. This means, the learners are hands on learners and prefer to see the ‘big picture’ of their learning objectives. The absence of instructors for these learners may pose learning difficulties since it contributes to lack of monitoring. To these learners, learning materials are the main sources or references in learning. Thus, designing and developing learning materials that could fit the multiple learning styles should be the main concern in e-learning environments.

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About the Authors

Aini Faridah Azizul Hassan is a Senior Lecturer in Universiti Teknologi MARA currently doing her Doctorate in Educational Technology. Her research interests include Educational Technology, Distance Learning, Instructional Design, Adult Learners and English as a Second Language studies.

Dr Othman Ismail is an Associate Professor of Language Studies in Universiti Teknologi MARA. His research interests include Instructional Design, Adult Learners and English as a Second Language studies.

Dr Nor Fazlin binti Mohd Ramli is a Senior Lecturer in Universiti Teknologi MARA. Her research interests include Instructional Design, Adult Learners and English as a Second Language studies. Currently, she is involved in developing multimedia packages for ESL young adult learners.