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Investigating the Learning Styles Preferences of ESL Learners: The Case of English Majors in Universiti Sains Malaysia

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Abstract

Studies on learning styles are important as they can give educators new directions for making changes in their classrooms. With this in mind a study was conducted to investigate *Universiti Sains Malay*sia (USM) English majors' learning styles. More specifically, the study aims to identify the type of information these students preferentially perceive, through which sensory channel external information is most effectively perceived, how they prefer to process information, and how they progress toward understanding. The Index of Learning Styles (ILS) questionnaire developed by Felder and Soloman (2004) was adopted. The ILS questionnaire was based on Felder and Silverman's (1988) model, reported to be valid, reliable and suitable in identifying learners' learning styles (Felder and Spurlin, 2005). The study findings indicated that USM English majors have certain learning styles that should be considered by USM staff members in preparing their materials, curriculum and teaching methods. Further, some pedagogical recommendations and guidelines that may help meet the learners' learning

styles preferences, on the one hand, and alter and stretch their less preferred modes, on the other hand, will be presented in this paper.

Introduction

It is undeniable that learners have different preferences i.e. styles in the way they process, perceive, take in and understand information. Understanding these preferences is of paramount importance in the teaching and learning process. This is because, according to Soo (1999: 289), "differences in learners' learning styles affect the learning environment by either supporting or inhibiting their intentional cognition and active engagement". This stems from the fact that learners are expected to be highly motivated in doing things that they prefer. Therefore, the need for teachers' knowledge about their students' preferences and styles is indisputable. In this regard, Alfonseca et al. (2006) point out that an awareness of students' learning styles will enable teachers to adapt appropriate techniques and methods that suit the students' preferences. They go on to extend the benefits gained from understanding the learners' styles to include the learners themselves so as to help them improve their effectiveness in learning the language. In addition, according to Reid (1987:88), "identifying the learning styles preferences of non-native speakers (NNSs) may have wide-ranging implications in the areas of curriculum design, materials development, student orientation, and teacher training".

Given this, this paper presents a preliminary report of a case study on the learning styles of English majors in the school of Humanities, *Universiti Sains Malaysia* (USM). The study tries to identify

the students' learning styles preferences (LSP hereafter) by determining the type of information these students preferentially perceive, through which sensory channel external information is most effectively perceived, how they prefer to process information, and how they progress toward understanding. In other words, the study aims to investigate whether USM English majors are sensing or intuitive learners, visual or verbal, active or reflective, and sequential or global learners. The results will help better understand USM English majors' learning styles, which would contribute towards raising teachers' awareness of such styles especially in the development of course materials, curriculum and teaching methods which are of paramount importance in the learning/teaching process. This is because, according to Pallapu (2007: 34), "knowing the learning styles of the learners aids the designer or instructor to develop a curriculum to address various needs of the learners in a group or class". In addition, matching the learning styles of students in a class and the teaching style of the instructor would help improve students' learning, attitudes, behaviour, and motivation (Felder, 1993, 1995; Felder and Henriques, 1995; Felder and Silverman 1988; Kinsella, 1995; Lawrence 1993; Oxford et al. 1991; Reid 1987; Schmeck 1988; Willing, 1988).

Background to the Study

This section presents a brief overview of the background of the study. This includes a discussion of some multifaceted issues, problems and challenges in the teaching and

learning of English in Malaysian schools and higher education institutions and a review of previous studies on Malaysian learners' learning styles.

Issues, Problems and Challenges in the Teaching and Learning of English in Malaysia: A Synoptic Overview

The existence of multiethnic and multicultural groups in Malaysia has resulted in a large number of languages being spoken in the country (Sarjit Kaur, 2003). Besides Bahasa Malaysia (BM hereafter), which is the national and official language of Malaysia, there are about one hundred languages in use (Asmah Haji Omar, 1987).

As a fast developing country, Malaysia recognises the potential use of English for internal communication, transmission of science and technology and international communication (Sarjit Kaur, 2003). BM is the medium of instruction in all government schools in Malaysia and English is a compulsory subject for all students. In university undergraduate and postgraduate education, English is used to teach science subjects whereas BM tends to be used to teach subjects in the area of the arts and humanities.

Given this, Nalliah and Thiyagarajah (2002) point out that although English has been accorded the status of second official language in Malaysia, it is only second to BM in importance for all official purposes and is not a second language according to the

definition in applied linguistics. In view of this, English language teaching (ELT) in Malaysia has been referred to as Teaching English to Speakers of Other Languages (TESOL) instead of Teaching English as a Second Language (TESL) (Nalliah and Thiyagarajah, 2002). In other words, English is just another language to most Malaysian students "whose exposure and learning of the language is mainly confined to the classroom" (ibid: 441). Despite various efforts to promote the use of English in schools, there is still widespread popular concern that the general level of English proficiency among Malaysian students is low (Mohini Mohamed et al., 2008). In addition to the observed low levels of Malaysian students at schools, numerous studies have found that "many university students in Malaysia have low English proficiency" (Munir Shuib, 2008: 176).

Besides the rare use of English outside the class, implementations of effective teaching approaches such as the communicative and learner-centred approaches in Malaysian English language classrooms have been hindered by various obstacles (Ambigapathy Pandian, 2002; Fauziah Ahmad et al., 2005). One of these problems, according to Fauziah Ahmad et al. (2005), is attributed to the culture and nature of Malaysian students, as Malaysians have an inherent culture with a long tradition of unconditional obedience to authority. As such, "the teachers are seen not as a facilitator but as a fountain of knowledge" (ibid: 90). As a result of being dependent learners who look to the teacher as a source of structure and guidance and prefer an authority figure to tell them what to do, Fauziah Ahmad et al. assert that "a complete departure from the

traditional teacher-centred and text-book driven teaching, to that of a learner-centred teaching to create independent learners do not seem encouraging in our second language setting" (ibid: 92).

