

# Learning style and teaching style preferences in a foreign language classroom in Malaysia

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## Abstract

Despite learning styles being one of the main topics of interest in education, not many studies have considered the influence of learning styles regarding students learning foreign languages in Malaysia. This study investigates the learning style preferences of 35 Spanish beginner level students aged between 20 and 24 years, the teaching style preferences of their Spanish teacher, and the relationship between the matching of teacher and learner styles and the learners' language achievement. Data were collected using an adapted perceptual learning style preference questionnaire, a teaching style questionnaire, interviews and class observations. The findings show that the learners preferred kinaesthetic and auditory learning styles, while the teacher preferred kinaesthetic and tactile teaching styles. Interestingly, the results suggest that improvement in terms of achievement may not necessarily be related to a match between teacher and learner style. It was found that learners who improved were those who could adapt to the teacher's styles and also those who would use multiple strategies to learn Spanish. Also, the results indicate that the application of multiple teaching styles help students learn Spanish in a more enjoyable and effective manner. These insights are of interest to research on learner styles in general, and specifically to Spanish teachers in their instruction planning.

**Key words:** Spanish, foreign language, learning style preferences, teaching style preferences, matching, language achievement

## 1 Introduction

Due to globalisation, the need to become proficient in more languages, especially in foreign languages of interest in the international market, has become evident. In line with this need, developing countries like Malaysia has begun to pay close attention to the attributes of university graduates. The Ministry of Higher Education in Malaysia has initiated a policy that aims to produce graduates who are not only knowledgeable and competent in their fields of studies, but also multi-lingual. Corresponding to this development, undergraduates are encouraged to master at least a third language, beyond the national language, Malay (*Bahasa Malaysia*), and English. It is argued that a third language will enable these undergraduates to compete in a global setting, as well enable them to develop the type of human capital driving the knowledge economy (k-economy) (Ministry of Higher Education, Malaysia 2007).

Among the factors that influence language learning are learning and teaching styles (Peacock 2001, Gilakjani 2012). Learning style has been defined by Reid (1998:ix) as "internally based characteristics, often not perceived or consciously used by learners, for the intake and comprehension of new information." Another researcher, Peacock (2001:1) describes learning style as "a student's preferred method or mode of learning". Learning styles have also been

defined as unconscious learner's traits (Reid 1987) and they are generally deemed as innate and natural.

More specifically, learning style has been noted as one of the individual differences that decides how easily a person learns a second or foreign language (Ehrman et al 2003, Cohen & Dörnyei 2002). In addition, researchers such as Oxford, Ehrman and Lavine (1991) discovered that learners who are aware of their preferred learning styles are more successful since this knowledge indirectly facilitates decision making that leads to effective ways of learning. That is, when learners become aware of their strong and weak preferences of learning styles, they may be able to capitalise on their preferred learning styles while beefing up their less-preferred learning styles. The awareness will directly impact the choosing and using of learning strategies (Chew et al 1999, Cohen & Dörnyei 2002, Li & Qing 2006). Thus, learners with an understanding of their learning styles and strategies would become more successful compared to those who lack this understanding. Eventually, this understanding may even become a part of their life-long learning that stretches beyond their academic life.

Similarly to learning styles, teaching styles often play a vital role in foreign language learning, since the learning of foreign languages is usually confined to the classroom. Thus, foreign language teachers' "natural, habitual and preferred way(s) of teaching new information and skills in the classroom" (Peacock 2001:7) matters. Previous studies show that most teachers opt for a style accommodated to their own learning style because they regard this way as easy and effective (Dunn & Dunn 1979, Kinsella 1995, Cheng & Banya 1998, Cooper 2001, Peacock 2001). A potential problem, however, is that the teachers' preferred teaching styles may not mirror the students' preferred learning styles. Therefore, there may be a gap or mismatch between learning styles and teaching styles which may impact the students' learning process.

The discussions on the concept of matching learning and teaching styles go back almost 60 years, starting in the 1960s (Dunn 1984). Since then, numerous studies have pointed out the advantages of compatible styles. For example, Dunn and Dunn (1990), Dunn et al (1989), Young (1987), Felder and Henrique (1995), Kinsella (1995), Rao (2001), Peacock (2001), Xiao (2006), and Sabeh et al (2011) all suggest that compatible learning and teaching styles make students more motivated to learn and to perform better. Furthermore, Li and Qing (2006) indicate that good attitudes and behaviour toward language learning are developed by students when the teacher uses appropriate teaching styles and methods which are suitable for the students.

From the point of view of problems associated with non-compatible styles, Felder and Henrique (1995), Brown (2007) and Peacock (2001) claim that a mismatch between the teaching and learning styles has a negative impact on the students' interest, motivation and achievement. Felder and Henrique (1995) state that students tend to be frustrated, bored, disinterested and demotivated to learn, and may not be interested in attending the foreign language class and subsequently may not get good grades, while Peacock (2001) report findings of students who were

unhappy, got bored, frustrated, stressed, uncomfortable, and wanted to give up. Oxford and Anderson (1995) note that a mismatch of styles was related to conflicts in the classroom: the students would be confused, and eventually lose interest in the course.

Based on previous research highlighting the importance of matching learning and teaching styles in the learning context, this study investigates the learning style preferences of a group of Malaysian learners of Spanish as a foreign language and the teaching style preferences of their teacher. Additionally, the present study explores whether there is a relationship between the matching of the learning and teaching style preferences and the learners' language achievement. Specifically, the study sets out to answer the following research questions:

- i. What are the learning style preferences of the Malaysian learners of Spanish as a foreign language?
- ii. What are the teaching style preferences of their teacher?
- iii. Is there a relationship between the matching of the learning and the teaching style preferences and the learners' language achievement?

To address research question iii), Peacock's (2001) matching style model was adopted. This matching style model matches the students' six perceptual learning style preferences (visual, auditory, kinaesthetic, tactile, group and individual) and the teachers' six perceptual teaching style preferences (visual, auditory, kinaesthetic, tactile, group and individual). The difference between the teaching and learning style preferences is determined by the category of learning and teaching style preference means, which is grouped as major, minor and negligible. Peacock's (2001) matching style model is based on Reid's PLSPQ (1987), which was used to collect data on the students' preferred learning styles. The data on teaching style preferences were gathered from a modification of the PLSPQ (modified by Peacock, 2001).

