An investigative study to explore the link between the learning styles and the language learning strategies of undergraduate EAP learners in Poland

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Abstract

Many recent studies have concluded that the numbers of adult students are increasing and in some cases, these adult learners have outnumbered conventional college learners in the field of tertiary education. According to one study, over 80% of the undergraduate learners in the U.S.A were classified as adult learners, (National Centre of Education Statistics, 2002). Over 36% of high school students were more than 25 years old and 47% were independent students (Centre of Post Secondary and Economic Success, 2011).

The increased numbers of adult learners in tertiary education has led researchers to explore various aspects of adult education in general and their language learning methods and styles to acquire knowledge in particular. Through this study, the learning strategies and styles of undergraduate EAP learners of the Polish university are identified and explored to see whether there is any possible link in between them.

Questionnaires are used as a primary tool for data collection. The questionnaires target to obtain the answers of the questions related to adult students' demographical information, language learning methods and, and learning styles. O'Malley's learning strategies and Kolb model for learning styles are used to develop the questionnaires. For empirical examination, the outcomes from the

questionnaires are analysed and compared and based on the results, discussion, suggestions and conclusion are drawn.

Key terms
Higher education in Poland, Adult learners, O'Malley language learning strategies, Kolb Learning styles.

1.0 Introduction

The methods that adult students use to acquire language knowledge and satisfy heir individual learning styles are the hot topics of discussion for researchers around the world (Oxford, 2003). In the past two decades, a large number of researches have been conducted to measure and evaluate learning styles and methods of adult students in different countries (Al-Hebaishi, 2012) but very few have focused the Polish language learners of higher education. According to one of the researches, the effective use of the learning styles and strategies by language learners can fetch productive language outcomes, enhance their capabilities in language learning, and help them to perform better in the target language in and outside classrooms (Nunan, 1988, 1995).

Considering the adult language education in Poland, it is evident that more focus is given on the way the language knowledge can be acquired than facilitating learners to obtain the realistic knowledge. According to one of the studies, an effective knowledge acquisition does not only mean the possession of knowledge instead it is about being able to find out-of-the box solutions of the problems and establishing competencies to process and apply the knowledge gained in an effective and efficient way (Tsui, 2006:1). Examining the different aspects of learning styles and methods of adult language learners is very important for an effective language instruction. The connection between the adult students' learning methods and the way these methods can be influenced by their own competencies in the target language, cultures, race, religions, and the mother tongues are also the areas that require lots of attention by language course designers and educators (Wong and Nunan, 2011).

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Another study concludes that those adult learners who use learning methods effectively can achieve higher productivity in over all learning, and experience significant developments in the target language competencies (Bruen, 2001). Furthermore, one research has concluded that the preferred learning styles of the language students play an important role in the target language acquisition (Pei-shi, 2012). There is an obvious relationship between a learning style and the choice of the method that is used to acquire knowledge by adult learners (Li and Qin, 2006). It is commonly observed among the language learners that they use those methods to acquire knowledge that are in line with the way they learn better (Oxford and Nyikos, 1989). On the one hand, the adult language learners' approaches to knowledge acquisition based on their own strengths, weaknesses and preferences, are related with their internal disposition. On the other hand, the methods that they use to acquire language are related to their superficial competencies which they use knowingly and unknowingly. The impulse for selecting the best-suited learning method is largely dependent on the approach that adult learners use to learn (Wen and Johnson, 1997).

Suffice it to say that not many researches have analyzed the relationship between various preferred learning approaches and learning methods in the perspective of EAP learners of the Polish higher education. Consequently, through this study, the learning strategies and styles of undergraduate EAP learners of the Polish university are identified and explored to see whether there is any possible link in between them.

1.1 Background:

The background of the research is divided into three main sections. The first section deals with the background information about Polish higher education system. The second section discusses the learning styles based on the (Kolb model, 1984) and finally, the last section targets the learning strategies proposed by (O'Malley et al.,1985). All these sections are supported and reviewed in light of

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the recent studies that have been conducted to explore and analyze the adult language learners' learning strategies and styles.