With regard to implementing the learner-centred approach in higher educational institutions, Sarjit Kaur (2003) points out that this approach to language teaching has been employed among English majors at USM. However, she argues that some of the teaching activities should be aligned to the students' preferences. For example, it was reported that "a higher number of adult students are uncomfortable with group-learning activities such as group assignments" (Sarjit Kaur, 2003: 260). She further argues that "in higher education, staff members are often lecturing to groups with widely different levels of prior knowledge, which creates problems in knowing at which level to pitch the teaching. Knowing the variation in prior knowledge can help to overcome that difficulty" (ibid: 261). Sharing similar views, Siti Hamin Stapa (2003: 1) avers that,

> Teachers should find out the students' language learning preferences then only decisions on the types of activities can be made". And this is crucial because students come to the language classrooms bringing with them not only the diversity of cultures but also a learning and language diversity that needs to be addressed, particularly since students tend to experience the highest levels of frustration in their language learning when learning needs, learning styles, and expectations are not met.

In the same vein, Nunan (1989) asserts that accommodating learners' needs and preferences is vital in designing a learner-centred curriculum. In line with such views, the researchers have been prompted to find out the LSPs of English majors at USM. Once the students' LSPs and types of learning activities that complement them have been determined, the materials and activities used in their English classes can be tailored to the needs of each learning style so as to improve the effectiveness of these classes in aiding them reach their full potential.

Previous Research on Malaysian Learners' Learning Styles

In Malaysia, a number of studies have been carried out to investigate Malaysian learners' learning styles. To the best of the researchers' knowledge, all these studies have been conducted among English for Specific Purposes (ESP) learners. For example, Siti Hamin Stapa (2003) carried out a study among ESP learners at the National University of Malaysia. Her subjects were 53 students, who were doing a course called English for Hospitality Purposes offered by the Faculty of Language Studies, and three teachers, who were teaching these students. Adopting a questionnaire developed by Brindley (1984), the study aimed to investigate the styles preferred by these ESP learners and find out whether the teachers are aware of their students' learning preferences. Her results showed that students' preferences do indeed correlate with those of teachers in many instances. From a different angle, Roziah Sidik and Ezad Azraai Jamsari (2003) sought to find out the influence of cultural factors on Malay students' learning styles by administering a questionnaire to one hundred students who studied the History of the Prophet Mohamed

at the Department of Arabic Studies and Islamic Civilization, Faculty of Islamic Studies, National University of Malaysia. The results indicated that while 71% of the subjects admitted that laziness influences their learning, only 13% of them were influenced by shyness as a cultural factor. In addition, 53% of the participants were found to be very dependent in learning.

Ong et al. (2006) conducted another study to determine the learning style preferences and English proficiency of Cohort 3 students of the B. Ed. (TESL) Foundation course at *Institut Perguruan Bahasa-Bahasa Antarabangsa* (IPBA). The study had the aim to investigate the effect of learning style preferences on the students' written English proficiency. Reid's Learning Style Preference questionnaire was the main instrument used. The study findings revealed that the major LSP of the students is kinesthetic. This means most of the students learn best through involvement in classroom experiences. On the other hand, none of the subjects were verbal learners. In addition, it was found that the students' LSPs do affect their written English proficiency.

However, with regard to Malaysian University English majors, there is an apparent scarcity of studies that have been reported. As such, the need to conduct a study to determine the LSPs of university English majors is great. In addition, identifying the LSPs of these learners would help understand how they approach learning tasks. Such information would be beneficial and useful for both students and teachers. Hence, this has motivated the researchers to carry out a study on USM English majors as the first attempt to determine the learning styles of these learners and probably among Malaysian

university English majors particularly with the use of the Index of Learning Styles (ILS) questionnaire as a method. Such a study would contribute towards raising teachers' awareness of the methods that should be used to match their students' preferences.

Theoretical Framework

The term "learning style" as used in the literature during the last thirty years or so, has labelled a very broad and relatively diffuse concept (Bedford, 2006). Keeffe (1979:4) defines learning styles as "the composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment". However, Oxford and Anderson (1995) add three more aspects to the definition of learning styles: executive aspect; social aspect and behavioural aspect. Hence, they suggest that learning styles have six interrelated aspects:

1. Cognitive elements include preferred or habitual patterns of mental functioning.
2. The executive aspect deals with the degree to which the person seeks order, organization and closure and manages his or her own learning processes.
3. The affective aspect reflects clusters of attitude, beliefs and values that influence what an individual will pay most attention to in a learning situation.
4. The social aspect concerns the preferred extent of involvement with other people while learning.
5. The psychological aspect involves at least partly anatomically-based sensory and perceptual tendencies of the person.

6. The behavioural aspect is where the learning style relates to a tendency to actively seeking situations compatible with one's own learning preferences (Oxford and Anderson, 1995: 203).

The learning paradigm which underpins the present investigation is based on the cognitivists' and constructivists' views of learning. From the cognitive perspective, Thompson et al. (1996: 11) state that "cognitive theory concentrates on the conceptualisation of students' learning processes. It focuses on the exploration of the way information is received, organised, retained and used by the brain". In the same vein, Ghanaguru et al. (2006:3) point out that "current cognitive theories of learning emphasize the importance of learners' thought processes during learning". All in all, cognitivists treat the learners as thinking beings and put them firmly at the centre of the learning process, by stressing that learning will only take place when the matter to be learnt is meaningful to the learners. As Lefoe (1998: 455) avers, in this learning paradigm, "more attention was given to the learning process and a greater degree of autonomy and initiative was given to the learner". Therefore, it is of prime importance to understand learners' preferences of the learning styles.

From the constructivists' point of view, on the other hand, identifying learners' LSPs would help teachers to use suitable instructional strategies which support students' construction of knowledge. This is because learning styles, as operationally defined by

Felder and Henriques (1995: 21), are "the ways, in which an individual characteristically acquires, retains, and retrieves information". Teachers' understanding of such characteristics of the learners is very crucial in the learning paradigm of constructivism. Miller (2002: 4) states that, "one of the important aspects of a teacher who comes from a constructivist paradigm is that s/he appreciates (and embraces) the prior knowledge, beliefs, and experiences that students bring into the classroom with them". In addition, constructivism is "a theory of learning that allows students to develop and construct their own understanding of the material based upon their own knowledge and beliefs and experiences in concert with new knowledge presented in the classroom" (Miller, 2000: 92, as cited in Miller, 2002:1). Therefore, students' knowledge about their learning styles is imperative as it would help them understand their strengths and weaknesses and try to alter and stretch their less preferred modes of learning. To sum up, identifying learners' LSPs would provide a learning setting, which would help "stimulate learners so that their thinking is related to actual practice" (Honebein, 1996: 20). This realistic or authentic context for learning is considered the basis for many constructivist learning environments (Honebein, 1996; Lefoe, 1998).