Reid's (1987) different learning styles can be described as follows. Visual learners learn well from seeing words on the board, in books and from written explanation. Auditory learners learn better from hearing words spoken in oral instructions, while kinaesthetic learners learn best by experience and by being involved physically in classroom activities. Tactile learners, next, prefer to learn by using 'hands-on' experiences with materials and also by handling and building models. Students who prefer a group learning style learn best in pairs or groups, while students with an individual learning style learn well when they work or study alone (Reid 1998).

According to Peacock (2001), teachers should try to accommodate students' various learning styles. For instance, to accommodate the visual learners, teachers may use videos, handouts, written explanations, or encourage students to read and take notes. For auditory learners, they can use lectures, oral instructions as well as group discussions. In addition, teachers may use kinaesthetic activities in class which are suitable for the kinaesthetic learners such as role-play, dramas, problem-

solving activities and encourage students to participate actively in class activities. They can also use 'hands-on' work in class to cater for the tactile learners by giving hard copies of notes. For students who prefer group learning style, teachers may assign group work to help them learn better, while for those who favour individual learning, teachers can use individual work and encourage them to study independently.

## **2 Literature review**

As mentioned above, a match/mismatch of learning and teaching style preferences has been claimed to have an effect on students' emotions and achievement. A student who shares his/her teacher's styles will develop positive emotions, attitudes, behaviours and fare better in the process of learning, while a mismatch of learning and teaching style preferences will have negative impacts on the students, such as a loss of interest and motivation to learn leading to a negative effect on language learning.

In the early 1970s, researchers started exploring if the matching of students' and teachers' styles had any effect on students' academic achievement (Dunn, 1984; Smith & Renzuli, 1984). Some earlier research (such as Douglass 1979, Pizzo 1981, Dunn 1984) had found that students performed better and their attitudes toward learning also improved when they were taught through their personality. In addition, Smith and Renzuli (1984) proposed that students' learning can be enhanced when their personality and their teachers' personality are congruent. For example, an extrovert student could learn better if he/she is taught by an extrovert teacher.

In an influential study, Peacock (2001) investigated the learning style and teaching style preferences of EFL learners and teachers as well as the convergence between them. Using a mix-method design, Peacock studied the learning preferences of 206 Chinese students and the teaching preferences of 46 teachers in the Department of English at the City University of Hong Kong. Peacock's study show that the learning and teaching style preferences of his participants were not compatible. A mismatch was detected in particularly in group learning and teaching styles, which was not favoured by learners, but favoured by teachers. Interestingly, Peacock also found differences in auditory style tentatively attributed to ethnicity: Western teachers did not favour the auditory style, while both Chinese teachers and students preferred it. The findings from interviews further highlighted that the mismatch of learning and teaching style preferences can result in negative effects such as frustration, demotivation and learning failure. Since students' learning and emotions were affected by the incongruence between the learning and teaching style preferences, Peacock suggest that teachers should be aware of their own teaching style preferences and their students' preferred learning styles, and be prepared to accommodate the different learning styles using a variety of teaching styles and activities.

This study adopts Peacock's (2001) idea of using two sets of questionnaires to collect data. The two questionnaires used are Reid's (1987) Perceptual Learning

Style Preference Questionnaire (PLSPQ), which was used to collect data on learning styles in Peacock's study, and the modified version of the PLSPQ (Reid 1987), which was used to gather data on teaching styles in Peacock's study.

In another study, Sabeh et al (2011) investigated the matching of the preferred learning and teaching styles of 103 Lebanese learners and five teachers of EFL at an American-affiliated university in Lebanon. The study used an adapted version of the PLSPQ (Reid, 1987) to collect data on both the learning and teaching style preferences, and the students' final examination grades were used to measure their language achievement. Sabeh et al's (2011) findings show that there was a mismatch between the learning and teaching style preferences and that students whose learning style preferences matched their teachers' teaching style preferences performed better compared to those who did not. Thus, Sabeh et al's findings concur with the findings from studies by Felder and Henrique (1995) and Zahrah (2010), which suggest that students achieve better results when their teachers' teaching styles align with their learning styles.

In another study, Sarjeant's (2002) analysed the learning style preferences of adult Korean EFL learners, and attempted to determine if the students' learning styles were compatible with their teachers' teaching styles. The subjects were 101 EFL learners and 19 teachers who were native English speakers at the Foreign Language Institute in Yonsei University in Seoul, South Korea. To gather the data, Sarjeant developed a student's questionnaire and a teacher's questionnaire. The results show that the teaching and learning styles were compatible: the teachers used a range of teaching styles and multi-sensory activities, namely, visual, auditory, kinaesthetic and tactile activities to accommodate the students' different learning styles.

Finally, another study of interest is Karabuga (2015), which investigates the matching of learning styles and teaching styles of 132 Turkish pre-class EFL students and 15 English language teachers at the School of Foreign Languages at a Turkish university. The data were collected using Grasha-Riechmann Learning Style Survey, Grasha Teaching Style Survey and interviews. In Karabunga's (2015) study, the students preferred the collaborative, dependent and competitive learning styles, while the teacher preferred the personal model teaching style. Karabunga concludes, however, that the learning styles and teaching styles were compatible to a certain extent and that the students and that teachers in the study were happy with their classes.

### **3 Method**

#### **3.1 Participants**

This study was carried out in a Spanish as a foreign language classroom in one of the public institutions of higher education in Malaysia. The sampling is based on convenience sampling, in which the participants were selected because of their willingness, convenience and availability (Saunders et al 2007, Creswell 2008).

In total, 35 Spanish beginner level learners and one Spanish teacher participated in the study. The students were between the ages of 20 and 24 years. The students

belonged to the Faculty of Engineering, the Faculty of Science, the Faculty of Business and Accountancy, the Faculty of Education and the Faculty of Arts, and they took Spanish language as an elective course. These students were from the same cohort who registered for the course. Out of the total number of students ( $n=35$ ), four voluntarily participated in semi-structured interviews. The teacher also volunteered to participate in a semi-structured interview.

### **3.2 Instruments**

Two sets of questionnaires were employed to gather data. One is the adapted version of the PLSPQ (Reid 1987) and the other is the TSQ [modified from PLSPQ (Reid 1987)]. Permission was obtained from Joy Reid to modify the PLSPQ. The questionnaire enables identification of the perceptual learning style preferences of learners with regards to the visual, auditory, kinaesthetic, tactile, group and individual learning styles. As shown in Table 1, a few items found in the PLSPQ were adapted to reflect the contemporary use of teaching tools.