1.1.1 Higher Education in Poland

At the present time, the tertiary learning system in Poland is going through lots of changes. One of the reasons is that Poland has the 4th largest numbers of adult learners. Currently approximately 2 million adult learners are studying at more than 450 establishments of higher education. Majority of the Polish higher educational institutions offer a wide variety of undergraduate and postgraduate courses and most of them also offer high valued Polish and foreign languages programmes (Ministry of Science and Higher Education Poland, 2012). These institutions offer a varied range of options for studies i.e. part-time, full-time, optional, evening and distance learning though full time degree programmes are considered as the most popular and important part of learning programmes.

One of the important features of Polish higher education system is that unlike the UK, it offers extremely competitive or rather free higher level education up to the highest level of education. Some of the Polish universities are making tremendous contributions in the fields of science and internet and hence enjoy worldwide recognition i.e. the Warsaw University is ranked as the 335th and the Jagiellonian University as the 371st top universities according to the World University ranking 2014-2015. The Polish universities offer 3-years long undergraduate programmes with the two additional years for the postgraduate degrees, recognized and accredited by the European Credit Transfer and Accumulation System (ECTS) and based on the European standard, students can transfer their credit hours to any other university in European Union for study exchange programmes (Ministry of Science and Higher Education Poland, 2016).

Figure-1: Polish higher education (adapted: http://work.alberta.ca/Immigration/14411.html).

In order for the Polish students to successfully complete their higher education, they are required to participate and successfully pass all the performance appraisals, assignments, projects, and examinations in all the disciplines. There is a compulsory, minimum attendance threshold for the learners to abide by and a need the minimum pass mark to be obtained for all the subjects too. A degree in a particular field of study is awarded on the successful completion of the degree programme along with an official document detailing the nature, level, context, content and status of the studies undertook by its holder (Study Fun Poland, 2015).

1.1.2 Language learning strategies

The methods or strategies of adult language learners to acquire required skills and expertise in the target language is a well-researched area and there is a large variety of language learning strategies

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that have been recognized, discussed and proposed in different studies (Ellis, 1994). For the purpose of this particular study, O'Malley learning strategies have been chosen. He has described language learning strategy as a process of thinking or human conduct that learners possess in order to establish understanding (O'Malley and Chamot, 1990).
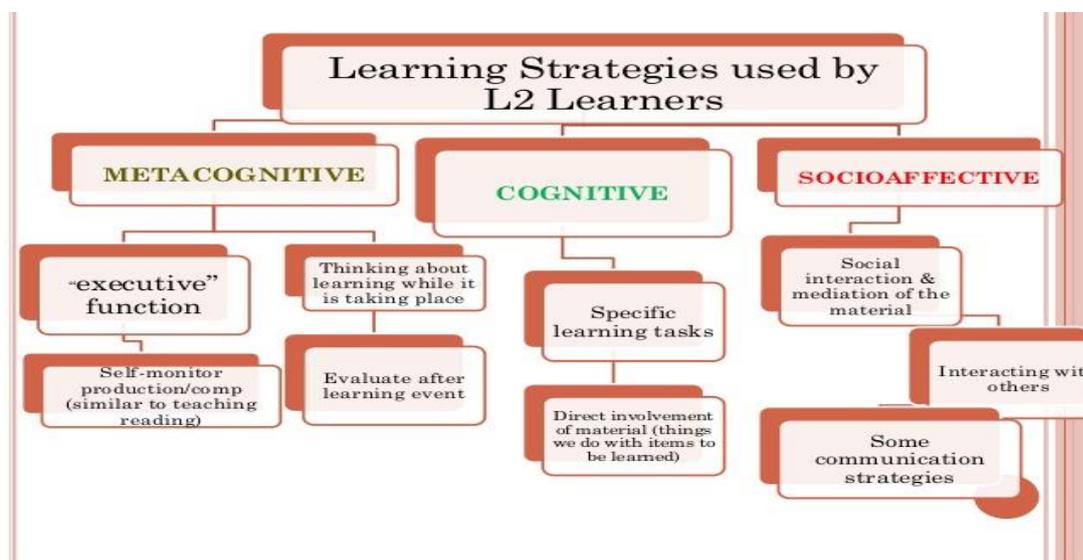

Figure 2: Language Learning Strategies (adapted : http://www.slideshare.net/karenpayarescardozo/second-language-acquisition-27494489)

According to the study, these language learning strategies can be categorized into three main types (O'Malley et al., 1985):