The Learning Style Model

To help researchers investigating learners' LSPs, different models have been developed in the last decades (e.g. Brindley, 1984; Felder and Silverman, 1988; Kolb, 1984; Reid, 1987). Robotham (1999) believes that the situation regarding the research on learning styles is currently in a stage of what is called *multiparadigmatic* with no accepted

theoretical orthodoxy. He goes on to suggest that there would appear to be no widespread acceptance for any one model for determining individual LSPs.

Given this, the researchers in the current study adopted Felder and Silverman's (1988) model when trying to identify the LSPs of the English majors at USM. This is because, this model aimed for a comprehensive system of learning styles to help lecturers "better understand the needs of their students and adapt their teaching accordingly" (Jarvis, 2005: 80-81). In addition, each of the dimensions in this model "has parallels in other learning styles models although the combination is unique to this one" (Felder and Spurlin, 2005: 103). Moreover, Alfonseca et al. (2006) note that, "one of the advantages of this model is that the sliding scales support a classification of student's style that is richer and more flexible". They go on acknowledging Felder and Silverman's (1988) model in that it is "based on dimensions that give us information suitable and feasible of being used with adaptation purposes".

Felder and Silverman's (1988) model is used to classify learners' learning styles in terms of four dimensions, i.e., perceiving information (Sensing/Intuitive), inputting information (Visual/Verbal), processing information (Active/Reflective) and understanding information (Sequential/Global). These four dimensions are illustrated in Table 1.

Table 1: Dimensions of Learners' Learning Styles (Felder, 1996: 20)

Styles Dimension	Learners' type	Learners' styles
Sensing/ Intuitive	Sensing Learners	Concrete, practical, oriented toward facts and procedures
	Intuitive learners	Conceptual, innovative, oriented toward theories and meanings.
Visual/ Verbal	Visual	Prefer visual representations of presented material--pictures, diagrams, flow charts.
	verbal	Prefer written and spoken explanations.
Active/ Reflective	Active learners	Learn by trying things out, working with others.
	Reflective learners	Learn by thinking things through, working alone.
Sequential/ Global	Sequential learners	Linear, orderly, learn in small incremental steps.
	Global	Holistic, systems thinkers, learn in large leaps.

As shown in the table, the Sensing/Intuitive dimension would indicate whether the learners are *sensing learners* who favour information that comes in through their senses", or *intuitive learners* who favour information that arises internally through memory, reflection, and imagination (Felder, 1993). The second dimension i.e. Visual/Verbal would help to understand through which sensory channel external information is most effectively perceived by learners so as to reveal whether they are *visual or verbal. Visual learners* are those who favour obtaining more data from visual representations such as graphs, charts, pictures, and diagrams, rather than from verbal information such as written texts or lectures, spoken words and mathematical formulas, and vice versa for *verbal* ones (Alfonseca et al., 2006; Felder, 1993).

The third dimension (Active/Reflective) aims to differentiate learners based on the way they prefer to process information. In other words, *active learners* who prefer to learn by trying things out and doing something beyond listening and watching (e.g., discussing, questioning, or arguing) will be distinguished from *reflective learners* who prefer observation rather than active experimentation. Finally, a distinction is made between learners who favour accessing well structured information sequentially, studying each subject step by step, i.e. sequential learners, and those who prefer building "a knowledge map from the exploration of the information by having a look at the whole information space in a more flexible way", i.e. global learners.

Having discussed the theoretical basis of the present study, the next section provides a description of the research methodology.

Methodology

This study aims to determine the learning styles of English majors in USM. The objectives are as follows:

- To investigate the type of information English majors in *Universiti Sains Malaysia* preferentially perceive.
- To investigate through which sensory channel external information is most effectively perceived by English majors in *Universiti Sains Malaysia*.
- To investigate how English majors in *Universiti Sains Malaysia* prefer to process information.

- To investigate how English majors *in Universiti Sains Malaysia* progress toward understanding information.

To achieve these objectives, the Index of Learning Styles (ILS) questionnaire was administered to 60 final year students majoring in English in the academic year 2006-2007 at the School of Humanities, USM. A convenience sampling technique was used for sample selection.

It is worth mentioning that the ILS questionnaire was based on Felder and Silverman's (1988) model which is reported to be valid, reliable and suitable in identifying learners' learning styles (Felder and Spurlin, 2005). The ILS questionnaire (see Appendix A) consists of 44 questions that help to classify the subjects in terms of four dimensions of Felder and Silverman's (1988) model as presented in Table 1 in the previous section. In addition, information was collected regarding the demographic background of the subjects such as their age, gender, ethnicity and levels of achievement and proficiency in the English language.

Before administrating the questionnaire, the students were informed of the objectives and significance of the research. They were also requested to state their real responses. In addition, they were acknowledged for the time they would spend in filling in the questionnaire. The subjects were also informed to ask for any clarifications they might need. After that, the questionnaire was distributed to the subjects. Once they

finished answering the questionnaire, they were requested to check their responses for incompleteness or missing answers. All the students completed and returned their questionnaires within one hour.

In analysing the questionnaire results, the researchers first keyed in the responses of each subject into the web-based version of the ILS questionnaire which is available online. Numbers (such as one, two, three…etc), instead of the names of subjects, were used to label each case of the data. After submitting the questionnaire online, a form showing the learning styles profile of the subject is returned immediately (see a sample of the results of one subject in Appendix B). After getting the results of all the subjects, data were tabulated.

Limitations of the study

There were a number of limitations to the study, which is why it is considered a preliminary investigation. Firstly, due to financial and accessibility concerns, the present study is confined to a group of English majors (i.e. 60 final year students) in the academic year 2006-2007 at the School of Humanities, USM. Although the minimum sample size recommended by many researchers (e.g. Cohen et al. 2006) is thirty subjects, the findings might only be reflective of the LSPs of those who participated in this study. Secondly, as the present subjects were heterogeneous in terms of gender, age, ethnicity and proficiency level generalisations from the findings should be made with caution. Finally, the

pedagogical implications of this study are limited to those which can be based on the participants' responses.