*Table 1: Modifications made to the PLSPQ (Reid 1987) in the PLSPQ used in this study*

Statement	Statements in the original PLSPQ	Statements in the modified version of PLSPQ
6	I learn better by reading what the teacher writes on the chalkboard.	I learn better by reading what is written on the whiteboard.
10	When I read instructions, I remember them better.	I learn better via the visual media in class (video, DVDs, power point slides etc.).
20	I learn better in class when I listen to someone.	I learn better via the auditory media in class (radio, CDs, audio cassettes etc.).

Similar to Reid’s PLSPQ (1987), the adapted version of the PLSPQ (Reid 1987) consists of thirty statements with five statements arranged randomly for each of the perceptual learning style preferences, which consist of visual, auditory, kinaesthetic, tactile, group, and individual styles. The questionnaire uses a 5-point Likert scale and participants were asked to rate the 30 statements in the questionnaire in accordance to their Spanish language learning experience. The scale ranges from strongly agree-5, agree-4, undecided-3, disagree-2 to strongly disagree-1. The scores obtained were then categorised as either “Major” (score 38 to 50), “Minor” (score 25 to 37) or “Negligible” (score 0 to 24). Major learning style preferences indicate the learners’ best learning styles, while minor learning style preferences refer to the styles by which they manage to learn, but are not efficient. Lastly, the styles by which they could not learn easily are considered as negligible or negative learning style preferences.

In order to test the reliability of the adapted version of PLSPQ, a pilot study involving 21 students learning Spanish as a foreign language was carried out in a

public university in Malaysia. The reliability of the questionnaire was tested using the Cronbach's alpha function found in the Statistical Package for Social Sciences (SPSS) version 16. The Cronbach's alpha reading for the instrument was at 0.80, which indicated that this questionnaire is considered reliable.

As previously mentioned, this study emulates Peacock's study (2001) in using Reid's PLSPQ (1987) and the modified version of the PLSPQ, which was the teacher's version of the PLSPQ for data collection. Therefore, in this study, data on the teacher's preferred teaching styles was gathered using the Teaching Style Questionnaire (TSQ), which is modified from Reids' PLSPQ (Reid 1987). Readings of the six perceptual modalities, i.e. visual, auditory, kinaesthetic, tactile, group and individual styles, from the PLSPQ and TSQ were then compared to determine the matching of the learning style preferences of the students with the teaching style preferences of the teacher. Similarly, the TSQ was developed with permission from Joy Reid, who designed the PLSPQ.

Similar to the PLSPQ (Reid 1987), the TSQ includes a total of 30 statements, in which five statements are arranged randomly for each of the teaching style preferences. It encompasses the same six perceptual modalities as in the PLSPQ, i.e., visual, auditory, kinaesthetic, tactile, group, and individual teaching styles. Table 2 shows some of the modifications made to the PLSPQ in the TSQ.

*Table 2: Some of the modifications made to the PLSPQ (Reid 1987) in the TSQ*

Statement	Statements in the original PLSPQ	Statements in the TSQ
6	I learn better by reading what the teacher writes on the chalkboard.	I use the white board in my teaching.
10	When I read instructions, I remember them better.	I use the visual media (video, DVDs, power point slides etc.) in my teaching.
19	I understand things better in class when I participate in role-playing.	I use role-playing activities in class.
20	I learn better in class when I listen to someone.	I use the auditory media (radio, audio cassettes, CDs etc.) in my teaching.

The teacher was asked to respond to each item using a 5-point scale: ranging from strongly agree-5 to strongly disagree-1, to ensure that it is consistent with the PLSPQ, and it enabled the identification the matching/mismatching of the learning and teaching style preferences.

Similar to the PLSPQ, the scores that the teachers rated were categorised as "Major" (score 38 to 50), "Minor" (score 25 to 37) or "Negligible" (with score 0 to 24) teaching style preferences. Major teaching style preference is described as the style the teacher used most of the time; the minor teaching style as a style that they

would use, but not all the time; and the negligible style as a style they would use only occasionally.

The TSQ was pilot tested with two Spanish teachers from the aforementioned university using the same preliminary study that tested the PLSPQ. However, Cronbach alpha coefficient was not used to test the internal consistency of the items as the number of teachers is small and the result would therefore be inaccurate. The teachers were asked to go through and provide feedback on the questionnaire. As a result, two of the items were revised because the teachers indicated that they were confusing. The changes are as follows:

- i. "I get my students to do experiments in class." (Statement 15) was changed to "I ask students to carry out experiments in class".
- ii. "I explain things with hand movements and actions" (Statement 20) was changed to "I use realia in class to help students to understand better."

In addition, the students' examination grades were also obtained in order to explore the relationship between the matching of learning and teaching style preferences and achievement. The grades were categorized into high (Grade A and A-), medium (Grade B+, B, B-, C+ and C) and low level of achievement (Grade C-, D+ and D). The examination tests the learners' speaking, reading, listening and writing skills.

In addition to the quantitative data, qualitative data in the form of semi-structured interviews and class observations were also collected. The interviews with the students and the teacher were carried out at the university with consent from the students, the teacher and the university. The purpose of the study and the interview was first explained to the students and they were assured that their identity would be kept anonymous, and that their answers would be used for research purposes only. On average, the interviews took approximately 30 minutes to be completed. The interview data were transcribed and then examined using the content analysis approach.

The interviews with students were conducted as one-on-one and face-to-face interviews wherein the researcher asked questions to each interviewee individually and recorded the conversation one at a time (Creswell 2008). A combination of open-ended and close-ended questions were used for these interviews. These questions cover the six learning style preferences (visual, auditory, kinaesthetic, tactile, group, and individual), and the influence of learning styles on the students' language achievements and motivation. Some examples of the questions asked are as follows:

- i. Do you like to learn through visual means (such as TV, DVDs, pictures, graphic, tables, diagrams, cartoons, comics, images, written instructions, books, notes, power point slides etc.)?
- ii. Why do/don't you like to learn through visual means?
- iii. Have you ever experienced a situation whereby your preferred learning styles differ from your teacher's teaching styles?



- iv. Did it affect your examination result? If yes, how? If no, why not?