A. Metacognitive Strategies,
B. Cognitive Strategies
C. Social and Affective Strategies

A. Metacognitive Strategies

Metacongnitive strategies include preparation for knowledge acquisition, understanding, considering and reasoning about the knowledge (Zare, 2012). Adult learners who follow these strategies tend to visualize the expected activity for acquiring knowledge, prefer to work with directed attention and focs on the particular areas of the target language input. They prefer to rely on self-management by establishing the comprehension of the learning environment in order to undertake the language learning activities effectively. Adult learners who are following these language strategies also keep a close eye on the progress in the language, identify the problems before they may hamper their learning process and firmly believe in self-assessment (Hismanoglu, 2000).

B. Cognitive Strategies

 When it comes to Cognitive strategies, one of the researches concludes that they are restricted to particular language acquisition activities and require language content to be modified in order for its effective functioning (O'Mally, et.al.,1987). The adult learning following these strategies tend to keep their focus on copying a language model by repetition and make use of language content through the use of dictionaries, books and other resources. They prefer dividing the language activities into different types to establish understanding and remember the vital information by making notes of important words, ideas and expressions. They intentionally use acquired or self-created set of explicit or understood regulations in order to comprehend the target language (Liu, 2010). They choose various expressions and terminologies to understand a language activity and understand better when make a connection of a new piece of knowledge with the previously acquired learning. They like to

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process and acquire the knowledge by writing the main points of the learning and frequently use translation, transfer and inferencing to undertake the language tasks (Cohen, 2000).

C. Social and Affective Strategies

Social strategies are centred around the activities such as clarification and collaboration that learners decide to undertake in order to cooperate and communicate with other students and native speakers while affective strategies are normally used to eradicate, mange fretfulness or motivation by controlling feelings, thinking, and impulse (Brown, 2007).

1.1.3 Kolb's learning model

There are plethora of research targeting the varied range of learning models which differ in their methodologies and applications but out of numerous types, one stands out and bears significant importance among the educators of adult learning. This model of learning is known as Kolb learning model (Muir, 2001). According to Kolb, learning methods should be considered rather steady set of traits than permanent patterns of collective character, behavioural, temperamental, emotional and mental characteristics of adult learners. Therefore, it is suitable to consider them as adult learners' characteristic patterns of strengths, weaknesses and preferences in taking in, processing, and retrieving information (Wolfe, 1977).
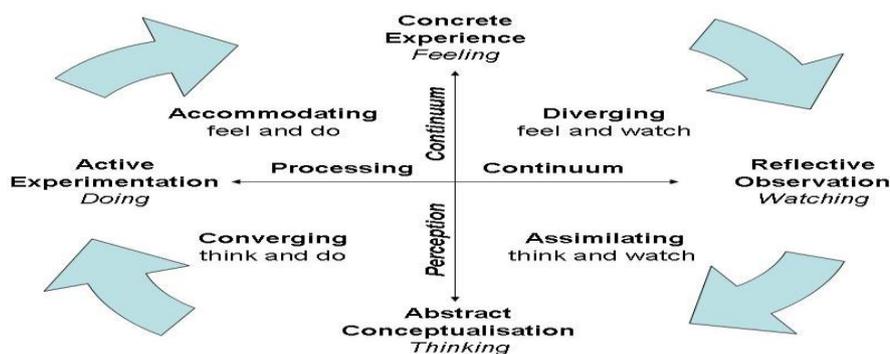

Figure 3: Kolb's leaning styles and experiential learning model (adapted from http://www.simplypsychology.org/learning-kolb.html)

The Kolb learning model is drawn based on the four learning preferences which stem from the learning cycle that is comprised of 4 levels. The first level is related with learners who are watchers and acquire knowledge through observations and gaining comprehensive insight. The second level deals with learners who are involved in the process of development and clarification of knowledge and information that does not physically exist. They are competent in creating conceptual structures and good at theoretical sciences. The third level aims at learners who combine theoretical concepts with their physical implementation. Their strength is to deal with objects. The last level targets at learners who use solid ground work and experience as the foundations for acquiring knowledge. They are flexible when it comes to modifying their learning strategies according to the particular environments (Farmer Mentor Book, 2007). To explain in more detail, following are the four summarized versions of learning styles that are proposed by Kolb (Kolb, 1984, 1999a, 1999b).