Findings and Discussion

Demographic Background of the Subjects

The majority of the subjects are females. Out of 60 subjects, 43 (72%) are females and 17 (28%) are males. The subjects' age ranged from 21 to 44. With regard to the subjects' ethnicity, it was found that 30% are Malay, 19 % Indians, 13% Chinese and only 5% are *Bidayuh*. They had a varied level of proficiency in the English language as revealed by their results in the *Sijil Pelajaran Malaysia (SPM) exam* or the Malaysian Certificate of Education (see Appendix C).

Analysis and Discussion of the Subjects' Responses to the ILS Questionnaire

Each subject's questionnaire responses were converted to a score from -11 to 11 for each dimension, allowing his/her preferences for the dimension to be ranked. If the subject has a score from 1 to 3 in any dimension, he/she is considered to have a mild preference but his/her learning style is well balanced. If he/she gets a score from 5 to 7, the subject is said to show a moderate preference. If the subject scores from 9 to 11, he/she has a very strong preference on that dimension. The scores of the subjects in each dimension are shown in Table 2.

Table 2: the Subjects' scores in each dimension of the ILS questionnaire

Subjects' No.	Active	Reflective	Sensing	Intuitive.	Visual	Verbal	Sequential.	Global
One		3	9		7		1	
Two	3			7	5			5
Three	1			1	3			1
Four		1	5		7		1	
Five	5		3		5			5
Six	5		5			5	1	
Seven	1		3		3		1	
Eight		7	1		9			1
Nine	5			1	3		3	
Ten		1	7		5		1	
Eleven	3		1		9		3	
Twelve	3			1	1		1	
Thirteen	3		5		7		5	
Fourteen	3		1		7		3	
Fifteen	1			1	7			9
Sixteen		1	9		9		1	
Seventeen	5		9		5		7	
Eighteen	3		7		9			3

Nineteen	7		1		1			7
Twenty	1			3	1			9
Twenty one		1		1	5			1
Twenty two	7		1		9			5
Twenty three		7		5		1		3
Twenty four	1			3	11		1	
Twenty five	3			1	7			7
Twenty six	1			5		1	1	
Twenty seven	1		3		5			5
Twenty eight	5		1		5		1	
Twenty nine	3		5		3			1
Thirty	5		9		7		1	
Thirty one		1		1	9		1	
Thirty two	1			5	5			3
Thirty three		1	9		1		9	
Thirty four	3			5	3		1	
Thirty five	5		3		1			1
Thirty six		11		1		5		3
Thirty seven		1		3	5		1	
Thirty eight	1			3	3		3	
Thirty nine	7			5	5		1	

Forty	1		3		9			9
Forty one		1		3		1	5	
Forty two		1	3		1			1
Forty three	1		5		11			1
Forty four	1			1	7		1	
Forty five	5		3		9			3
Forty six	11		5			5	1	
Forty seven	3			3	7			1
Forty eight	3			3	1			3
Forty nine	7			7	7			5
Fifty	5			3	9			3
Fifty one	3		3		3		1	
Fifty two	5		5		3			1
Fifty three	5		1		5		3	
Fifty four		1	3		5		1	
Fifty five	3		7		1			1
Fifty six		5	5			1		7
Fifty seven		3	3		5		1	
Fifty eight	7		7		5		3	
Fifty nine		1	7		9			1
Sixty		1	3		1		1	

Based on the subjects' scores in each dimension, a detailed description of these results will be given in the following sub-sections.

Active/ Reflective Dimension

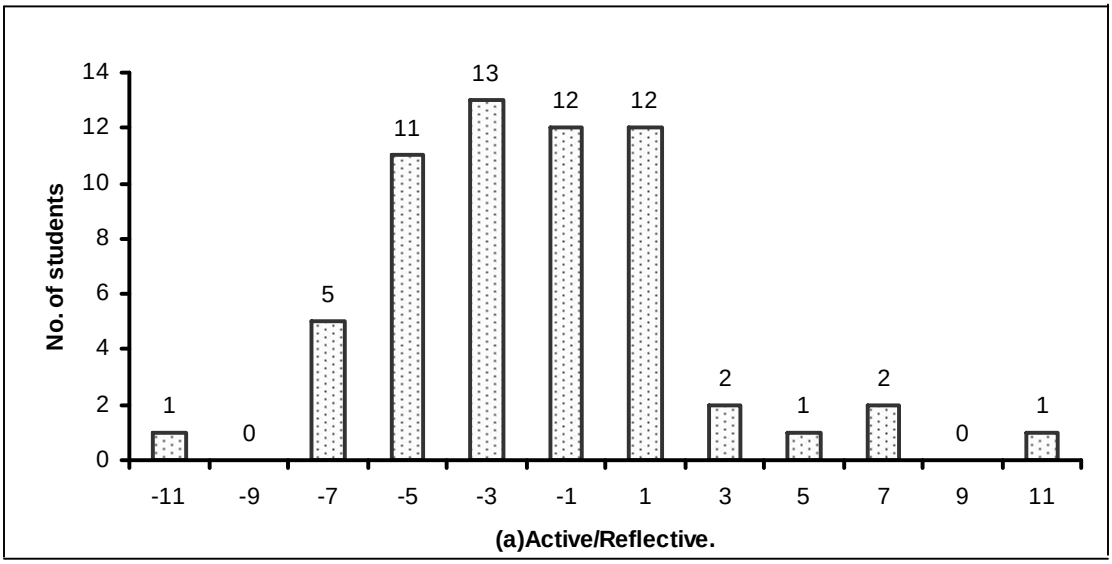

Figure 1: Active/ Reflective Dimension

The active/reflective scale in Figure 1 illustrates the scores of the subjects which ranged from active (-1 to -11) to reflective (1 to 11). These scores show the clear differences in preference between users of the active/reflective style respectively. It was found that 39 of the subjects' learning style is fairly well-balanced on the two dimensions, active/reflective, of the above scale as their scores on the scales ranged from 1-3. However, most of them (25 out of 39) have a mild preference towards the active dimension. The results also show that while 16 of the subjects have a moderate

preference on the active dimension only 3 of them have a moderate preference on the reflective dimension. Only one subject has a very strong preference for the reflective dimension. Similarly, only one subject has a very strong preference for the active dimension.