The interview with the teacher was also conducted on a one-on-one basis, and the teacher was requested to answer open-ended and close-ended questions. These questions cover the six teaching style preferences (visual, auditory, kinaesthetic, tactile, group, and individual), as well as the influence of teaching styles on the learner's language achievement and motivation. Below are some example of the questions posed.

- i. Do you prefer to use visual means (such as TV, DVDs, pictures, graphic, tables, diagrams, cartoons, comics, images, written instructions, books, notes, power point slides etc.) in your teaching?
- ii. Why do/don't you like to use visual means in your teaching?
- iii. Have you ever experienced a situation whereby your teaching styles differ from your students' preferred learning styles? If yes, can you describe? If no, why not?
- iv. Did it affect their examination results? If yes, how? If no, why not?

With regard to class observations, the teaching style preferences were checked against a list which contains the six teaching styles. Each of the teaching style contains a different set of criteria, for example, under the auditory teaching style, the teacher could exemplify by stating tools and activities used in the classroom. The teacher may explain instructions orally, use auditory media such as Compact Disks and ask students to read a passage aloud. If the teacher fulfilled most of the criteria, then the teacher was identified as using a particular teaching style.

### **3.3 Data collection procedure**

The observation of classes took place before the questionnaires were distributed. After observing the lessons, the PLSPQ (Reid 1987) was administered to the students and the TSQ to the teacher. The interviews with the students and teacher were subsequently conducted after they had completed the questionnaires, whereby the conversations were audio recorded.

### **3.4 Data analysis procedure**

Data on the learning style and teaching style preferences were tabulated using the Statistical Package for Social Sciences (SPSS) version 16. The descriptive statistics such as scores and means were computed to determine the students' learning style preferences and the teachers' teaching style preferences. In order to identify the matching of learning and teaching style preferences, all the learning style preference means and the teaching style preference scores were calculated to identify the styles' preference category (major, minor and negligible). For example, a learning and teaching style was considered a match if both students and teachers had kinaesthetic learning and teaching style as their major preference.

In order to measure the matching between the learning and teaching style preferences and the students' Spanish language achievement, the major learning and teaching style preferences for each student and the teacher were first identified. Following that, the number of major learning style and teaching style preferences that aligned was counted. If the students had two major learning style preferences that matched the teachers' two major teaching style preferences (for example, visual and auditory), it would be considered as two matches. The relationship between the match and language achievement (high, medium and low) was subsequently computed using Spearman's rho found in SPSS.

The data gathered from interviews were analysed using content analysis. The interviews were first transcribed and then classified into themes, and the themes were analysed quantitatively according to how many times they were mentioned.

With regard to the data from the class observations, the number of teaching tools or activities used by the teacher which belongs to a particular teaching style was noted in order to determine the style of the teacher.

#### 4 Results and discussion

This section presents and discusses the analysis of the quantitative data collected from the adapted version of the PLSPQ (Reid 1987), TSQ [modified from PLSPQ (Reid 1987)], as well as the qualitative data sourced from interviews and class observations.

##### 4.1 Learning style preferences

Table 3 presents the overall preference means of the learning styles investigated (visual, auditory, kinaesthetic, tactile, group, and individual style preferences) based on the results from the adapted version of the PLSPQ (Reid 1987).

Table 3: Learning style preference means

Learning Style Preferences	Mean	Category
Visual	36.65	Minor
Auditory	39.76	Major
Kinaesthetic	41.42	Major
Tactile	37.59	Minor
Group	37.35	Minor
Individual	33.29	Minor

Major learning style preference(s) = 38 to 50

Minor learning style preference(s) = 25 to 37

Negligible learning style preference(s) = 0 to 24

As shown in Table 3, the results indicate that the students have multiple major and minor perceptual learning style preferences. More specifically, the students have 3 major and 3 minor learning style preferences. This finding concurs with the findings of Reid (1987), Paramjeet (2003) and Almasa et al (2009), which all suggest that

ESL students prefer more than one learning style. Studies by Peacock (2001), Sarjeant (2002), Shen (2010), Sabehe et al (2011) and Karabuga (2015) also indicate that EFL students have multiple learning style preferences. A possible explanation why students have multiple major and minor perceptual preferences is that each individual have to attend to different learning tasks based on his/her own manner of learning a language (Cohen & Dörnyei 2002), which calls for different styles in the various contexts.

Based on Table 3, of all the learning styles, the results show that the students have major preferences for the kinaesthetic style (with the highest mean of 41.42). This style involves active physical participation in classroom activities such as role-plays, drama, games, songs, dance and others. The learners use these activities to learn reading, writing, listening and speaking. This particular finding is consistent with a number of studies from previous research. For example, Reid (1987), Paramjeet (2003) and Almasa et al (2009) found that the ESL learners in their studies had a major preference for the kinaesthetic learning style. Additionally, the majority of the EFL students in Melton (1990), Peacock (2001), and Sabehe et al (2011) were kinaesthetic learners. Moreover, a number of past studies have concluded that non-native ESL and EFL students prefer kinaesthetic learning more than native speakers (Rossi-Le 1995, Stebbins 1995), which is similar to the results of this study, where the non-native speakers of Spanish also seemed to prefer the kinaesthetic learning style. In contrast, however, in Sarjeant's (2002) study, the Korean EFL students neglected the kinaesthetic learning style even though they were non-native speakers. One explanation for these conflicting results may be age: Paramjeet (2003) and Sarjeant (2011) conclude that learners become less kinaesthetic as they get older. The students in the current study were younger (under 25 years of age) than the students in Sarjeant's (2002) study, who were adults between the ages of 18 and 56.

The preference for kinaesthetic activities is further elaborated in the interview data. A number of students stated that they prefer to use a variety of kinaesthetic activities in learning the Spanish language, such as role playing, games, drama and singing, and pointed out that kinaesthetic activities help them learn the language better, remember better, and improve their listening and speaking skills.

Table 3 further shows that the learners have another major preference, the auditory learning style (with the second highest mean of 39.76), which indicates that these students strongly prefer to learn by listening. The students prefer to learn Spanish listening and speaking skills through auditory means such as listening and speaking activities, audio tapes, discussions, songs, role-plays, conversations, videos, radio, CDs and other aural methods. The interview results further underscores that students find the auditory style helpful as it enables them to understand, learn and remember better. They also find it interesting to learn through auditory means such as songs, oral instructions, discussions, conversation, videos and Compact Disks.