1. Diverging (concrete, reflective)

Learners following diverging style of learning tend to be contemplative and have modern, new and creative ideas and methods to undertake learning. They prefer to see the applications of their learning in real-world from different perspectives and learn better by watching others than performing the learning tasks. Diverging style learners tend to have broad cultural interests and keen to collate knowledge. When it comes to academic or professional learning conditions, they like to function

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collectively than individually, and are receptive to criticism and reviews on performance (Kolb and Boyatzis, 1999).

2. Assimilating (abstract, reflective)

Adult learners of assimilating style can process a variety of knowledge and assimilate into summarized, rational form. They tend to be more concerned with plans, designs and theory than individuals. For them, the theory needs to rationally correct than its implementation in the real world. This learning style is particularly significant for the learners who like to read, attend talks and formal classroom discussions, investigate mathematical models that have a closed form solutions and aspire to be in information and science occupations (Coffield, et.al.,2004).

3. Converging (abstract, active)

Converging learning style focuses on the realistic implementation of theories and effective resolutions of issues. Adult learners of this learning style tend to have an ease in identifying the resolution of the problems and make choices based on them. They are more comfortable non-theoretical learning activities and issues and find it easy to test innovative concepts, projects and proposals and imitate the operation of the real world processes or systems (Kolb and Kolb, 2005).

4. Accommodating (concrete, active)

Adult learners of this style prefer to acquire knowledge by participating actively in the learning process. They have no problem in executing ideas and gain innovative, and valuable observations. For them, the instinct plays an important part in acquiring knowledge than using instrument of interpretation to shift the interpretive focus from the purely exegetical approach towards a given text to the systematic reconstruction of a theory that concerns the issues. Learners with this style tend to be dependent on others in investigating and identifying the resolutions of the issues. They like to function better in group when it comes to undertaking the learning tasks successfully (Chiong, 2011).

1.2 Purpose of the study

The main purpose of this study is to gauge the influence of the learning styles of Polish EAP learners of higher education on their preferred learning strategies to see if there is any possible link that exists in between them. Another reason for this study is to use the results from this research to help the course designers and educators so that they could establish better understanding of the learning capabilities, styles and methods of adult Polish learners which in result can help them to bring necessary changes in the learning conditions and content to make the learning process more effective and efficient.

1.3 Research questions

This study targets to answer the following three important research questions, through the help of questionnaires that have been developed in order to gauge the impact of the learning styles of Polish EAP learners of undergraduate courses on their learning strategies:

1. What are the preferred learning styles of EAP learners?
2. What are the preferred learning strategies of EAP learners?
3. Is there any connection between the preferred learning style and the learning strategies of EAP learners?

1.3 Methodology

The population sample of this research comprises of 105 EAP learners of B.A (First year, Applied Linguistics) degree program at the Polish university. The choice of the population sample is carefully

and specifically made. All the selected students for this study are the participants of the Receptive-Discursive Course that is currently being taught by the researcher in collaboration with two other teachers. 90% of the population sample comprises of female students and the remaining 10% are males.

Gender	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Male	10	9.52	9.52	9.52
Female	95	90.48	90.48	100
Total	105	100	100.0	

Table -1: Sex of the respondents

Since the questionnaires were executed to the selected students of B.A (First year, Applied Linguistics) so 94.23% of the learners fall into the age bracket of 18-20 years while only 5.77% in the age group of 21-23 years.

Gender	18-20	21-23	24-26	Total
Male	9	1	0	10
Female	90	5	0	95
Total				105

Table-2: Age group of the respondents.

The questionnaires have been used as the key tool to collect data. There are three sections of the questionnaires. The first section deals with the age and gender of the learners while the remaining ones target the three learning strategies, based on (O'Malley et al., 1985) and the four learning styles proposed by (Kolb, 1984).

1.3.1 Empirical Analysis

For the empirical analysis of the data obtained from the questionnaires, SPSS is used. A set of brief descriptive coefficients such as standard deviations and mean are used to categorize the preferred learning style and the learning methods. To use the statistical correlation in order to evaluate the connection between the preferred learning methods and strategies of undergraduate EAP students of the Polish university, correlation analysis is used.