In sum, the data shows that 28% of the subjects are considered to be active learners and 7% of them are reflective learners. 65% of these subjects are in-between.

Sensing/ Intuitive Dimension

For the sensing/intuitive dimension, the results show that the scores of 58% of the subjects ranged from 1-3, which means that they are fairly well-balanced on the two dimensions of the sensing/intuitive scale as illustrated in Figure 2.

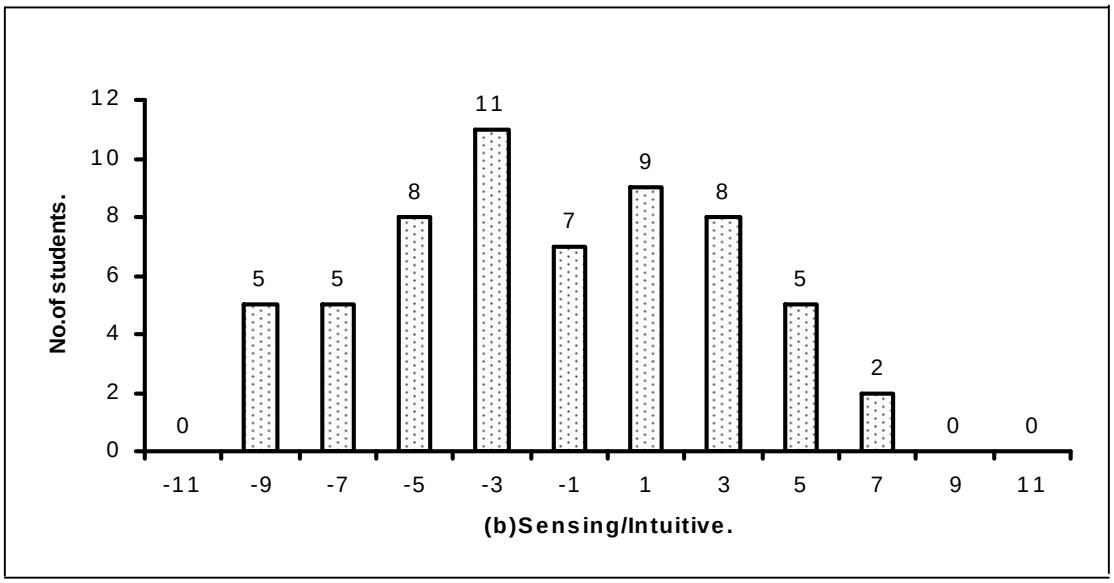

Figure 2: Sensing/Intuitive Dimension

As shown in Figure 2, 30% of the subjects are considered to be sensing learners while only a small number of the subjects (i.e.12%) are intuitive learners.

Visual/Verbal Dimension

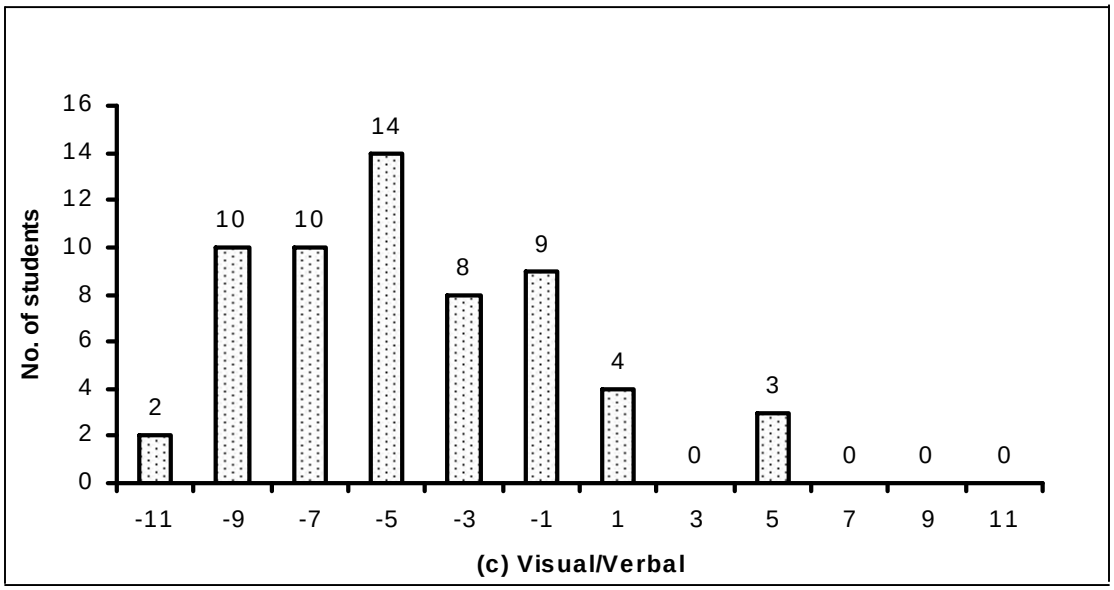

Figure 3: Visual/Verbal Dimension

The data in Figure 3 illustrate that a relatively high number of the subjects are visual learners. This is because about 88% of these subjects score from -1 to -11. On the other hand, only 5% of the subjects have a moderate preference on the verbal dimension.