As shown in Table 3, the students have a minor preference for the tactile learning style (with a mean of 37.59). It should be mentioned that although the mean is quite

closed to the mean of a major learning style preference, which is 38.00, based on Reid's PLSPQ (1987), it is still considered a minor learning style preference because it is less than 38.00. However, although the students prefer the tactile learning style less than the major ones described above, they can still learn through it. The interview findings also revealed this phenomenon whereby some students stated that tactile activities in learning Spanish help them learn effectively.

Table 3 also shows that the students have a minor preference for the group learning style (with a mean of 37.35), suggesting that the students learn using a group learning style, but do not consider it very efficient. This result is supported by the findings from the interview data. Yet this minor preference for the group learning style is in contrast with a study by Paramjeet (2003), in which the students had a major preference for the group learning style.

Furthermore, Table 3 shows that the students have a minor preference for the visual learning style (with a mean of 36.65). This means that although the students prefer the visual learning style less, they can still learn through visual means, that is, through written instructions, books, television, videos, Digital Video Disks (DVDs), images, power point slides and other visual methods. This particular finding differs from that of Kang (1999) and Sarjeant (2002), in which the majority of the Korean learners of EFL in their studies favoured the visual learning style. According to Lee (1976), a possible explanation for the Korean learner's preference for the visual style is resemblance to their L1: Korean learners use the visual mode to learn their native language/mother tongue, which is pictographic in nature.

In the interviews, it was clear that some students also prefer the visual mode, and these students reported that they can understand, learn and remember better through visual learning, and that they found it interesting to learn visually. However, there were also a number of students who do not prefer the visual learning style and felt that they were not helped at all by this style.

Table 3 further reveals that the last learning style preferences of the students is the individual one (with the lowest mean of 33.29). However, the interview results indicate that even if the individual learning style is not their most preferred learning style, these students could still learn by themselves.

#### **4.2 Teaching style preferences**

The teachers' style preferences are presented in Table 4. As shown, the teacher has a variety of major and minor teaching style preferences. The interview findings suggest that the teacher adapts her teaching styles to the learning styles that she is familiar with from her own learning. This supports findings in Kinsella (1995), Cheng and Banya (1998), Chew, Kitchen and Chu (1999) and Cooper (2001), which show that teachers tend to employ the way they learn themselves in their teaching (Cooper 2001).

Table 4: Teaching style preference score

Teaching Style Preferences	Score	Category
Visual	34.00	Minor
Auditory	36.00	Minor
Kinaesthetic	38.00	Major
Tactile	38.00	Major
Group	34.00	Minor
Individual	36.00	Minor

Major teaching style preference(s) = 38 to 50

Minor teaching style preference(s) = 25 to 37

Negligible teaching style preference(s) = 0 to 24

The data presented in Table 4 show that the teacher has two major teaching style preferences: the kinaesthetic teaching style (with a score of 38) and the tactile teaching style (with a score of 38.00). A preference for the kinaesthetic teaching style is also reported in Peacock (2001) and Sabeh et al (2011). During the interview, the teacher who participated in this study mentioned that she utilises the kinaesthetic teaching style so that the students can learn better, improve their listening and speaking skills, as well as to encourage them to learn through kinaesthetic activities. The teacher also believes that it is easy to explain things using kinaesthetic activities. The findings from the class observation confirm that the teacher uses kinaesthetic activities in class, including instruction to students in role-plays, and in using games and drama to teach. Regarding the tactile teaching style, the teacher states that the students can understand and remember things better through tactile activities. The teacher also claimed that it is easy for her to teach using tactile activities. This is supported in the observations, which show that the teacher used written instructions and realia such as stationery and furniture as teaching tools. For example, the students were asked to touch, feel and describe the table's shape and texture.

Table 4 also shows that the teacher has four minor teaching style preferences. This means that the teacher would use these four styles, but not all simultaneously. Based on Table 4, the auditory style is the first minor preference (with a score of 36.00). However, this does not mean that the teacher never uses auditory means. The interview reveals that the teacher would sometimes use auditory approaches in her teaching, and this is further supported by the class observations, where it is evident that the teacher uses auditory means such as listening and speaking activities, and also Compact Disks (CDs) in her teaching. One possible explanation on why the auditory style falls in the minor preference category may be cultural preferences. Peacock (2001), for example, found a significant difference between the teaching styles of Chinese and Westerners, whereby the Chinese teachers strongly preferred the auditory teaching style but the Westerners did not show a preference for this style. Thus, it is possible that the Spanish teacher in this study adheres to similar ideals as the Chinese teachers in Peacock's study.

Table 4 further shows that the second minor preference of the teacher is the individual teaching style (with a score of 36.00). Similar to what was found for the auditory style, it is evident that the minor preference does not mean total avoidance: The class observation and interview make evident that the teacher sometimes assigns the students with individual work. The third minor teaching style preference is the visual teaching style (with a score of 34.00, cf Table 4). Similarly, the interview and observations show that the teacher nevertheless uses this style occasionally, but it is clear that non-visual material, such as written instructions and books, are predominant in her teaching. The final minor preference style is the group teaching style (with a score of 34.00). However, this result is somewhat questionable, since the class observations and interview show that the teacher is keen on group tasks. In fact, in the interview, she expresses the opinion that group work is particularly useful since students can learn from each other.

#### **4.3 Matching between the students' learning style preferences and the teacher's teaching style preferences**

The findings show that both the students and the teacher prefer a variety of teaching and learning styles, as illustrated in Table 3 and Table 4, respectively. In terms of compatibility of styles, it can be concluded that the majority ( $n = 4$ ) of the learning styles are compatible with the teaching style, albeit not all. Some specific similarities and differences stand out. Regarding similarities, both the students and the teacher strongly prefer the kinaesthetic style, with a mean of 38.00 and a score of 41.42 respectively. Additionally, the findings denote that the students and the teacher share three minor learning and teaching style preferences, namely the visual style (with a mean of 36.65 and a score of 34.00 respectively), the group style (with a mean of 37.35 and a score of 34.00 respectively) and the individual style (with a mean of 33.29 and a score of 36.00 respectively). In terms of differences, two learning style preferences are not convergent with the teaching style preferences (cf Table 3 and Table 4). Whereas the auditory style is the students' major learning style preference (with a mean of 39.76), it belongs to one of the teacher's minor teaching style preferences (with a score of 36.00). Furthermore, the students have the tactile style as a minor learning style preference (with a mean of 37.59) while the teacher has this as a major preference (with a score of 38.00).