1.4 Results and Discussions

1.4.1 What are the preferred learning styles of EAP learners?

By processing the results for the preferred learning style, 39.05% represents the largest percentage of the learners who indicated to be Accommodators. The results for the second most preferred learning style point to Convergers (25.71%). Assimilators come on the third with 20 %. Diverging learning style is found to be the least preferred one with 15.24% of learners.

Below is the table-3 depicting the survey results of the EAP learners about their preferred learning styles, and the related frequency, percentages, and cumulative percentages:

Learning Style	Frequency	Percent (%)	Valid Percent	Cumulative percent
Diverger	16	15.24	15.24	15.24
Assimilator	21	20	20	35.24
Converger	27	25.71	25.71	60.95
Accommodator	41	39.05	39.05	100
Valid N (list wise)	105	100.00	100.00	

Table-3: Preferred learning styles

The mean and standard deviations for each learning style is mentioned in the below table-4.

Learning Style	Mean	Std. Deviation	Rank

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Accommodator	10.25	1.845	1
Converger	6.75	1.881	2
Assimilator	5.25	1.443	3
Diverger	4.00	1.082	4

Table-4: Mean and Standard deviation of learning styles' preferences

From the table above, it can be observed that Accommodators with mean of 10.25 and standard deviation of 1.845 are chosen by the majority of the learners while the second most popular learning style among the ESP learners point to Convergers with mean of 6.75 and the standard deviation of 1.881. The third preferred learning style is followed by Assimilators with mean of 5.25 and standard deviation of 1.443. The least preferred learning style is represented by Divergers with mean score of 4.00 and standard deviation of 1.082.

1.4.2 What are the preferred learning strategies of EAP learners?

By evaluating the results, it is found that 41.9% of the learners, who represent the largest group in the population sample, indicated that they prefer metacognitive strategies for language learning. The second most preferred strategies are social and affective strategies chosen by 36.19% learners. The least preferred learning strategies are found to be cognitive strategies, preferred by 21.91% of the EAP students

Below is the table-5 depicting the survey results of the EAP learners about their preferred learning strategies, and the related frequency, percentages, and cumulative percentages:

Learning strategies	Frequency	Percent (%)	Valid percent	Cumulative
Metacognitive	44	41.90	41.90	41.90
Cognitive	23	21.91	21.91	63.81
Social and Affective	38	36.19	36.19	100
Total	105	100	100	

Table 5: Preferred learning strategies

The mean and standard deviations for each learning strategies are mentioned in the following table-6.

Learning Strategies	Sum	Mean	Std. Deviation	Rank
Metacognitive	3651.00	38.0951	7.85464	1
Social and Affective	2586.00	27.2471	5.85190	2
Cognitive	1895.00	20.0597	4.74637	3

Table-6: Mean and Standard deviation of the learning styles' preferences

From the table above, it can be observed that Metacognitive strategies with mean of 38.0951 and standard deviation of 7.85464 are chosen by the majority of the learners while the second most popular strategies among the ESP learners are Social and Affective strategies with mean of 27.2471 and the standard deviation of 5.85190. The least preferred learning strategy is Cognitive strategy which has a mean score of 20.0597 and standard deviation of 4.74637.

1.4.3 Is there any connection between the preferred learning style and the learning strategies of EAP learners?

As per the statistical correlation analysis of the preferred learning styles and learning strategies, the results indicate that there is a connection between the chosen variables.

Following is the table-7 which depicts the statistical correlation between the chosen variables:

Learning styles		Metacognitive	Cognitive	Social and Affective
Accommodator	Correlation	0.005	0.014	0.004
	N.	105	105	105
Converger	Correlation	0.013	0.014	0.0214

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	N.	105	105	105
Assimilator	Correlation	0.004	0.025	0.003
	N.	105	105	105
Diverger	Correlation	0.005	0.014	0.004
	N.	105	105	105

Table-7: Statistical correlation between learning styles and strategies

1.5 Discussion

The main purpose of this research is to identify the preferred learning styles and strategies of EAP learners of the undergraduate course at the Polish university followed by the subsequent examination of any possible connection between learners' styles and strategies