Sequential/Global Dimension

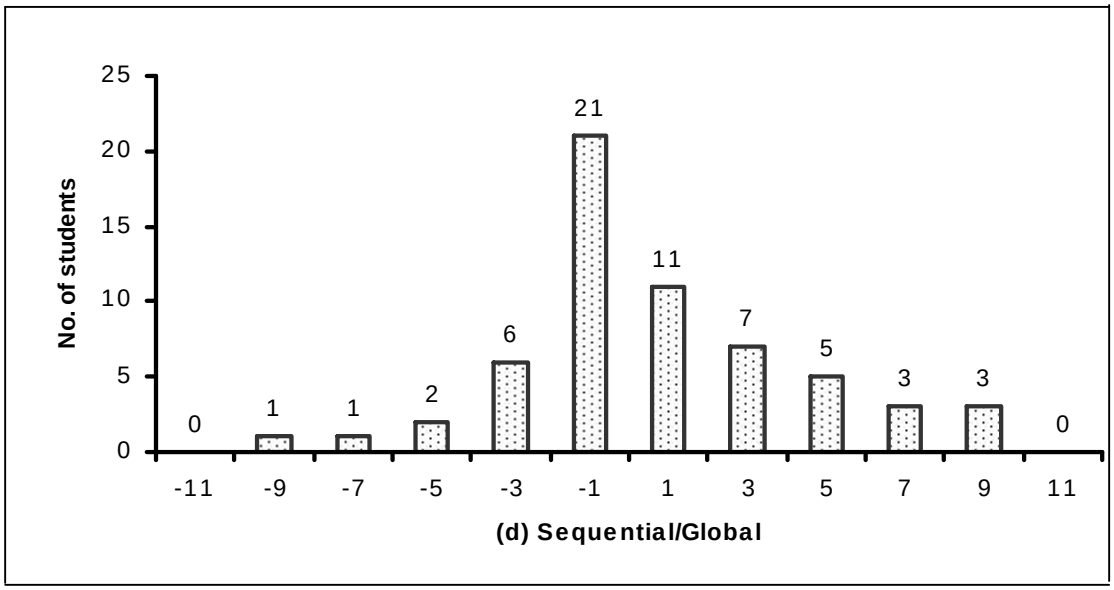

Figure 4: Sequential/Global Dimension

In contrast, 75% of the subjects are quite well–balanced on the sequential/global dimension as their score ranged from -3 to 3. Nevertheless, most of these subjects (i.e. 27 out of 45) have a mild preference in the sequential dimension. It is also illustrated in Figure 4 that 11 of the subjects are global learners and 4 are sequential ones.

Conclusion and Recommendations

English majors in USM are taught various linguistic, literature and English language proficiency courses throughout their three year programme. The findings reported have some implications on how knowledge and skills in these courses are imparted to the students.

The results showed that many of the English majors are either moderate or strong sensing learners, that is, they prefer to perceive sensory (external) information such as sights, sounds, physical sensations and so forth rather than intuitive (internal) information such as possibilities, insights, hunches and so on. In the words of Felder (1993), sensing learners tend to understand more if information comes in through their senses. As such, Felder and Soloman (2006) advise these learners if they are in a class where most of the material is abstract and theoretical, to ask their teacher for specific examples of concepts and procedures, and find out how the concepts apply in practice. If the teacher does not provide enough specifics, Felder and Soloman (2006) suggest that learners should try to find some in their course text or other references or by brainstorming with friends or classmates.

The findings also indicated that external information is most effectively perceived through the visual sensory channel (such as pictures, diagrams, graphs…etc) as approximately 88% of the subjects are visual learners. Such a visual learning style might stem from the way these students have been taught. This interpretation is in line with that

of Zhenhui (2001) who attributed the dominant visual learning style among Korean, Chinese and Japanese students to the traditional classroom teaching in East Asia. Zhenhui argues that because the teacher is the only authority in the classroom and the students just sit in rows facing the blackboard and the teacher, therefore, the perceptual channels are strongly visual (text and blackboard), with most auditory input closely tied to the written word. Given this, it can be said that the use of the "Talk and Chalk" method by lecturers without any visual backup might be a hindrance to learning and would be anxiety-producing. Therefore, to accommodate English majors' preferred modes, lecturers should be encouraged to use diagrams, sketches, schematics, photographs, flow charts, or any other visual representation of course material that is predominantly verbal.

It was found that the majority of the subjects in the present study prefer to process information actively (i.e. through trying things out, engagement in physical activity or discussion), since 70% of the subjects scored from -1 to -11 in the active dimension. Active learners, according to Felder and Soloman (2006), can help themselves in classes that allow little or no class time for discussion or problem-solving activities, by trying to compensate for this lack when they study. That is, they should study in a group in which the members take turns explaining different topics to each other and/or work with others to guess what they will be asked on the next test and figure out how they will answer. They advise active learners to find ways to do something with information to better retain it.

45% of the subjects have a mild preference in the sequential dimension but in terms of learning style they are considered to be well balanced as they scored from -1 to -3. As such, one might conclude that the subjects in the present study progress towards understanding information with a relatively high sequential order, in continual steps, than with a global one. This might be due to the exam-oriented approach, which the students have been exposed to during their school education, in which students are focused on the information and are not able to think globally (Munir Shuib, 2008). Felder (1993: 288) states that sequential learners "absorb information and acquire understanding of material in small connected chunks". Therefore, to ease their understanding, teachers should teach them interrelated topics. However, if the teacher jumps from topic to topic, sequential learners should ask this teacher to fill in the skipped steps or they should depend on themselves to fill them in by consulting references (Felder and Soloman, 2006). In addition, to strengthen their global thinking, Felder and Soloman (2006) suggest that they relate each new topic they study to things they already know.

To sum up, the results showed that English majors in USM are more sensing, visual and active learners than intuitive, verbal and reflective ones. However, most of them are considered to be well balanced in the sequential/global dimension.

In line with the results obtained it is recommended that teachers should teach in a way which matches the students' preferred learning styles. This is because, according to Reid (1987: 102), "the understanding and use of different teaching styles by the

instructor, as well as the awareness of individual learning styles by the students, may influence success in the classroom". Furthermore, if mismatching occurs between the teaching styles used by teachers and the learning styles of their students "the students are likely to become uncomfortable, bored and inattentive in class, do poorly on tests, get discouraged about the courses, the curriculum and themselves, and in some ways change to other curricula or drop out to other school" (Felder and Spurlin, 2005:103). Such a view has been noted in the literature of second/foreign language learning. Many studies show that matching teaching styles to learning styles can significantly enhance academic achievement, student attitudes, and student behaviour at the primary and secondary school level (e.g. Griggs and Dunn, 1984; Smith and Renzulli, 1984), at the college level (e.g. Brown, 1978; Charkins et al., 1985), and specifically in second/foreign language instruction (e.g. Oxford et al., 1991; Wallace and Oxford, 1992).