The overall match of preferences between the students and the teacher may in part be due to the teacher's vast teaching experience and conscious decision on choice of style in light of what she perceived to be her students' preference. The teacher involved in this study had taught Spanish for 14 years in different countries at the time of the interview, and in the interview, she stated that she utilizes a variety of teaching styles and multi-sensory activities employing visual, auditory, kinaesthetic and tactile styles to cater to the students' different learning styles. Further, the following quote illustrates how she views a match of styles to be important from the point of view of psycho-social variables:

"Because if we don't match this, the problems are they are not going to be motivated, they are going to be distracted. They are not going to be ready to participate in class once they see that the way you teach is completely different as they like it. They could not learn well and thus, their examination results will be affected".

The teacher also said that she feels uncomfortable when there is a mismatch between learning and teaching styles. She claimed that she had yet to experience any situation whereby her teaching styles totally differed from her students' learning styles.

#### **4.4 Relationship between the matching of learning and teaching style preferences with language achievement**

An interesting result from this study is the lack of positive correlation between the matched teaching and learning style preferences and language achievement. In fact, the results from Spearman's Rho show that there is a negative relationship between the matching of teaching and learning style preferences ( $r = -0.369$ ) with language achievement. Since the p-value equals 0.029, it can be concluded that there is a significant negative correlation between the matching of teaching and learning style preferences with the students' language achievement. Thus, it can be concluded that the students do not necessarily get good grades even though their preferred learning styles match the teacher's styles. Conversely, they can still obtain good grades even though there is a mismatch between their learning style and their teacher's style preferences. This result is in line with Wang's (2005) study where a match in learning and teaching style preferences did not help students get better examination grades, but differs from the findings of Zahrah et al (2010) and Sabeh et al (2011), where a match in teaching and learning style preferences had a positive correlation with the examination results. A possible explanation for the lack of a positive correlation in this study may be that other factors that are independent of teaching and learning styles (such as personal initiative and learning strategy) were more decisive for the student's success.

There is some support in the interviews for this explanation. The four students who voluntarily participated in the interview all stated that their preferred learning styles did not always match their teacher's preferred teaching styles. Of these, three of the students insisted that their Spanish language examination performance was not affected by their teacher's teaching style because they were able to adapt to the teaching styles in class, and also used their own learning strategies outside of class. For instance, one of the students said "Examination depends on how you prepared for it, not due to teaching styles". The importance of learning strategies has been pointed out in numerous past studies. For example, Amin Embi et al (2001), Gan et al (2004) and Neo (2007) all found that high-achievement learners used a greater number of learning strategies compared to low achievement learners. Similarly, Arthur and Ng (2009) found that the ESL students in their study tended to use multiple strategies regardless of their proficiency level.

However, despite a negative correlation with success in this particular study, there are indications that a match of teacher and learning preferences may yield

effects linked to the students' attitude to learning, and thus may be important for long-term learning. Out of four students, two students stated that they are bored when the teacher' style preferences are different from their learning own style preferences. In the words of one of the students:

- i. "I sometimes sleep in the class and I am less interested to learn."
- ii. "I feel a little bored."

These two students expressed that they are more interested and motivated to learn and also find the lessons to be enjoyable when their styles are compatible with the styles of their teacher. From the point of view of the teacher, the teacher noted that she feels uncomfortable when there is a mismatch between their learning and teaching style preferences. This shows that a mismatch of learning and teaching style preferences can affect students' interest and motivation in learning a language, which implies that teacher should use various teaching approaches to motivate students in language learning – regardless of whether this has an immediate effect on their examination result.

Taken together, the results indicate that teachers cannot rely solely on a match of teaching and learning style to reach examination goals, but that they need to understand the importance of general learning strategies in mastering a foreign language. However, we suggest that a match of teaching and learning styles may have long-term implications on the students' motivations to study and thus also impact the students' long-term achievements.

#### **4.5 The role of strategy in foreign language learning**

As previously mentioned, the students stated that their Spanish language achievement was not affected by a mismatch of learning and teaching preferences since they were generally able to adapt to their teacher's strategies in the classroom, and used their own strategies to learn the language outside the class. Below are some quotes that illustrate this approach:

- i. "I just pay attention in class and do my own revision at home."
- ii. "I learn by myself and review my studies on my own."
- iii. "I will do my own revision and will ask my friends for help if I don't understand."

Thus, there is clear indication that learners of foreign languages in this study compensate possible mismatches of learning-teaching styles by using language learning strategies. According to Oxford (1990b:8), language learning strategies are "specific actions taken by learners". They are also defined as behaviours and thoughts consciously and semi-consciously used by learners to improve their second or foreign language learning (Cohen & Dörnyei 2002:176). What the interviews in this study revealed is that such conscious use of learning strategies is kicked into action when learners become aware of their strong and weak



preferences of learning styles. Learners who are resourceful will choose and use appropriate learning strategies so that they can learn the language effectively (Chew, Kitchen & Chu 1999, Cohen & Dörnyei 2002, Li & Qing 2006). This points to the importance of making students aware of teaching and learning strategies: learners with an understanding of their learning styles and strategies would become more successful compared to those who lack that understanding. Furthermore, they may be able to transfer these skills to learning even beyond their academic life, thus making the skills part of their life-long learning.

### **5 Implications for teaching and learning**

The results from the overall learning style preferences show that the learners of Spanish as a foreign language in this study have a variety of learning style preferences where the major preferences are kinaesthetic and auditory learning styles, and the minor preferences are tactile, group, visual and individual learning styles. In line with studies by Hyland (1993), Oxford (1995), Kinsella (1995), Rosniah (2005), this result suggests that a range of teaching styles and multi-sensory activities, such as visual, auditory, kinaesthetic and tactile teaching styles, are necessary to teach different skills and to help students learn effectively. For example, teachers may use visual means such as videos, and kinaesthetic activities such as role-playing to teach grammar. By doing so, all the visual and kinaesthetic students enjoy the class, are motivated to learn and hopefully become more successful in their learning. In addition, all the other students will have the opportunity to learn using the styles they are less accustomed to, and this will help them strengthen their weak learning styles and increase their interest and motivation to learn and become more successful.