According to the statistical analysis, the results depict that the largest percentage of the learners indicated to be Accommodators (mean =10.25, S.D= 1.845), which means that by providing them the opportunities for new, practical, and realistic learning, coupled with direct interaction, they can significantly improve on their learning because they prefer to quickly immerse themselves into innovative, challenging learning conditions, firmly believe in reaching a desired result or a right solution by trying out one or more ways or means and by noting and eliminating errors or causes of failure (Elham, et.al.,2014). Converging learning style (mean =6.75, S.D= 1.881),   is found to be the second most preferred one which indicates that if learners are given an opportunity to work independently then it may boost their motivation to learn since Convergers prefer to work by themselves, thinking cautiously and functioning autonomously (Furnham, 1992). The Assimilating learning style (mean =5.25, S.D= 1.443),   comes out to be the third most preferred one which depicts that these learners can function effectively if given the choice for inductive reasoning and developing theoretical approaches for their learning (Erden and Altun, 2006). Diverging learning style (mean =4.00, S.D= 1.082),   is found to be the least preferred one which shows that by establishing a learning environment that stimulates learners to be imaginative and people understanding can enhance their capabilities to acquire knowledge and help them to learn better (Evans, et.al.,1998).

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As for the preferred learning strategies, the results from the statistical analyses depict that the largest group in the population sample indicate that they prefer metacognitive strategies (mean =38.0951, S.D= 7.85464) for language learning which means that these learners can be motivated and positively influenced for language learning if they are provided opportunities for focusing on the language tasks, language usage, self-assessment, and self-correction (Oxford and Burry-Stock, 1995). The second most preferred strategies is turned out to be social and affective strategies (mean =27.2471, S.D= 5.85190). The results for these particular strategies depict that developing a leaning environment that enables students to deal with their emotions and attitudes and collaborate with others for language acquisition can prove to be meaningful and productive for their language learning (Shipman and Shipman, 1985). Cognitive strategies are found to be the least preferred learning strategies (mean = 20.0597, S.D.=4.74637) by the EAP students which depicts that these learners can have enhanced-learning outcomes if they are provided opportunities to relate their existing and prior knowledge with new knowledge or use bullet-points or summarised versions of the learning content (Oxford, 1989).

As per the results, the relationship between the preferred learning styles and learning strategies of EAP undergraduate learners of Polish university has been established. According to the results, learners with accommodating learning style indicate connection with metacognitive strategies with the correlation of 0.005, social and affective strategies with the correlation of 0.004 and cognitive strategies with the correlation of 0.014. For the students of Converging learning style, connection with metacognitive strategies with the correlation of 0.013, Social and Affective strategies with the correlation of 0.0214 and Cognitive strategies with the correlation of 0.014 is observed. The learners of Assimilating learning style show connection with the Metacognitive strategies with the correlation of 0.004, Social and Affective strategies with the correlation of 0.003 and Cognitive strategies with the correlation of 0.025. Finally, the students of Diverging learning style depict the connection with metacognitive strategies with the correlation of 0.005, social and affective strategies with the

correlation of 0.004 and cognitive strategies with the correlation of 0.014. In summary, after examining the results it can be observed that there is an obvious connection of learning styles with the learning strategies as concluded by (Chu, 2013; Al-Hebaishi, 2012; Wetzig, 2004).

1.6 Conclusion and further research

Based on the results from this study, it can be concluded that the learners of EAP at the chosen Polish University possess the learning styles that are correlated with their preferred learning strategies. However, it is also observed during the execution of the questionnaires for this particular study that some students were not aware of their preferred learning techniques and approaches which meant they were not able to be involved in the learning process as effectively as those who knew their learning styles and preferred methods to acquire knowledge (Marsha, 2011). In order for the learners to get the most out of the instruction, educators are required to develop conducive learning conditions where students are encouraged to identify their preferred learning styles and methods to acquire language learning. By doing this, they can significantly help students as well as teachers in achieving the desired language outcomes effectively and efficiently. Furthermore, for the EAP teachers to consider the students' styles and strategies for language instruction while preparing the learning materials has a lot of significance because when learners find the required knowledge fit to their learning styles and strategies, they can be effectively stimulated for learning and achieve higher academic performances (Chun Shih, 1998). For future researches, investigating the correlation between the learning styles and other variables like academic performances, motivation, learners, behavioural characteristics, millennial adult learners and mature learners can be quite interesting. Besides, incorporating the larger population sample and using triangulation for cross-verification of the data into methodologies of future researches are highly recommended.

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