It is worth suggesting that teachers should not teach exclusively based on their students' preferred modes of instruction. In other words, students should be given the opportunity to deal with some problems and challenges that require the use of their less preferred modes by providing them with some practice in the use of those modes (Friedman and Alley, 1984; Hunt, 1971). In doing so, however, caution should be taken not to give students teaching styles inconsistent with their LSPs over extended periods of time (Smith and Renzulli, 1984). Stated another way, instructors should help their students build up their skills in both their preferred and less preferred modes of learning. In this regard, the researchers concur with Felder (1996:19) that:

> If professors teach exclusively in a manner that favours their students' less preferred learning style modes, the students' discomfort level may be great enough to interfere with their learning. On the other hand, if professors teach exclusively in their students' preferred modes, the students may not develop the mental dexterity they need to reach their potential for achievement in school and as professionals.

Given this, the present study can be used as a beginning point for establishing guidelines to suggest appropriate teaching styles that would help to meet the LSPs of English majors at USM, on the one hand, and to alter and stretch their less preferred modes, on the other hand. The proposed guidelines are based on pertinent recommendations given by Felder and Henriques (1995) and Zhenhui (2001). These guidelines are as follows:

- Since most of the subjects in the present study are more sensing than intuitive learners, their courses might be shifted heavily toward the sensing side i.e. concrete information such as word definitions, rules for verb conjugation and adjective-noun agreement with less emphasis on the intuition side (the conceptual information) such as syntactic and semantic patterns, comparisons and contrasts with the students' native language. In addition, teachers could also assign some repetitive drill exercises to provide practice in basic vocabulary and grammar (sensing) but not overdo it (intuitive).
- As the majority (88%) of the subjects are visual learners, it might be helpful to make liberal use of visuals in their English classes. For example, some instructors might use photographs, drawings, sketches, and cartoons to illustrate and

reinforce the meanings of vocabulary items. Others might show films, videotapes, and live dramatizations to illustrate lessons in texts and so forth.

- The findings indicated that most of the subjects prefer to process information actively. Active learners generally learn best when they interact with others. As a result, lecturers would be well advised not to fill every minute of class time lecturing and writing on the board. Instead, they should, for example, raise questions and problems to be worked on by students in small groups; enact dialogues and mini-dramas and hold team competitions. The students might also be given the option of cooperating on at least some homework assignments. On the other hand, to help students to alter their less preferred LSPs (to be reflective-oriented), teachers might provide intervals- however brief - for students to think about what they have been told; and assign brief writing exercises.
- The results revealed that the subjects have a mild preference in the sequential dimension but in terms of learning style they are considered to be well-balanced. Therefore, it is suggested that teachers balance structured teaching approaches that emphasize formal training (sequential) with more open-ended unstructured activities that emphasize conversation and cultural contexts of the target language (global).

Summing up, the current study adopted Felder and Silverman's (1988) ILS questionnaire to identify the LSPs of English majors at USM. The findings indicated that

the students have certain learning styles that should be considered by USM academic members in preparing their materials, curriculum and teaching methods.

Recommendations for further research

This is the first study of its kind among English majors in Malaysia. While the results of the present research offer a list of pedagogical recommendations that should be taken into consideration by USM teachers and syllabus designers to enhance the teaching and learning of the English language in USM, they also point to areas where more research is necessary. It is recommended, therefore, that research endeavours be undertaken as a result of insights generated from the present study.

Firstly, the present study did not take into consideration the subjects' background factors such as age, gender, ethnicity and achievement level which could have an impact on the LSPs of the students as demonstrated by many researchers (e.g. Dunn, 1995; Dunn et al., 1993; Park, 1997, 2002; Witkin et al., 1977). For example, Dunn et al. (1993) conducted a study to investigate the LSPs of Hispanic- America students in USA. The study findings showed that different variables such as age, gender and ethnicity have an impact on the learners' learning styles. Therefore, they concluded that such factors should not be isolated as far as learners' LSPs are concerned. Another earlier study carried out by Witkin et al. (1977) also supported the impact of gender on learners' learning styles as they found that females tend to be more field-dependent than males. For learners' ethnicity and level of achievement, Park (2002) found significant ethnic group

differences as well as achievement level differences in basic LSPs of English secondary school learners. For instance, his study showed that Hmong, Mexican, and Vietnamese students preferred group learning while Armenian and Korean students did not. In addition, middle and high achievers were more visual than low achievers; and high and middle achievers preferred individual learning but low achievers did not. Therefore, it is recommended that future research investigates the possible effects of all these factors, namely, age, gender, ethnicity and level of achievement, on Malaysian English majors' LSPs.

Secondly, since this study was restricted to a group of university students, i.e. 60 English majors at the School of Humanities, USM, it is recommended that the present study be replicated and the sample size be increased by including a large number of students from the same university and/or other universities to enhance the generalizability of the findings.

Finally, further research which includes teachers' perceptions of 1) the students' LSPs and 2) the teaching styles used would be useful. This is because, serious mismatches may occur between the learning styles of students in a class and the teaching style of the instructor (Felder and Henriques, 1995; Felder and Silverman, 1988; Lawrence, 1993; Oxford et al., 1991; Schmeck, 1988), with unfortunate potential consequences.

Despite these limitations and shortcomings, the present study can still be considered significant in that it investigated an issue which has not been researched before with regard to Malaysian English majors' LSPs. It is hoped, therefore, that this study will be the basis for future research that would be of substantial benefit to improve instruction, both through modifications in teaching styles and improving learners' self-knowledge.

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Appendix A: The Questionnaire

Background Information

Instructions: For the following items, please indicate your answer with a tick (√) in the boxes or spaces provided. Where a line is provided, please write your answer, if applicable.

1. What is your age?

21 years [ ]

22 years [ ]

23 years [ ]

24 years [ ]

25 years [ ]

Others (please specify) _____

2. What is your sex?

Male [ ]

Female [ ]

3. What is your race?

Malay [ ]

Chinese [ ]

Indian [ ]

Others (please specify)_____

4. What is your SPM English Grade? (Please specify)

Index of Learning Styles Questionnaire (ILQ)

Instructions: For each of the **44** questions below select either **"a"** or **"b"** to indicate your answer. Please choose only one answer for each question. If both "a" and "b" seem to apply to you, choose the one that applies more frequently.

1) I understand something better after I
(a) try it out.
(b) think it through.

2) I would rather be considered
(a) realistic.
(b) innovative.