One strategy for designing an effective teaching approach is that teachers identify their students' learning style preferences at the beginning of the course using a learning style inventory. According to Nambiar (2009), if teachers understand their students' individual preferred learning styles, they will be able to align their teaching approaches and also employ an appropriate strategy. Some examples of useful teaching methods for different styles are the Grammar Translation Method for the visual teaching style, the Audio Lingual Method (ALM) for the auditory teaching style, Total Physical Response (TPR) for the kinaesthetic teaching style and Communicative Language Teaching (CLT) for auditory, kinaesthetic and group teaching styles.

Additionally, the importance of a match of teaching and learning strategies in affecting student's motivation point to the necessity of adequate pedagogical training of instructors. Specifically, it is argued that universities should employ foreign language teachers who have gone through teacher training courses rather than for example prioritizing native speakers of the language in question, who may lack the necessary qualification and experience. If the teachers are adequately trained, they may realize the importance of using various teaching styles and multi-sensory activities in their teaching to enhance the foreign language learning experience of their students.

Additionally, our findings show that the matching of learning and teaching style preferences does not ensure improvement of students' achievement. Rather, the findings suggest that the crucial factor for success is that students are able to adapt to the teachers' teaching styles in class. In addition, the students' learning strategies outside the classroom seem particularly important in helping them to learn effectively. This underlines the importance of students' understanding of their own learning style preferences, as such understanding seems crucial for students in adapting to their teacher's style of teaching, and in creating their own learning strategies – not only in foreign language classes but also in other learning contexts. Therefore, teachers should be encouraged to help their students recognise their own learning style preferences via the use of a learning style questionnaire and subsequently encourage them to utilise learning strategies that will work towards their preferences. The understanding of their own learning styles will arguably help students select strategies that will promote their learning and strengthen their motivation to learn. This may in turn encourage life-long learning because the interest to learn will increase as the students capitalise on their preferred learning styles.

## **6 Conclusion**

This study shows that Malaysian students of Spanish as a foreign language in this study prefer the kinaesthetic and auditory learning styles while their teacher have a major preference for the kinaesthetic and the tactile styles. The findings further show that a majority of the students' learning styles match the teacher's styles. It is also concluded that despite the results indicating a negative correlation between the students' and the teacher's style preferences and achievement, a match of styles does not necessarily ensure success in terms of language achievement. However, a match between learning style and teaching style preferences is still deemed important as the qualitative findings strongly indicate that such a match is crucial for maintaining the students' interest, motivation and positive attitudes towards learning.

The findings of the present study have implications for foreign language learners and teachers. For learners, the knowledge of learning style preferences may help them to identify, understand and use the most effective ways to learn. Simultaneously, the knowledge of learning and teaching styles will allow learners to know that they can use their own strategies to learn when there is a mismatch of learning and teaching styles. In terms of life-long learning, understanding their style of learning will expedite further learning, be it for studies, or perhaps more importantly, the workplace.

For teachers, the knowledge of learning and teaching style preferences is important as it informs them about the potential benefits of utilizing different styles of learning and teaching. Based on the findings in this study, such knowledge includes an awareness that a match in learning and teaching style preferences may not necessarily help students get good grades, but it will affect psycho-social variables such as students' emotion and interest to learn.

The results of this study cannot be generalised due to the small sample size, which means that future research is necessary for validity. Further future research can investigate to what extent a match of teaching and learning styles is linked to the success or failure of learning a foreign language, and which important factors relate to such success or failure. In particular, it would be interesting to recruit more than one Spanish language teacher as informant in order to uncover how the teaching styles of various teachers influences their learners' achievement and motivation in learning Spanish.

## References

- Almasa Mulalis, Parilah Mohd Sha & Fauziah Ahmad (2009), "Perceptual learning styles of ESL students", [Electronic version]. *European Journal of Social Sciences*, 7(2):101-113. Retrieved September 15, 2009, from [http://www.eurojournals.com/ejss\\_7\\_3\\_10.pdf](http://www.eurojournals.com/ejss_7_3_10.pdf)
- Arthur, Christine Shobana & Lee Luan Ng (2009), "An investigation of learning strategies & personality traits among proficient & less proficient ESL learners", *Journal of Modern Languages*, 19:47-68.
- Brown, Douglass (1979), "Making biology easier to understand", *The American Biology Teacher*, 41(5):277-299.
- Brown, Douglas (2007), *Principles of language learning and teaching* (5<sup>th</sup> ed.). USA: Pearson Education.
- Cheng, Maria Hsueh-Yu & Kingley Banya (1998), "Bridging the gap between teaching styles and learning styles", In Joy Reid (ed.), *Understanding learning styles in the second language classroom*. Upper Saddle River, NJ: Prentice Hall, 80-84.
- Chew, Moh-Lee, Tamara Kitchen & Linda Chu (1999), "Plain talk about a complex subject: Maximising students' learning styles", *Asian Journal of English Teaching*, 9:1-21.
- Cohen, Andrew & Zoltán Dörnyei (2002), "Focus on the language learner: Styles, strategies and motivation", in Norbert Schmitt (ed.), *An introduction of applied linguistics*, London: Arnold, 170-192.
- Cooper, Thomas (2001), "Foreign language teaching style and personality", *Foreign Language Annals*, 34(4):301-307.
- Creswell, John (2008), *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (5<sup>th</sup> ed.). New Jersey: Pearson Education International.
- Dunn, Rita (1984), "Learning style: State of the science", *Theory into practice*, 23(1):10-19.
- Dunn, Rita, Jeffery Beaudry & Angela Klavas (1989), "Survey of research on learning styles", *Educational Leadership*, 46(6):50-58.
- Dunn, Rita & Kenneth Dunn (1979), "Learning styles/teaching styles: Should they... can they... be matched?" *Educational Leadership*, 36:238-244.

- Ehrman, Madeline, Betty Leaver & Rebecca Oxford (2003), "A brief overview of individual differences in second language learning", [Electronic version] *System*, 31:313-330. Retrieved January 25, 2011, from <http://www2.hlss.mmu.ac.uk/wp-content/uploads/2010/08/MATEFL.PreProgrammeTasksAppendix1.pdf>
- European Commission (2005), Retrieved on February 19, 2017, from [eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:c11084](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:c11084)
- Felder, Richard & Eunice Henriques (1995), "Learning and teaching styles in foreign and second language education", *Foreign Language Annals*, 28(1):21-31.
- Frank, Romanelli, Eleanora Bird & Melody Ryan (2009), "Learning styles: A review of theory, application, and best practices", *American Journal of Pharmaceutical Education*, 73(1):1-5. Retrieved December 22, 2017, from <http://www.ajpe.org/doi/pdf/10.5688/aj730109>
- Gan, Zhengdong, Gillian Humphreys & Liz Hamp-Lyons (2004), "Understanding successful and unsuccessful EFL students in Chinese universities," *The Modern Language Journal*, 88(2):229-244.
- Gilajakni Abbas Pourhosein (2012), "A match or mismatch between learning styles of the learners and teaching styles of the teachers", *I.J. Modern Education and Computer Science*, 11: 51-60. Retrieved January 25, 2016, from <http://www.mecspress.org/ijmecs/ijmecs-v4-n11/IJMECS-V4-N11-5.pdf>
- Hyland, Ken (1993), "Culture and learning: A study of the learning style preferences of Japanese students", *RELC Journal*, 24(1):69-91.
- Karabuga, Ferhan (2015), "Match or mismatch between learning styles of pre-class EFL students and EFL teachers", *Electronic Journal of Foreign Language Teaching*, 12(2): 276-288. Retrieved January 25, 2016, from <http://e-flt.nus.edu.sg/v12n22015/karabuga.pdf>
- Kinsella, Kate (1995), "Understanding and empowering diverse learners in ESL classrooms", in Joy Reid (ed.), *Learning styles in the ESL/EFL Classroom*, Boston: Heinle & Heinle, 170-194.
- Krashen, Stephen (1982), *Principles and practices in second language acquisition*. New York: Pergamon.
- Lee, Mo-Shuet (1976), "Some common grammatical errors made in written English by Chinese students", *CATESOL Occasional Paper*, 3:115-120.
- Li, Jie & Xiaoqing Qing (2006), "Language learning styles and learning strategies of tertiary-level English learners in China", *RELC Journal*, 31(1):67-89.
- Melton, Cynthia (1990), "Bridging the cultural gap: A study of Chinese students' learning style preferences", *RELC Journal*, 27(1):70-88.
- Ministry of Higher Education, Malaysia (2007), *The National Higher Education Strategic Plan Beyond 2020*. Kuala Lumpur: Malaysian Ministry of Higher Education.
- Mohamed Amin Embi, Juriah Long & Mohd Isa Hamzah (2001), "Language learning strategies employed by secondary school students in Malaysia", *Jurnal Pendidikan*, 26:3-20.

- Muhammad Ali Alkhuli (1976), *English as a foreign language: Linguistics background and teaching methods*. Riyad: Riyad University Press.
- Nambiar, Radha (2009), "Learning strategy research-Where are we now?", *The Reading Matrix*, 9(2), 132-149. Retrieved January 20, 2013, from [http://www.readingmatrix.com/articles.com/articles/sept\\_2009/nambiar.pdf](http://www.readingmatrix.com/articles.com/articles/sept_2009/nambiar.pdf)
- Neo, Swee Leng (2007), "Language learning strategies: A study among Spanish students in the University of Malaya", *Journal of Modern Languages*, 17:93-108.
- Oxford, Rebecca (1990), *Language learning strategies: What every teacher should know*. Massachusetts: Heinle and Heinle Publishers.
- Oxford, Rebecca (1995), Gender differences in language learning styles: What do they mean?, in Joy Reid (ed.), *Learning styles in the ESL/EFL Classroom*. Boston: Heinle & Heinle, 34-47
- Oxford, Rebecca & Neil Anderson (1995), "A crosscultural view of learning styles", *Language Teaching*, 28(4):201-215.
- Paramjeet Kaur (2003), *Perceptual learning style preferences and learning strategies of ESL university students*. Doctoral thesis. Kuala Lumpur: University of Malaya.
- Peacock, Matthew (2001), "Match or mismatch? Learning styles and teaching styles in EFL", *International Journal of Applied Linguistics*, 11(1):1-20.
- Reid, Joy (1987), "The learning styles preferences of EFL students", *TESOL Quarterly*, 1(1):87-111.
- Reid, Joy (ed.) (1998), *Understanding learning styles in the second language classroom*. Upper Saddle River, NJ: Prentice Hall.
- Rosniah Mustafa (2005), *Stretching weak ESL learners' learning styles: A case study of first year undergraduates at UKM*. Doctoral thesis. Kuala Lumpur: University of Malaya.
- Rossi-Le, Laura (1995), "Learning styles and strategies in adult immigrant ESL students", in Joy Reid (ed.), *Learning styles in the ESL/EFL classroom*. Boston: Heinle & Heinle, 118-127.
- Sabeh Ghada., Bahous Rima, Bacha, Nahla Nola & Nabhani Mona (2011), "A match or a mismatch between student and teacher learning style preferences", *International Journal of English Linguistics*, 1(1):162-171.
- Shen, Ming Yueh (2010), "Effects of perceptual learning style preferences on L2 lexical inferencing", *System*, 38(4), 539-547. Retrieved October 4, 2011, from <http://ezproxy.um.edu.my:2095/science/article/pii/S0346251X10001181>
- Sarjeant, Nicola (2002), *Matching learning and teaching styles in a Korean adult education context*. Unpublished M.A. thesis. UK: University of Leicester.
- Saunders, Mark, Philip Lewis & Adrian Thornhill (2007), *Research Methods for Business Students (4<sup>th</sup> ed.)*. UK: Prentice Hall.
- Smith, Linda & Joseph Renzuli (1984), "Learning style preferences: A practical approach for classroom teachers", *Theory into Practice*, 23(1):44-50.

*Neo Swee Leng, Ng Lee Luan – " Learning style and teaching style preferences ... "*

- Stebbins, Christine (1995), "Culture-specific perceptual-learning-style preferences of postsecondary students of English as a second language", in Joy Reid (ed.), *Learning styles in the ESL/EFL classroom*. Boston: Heinle & Heinle, 108-117.
- Young, Sam Ryu & Smith-Jackson Tonya (2006), "Reliability and validity of the mobile phone usability questionnaire (MPUQ)", *Journal of Usability Studies*, 2(1):39-53.
- Zahrah Naimie, Saedah Siraj, Chua, Y. P., Rana Ahmed Abuzaid & Reihaneh Shagholi (2010), "Do you think your match is made in heaven? Teaching styles/learning styles match and mismatch revisited", *Procedia - Social and Behavioral Sciences*, 2(2):349-353. Retrieved October 14, 2011, from <http://ezproxy.um.edu.my:2095/science/article/pii/S1877042810000637>