3) When I think about what I did yesterday, I am most likely to get
(a) a picture.
(b) words.

4) I tend to
(a) understand details of a subject but may be fuzzy about its overall structure
(b) understand the overall structure but may be fuzzy about details.

5) When I am learning something new, it helps me to
(a) talk about it.
(b) think about it.

6) If I were a teacher, I would rather teach a course
(a) that deals with facts and real life situations.
(b) that deals with ideas and theories.

7) I prefer to get new information in
(a) pictures, diagrams, graphs, or maps.
(b) written directions or verbal information.

8) Once I understand
(a) all the parts, I understand the whole thing.
(b) the whole thing, I see how the parts fit.

9) In a study group working on difficult material, I am more likely to
(a) jump in and contribute ideas.
(b) sit back and listen.

10) I find it easier
(a) to learn facts.
(b) to learn concepts.

11) In a book with lots of pictures and charts, I am likely to
(a) look over the pictures and charts carefully.
(b) focus on the written text.

12) When I solve math problems
(a) I usually work my way to the solutions one step at a time.
(b) I often just see the solutions but then have to struggle to figure out the steps to get to them.

13) In classes I have taken
(a) I have usually gotten to know many of the students.
(b) I have rarely gotten to know many of the students.

14) In reading nonfiction, I prefer
(a) something that teaches me new facts or tells me how to do something.
(b) something that gives me new ideas to think about.

15) I like teachers
(a) who put a lot of diagrams on the board.
(b) who spend a lot of time explaining.

16) When I'm analyzing a story or a novel
(a) I think of the incidents and try to put them together to figure out the themes.
(b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them.

17) When I start a homework problem, I am more likely to
(a) start working on the solution immediately.
(b) try to fully understand the problem first.

18) I prefer the idea of
(a) certainty.
(b) theory.

19) I remember best
(a) what I see.
(b) what I hear.

20) It is more important to me that an instructor
(a) lay out the material in clear sequential steps.
(b) give me an overall picture and relate the material to other subjects.

21) I prefer to study
(a) in a study group.
(b) alone.

22) I am more likely to be considered
(a) careful about the details of my work.
(b) creative about how to do my work.

23) When I get directions to a new place, I prefer
(a) a map.
(b) written instructions.

24) I learn
(a) at a fairly regular pace. If I study hard, I'll "get it".
(b) in fits and starts. I'll be totally confused and then suddenly it all "clicks".

25) I would rather first
(a) try things out.
(b) think about how I'm going to do it.

26) When I am reading for enjoyment, I like writers to
(a) clearly say what they mean.
(b) say things in creative, interesting ways.

27) When I see a diagram or sketch in class, I am most likely to remember
(a) the picture.
(b) what the instructor said about it.

28) When considering a body of information, I am more likely to
(a) focus on details and miss the big picture.
(b) try to understand the big picture before getting into the details.

29) I more easily remember
(a) something I have done.
(b) something I have thought a lot about.

30) When I have to perform a task, I prefer to
(a) master one way of doing it.
(b) come up with new ways of doing it.

31) When someone is showing me data, I prefer
(a) charts or graphs.
(b) text summarizing the results.

32) When writing a paper, I am more likely to
(a) work on (think about or write) the beginning of the paper and progress forward.
(b) work on (think about or write) different parts of the paper and then order them.

33) When I have to work on a group project, I first want to
(a) have "group brainstorming" where everyone contributes ideas.
(b) brainstorm individually and then come together as a group to compare ideas.

34) I consider it higher praise to call someone
(a) sensible.
(b) imaginative.

35) When I meet people at a party, I am more likely to remember
(a) what they looked like.
(b) what they said about themselves.

36) When I am learning a new subject, I prefer to
(a) stay focused on that subject, learning as much about it as I can.
(b) try to make connections between that subject and related subjects.

37) I am more likely to be considered
(a) outgoing.
(b) reserved.

38) I prefer courses that emphasize
(a) concrete material (facts, data).
(b) abstract material (concepts, theories).

39) For entertainment, I would rather
(a) watch television.
(b) read a book.

40) Some teachers start their lectures with an outline of what they will cover. Such outlines are
(a) somewhat helpful to me.
(b) very helpful to me.

41) The idea of doing homework in groups, with one grade for the entire group,
(a) appeals to me.
(b) does not appeal to me.

42) When I am doing long calculations,
(a) I tend to repeat all my steps and check my work carefully.
(b) I find checking my work tiresome and have to force myself to do it.

43) I tend to picture places I have been
(a) easily and fairly accurately.
(b) with difficulty and without much detail.

44) When solving problems in a group, I would be more likely to
(a) think of the steps in the solution process.
(b) think of possible consequences or applications of the solution in a wide range of areas.

(Thanks so much for your cooperation)

Appendix B: The learning styles results for the subject number One

Learning Styles Results

```
Results for: One

ACT                              X                    REF
     11  9   7   5   3   1   1   3   5   7   9   11
                        <-- -->

SEN      X                                            INT
     11  9   7   5   3   1   1   3   5   7   9   11
                        <-- -->

VIS          X                                        VRB
     11  9   7   5   3   1   1   3   5   7   9   11
                        <-- -->

SEQ                      X                            GLO
     11  9   7   5   3   1   1   3   5   7   9   11
                        <-- -->
```

- If your score on a scale is 1-3, you are fairly well balanced on the two dimensions of that scale.
- If your score on a scale is 5-7, you have a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favors that dimension.
- If your score on a scale is 9-11, you have a very strong preference for one dimension of the scale. You may have real difficulty learning in an environment which does not support that preference.

We suggest you print this page, so that when you look at the explanations of the different scales you will have a record of your individual preferences.

For explanations of the scales and the implications of your preferences, click on Learning Style Descriptions. For more information about learning styles or to take the test again, click on Learning Style Page.

Appendix C: The subjects SPM results

Subject No.	SPM	Subject No.	SPM	Subject No.	SPM
One	A2	Twenty one	2	Forty one	2A
Two	1	Twenty two	2A	Forty two	A2
Three	C4	Twenty three	1	Forty three	C6
Four	2	Twenty four	B	Forty four	2
Five	2	Twenty five	B4	Forty five	A1
Six	A2	Twenty six	A1	Forty six	A2
Seven	2A	Twenty seven	1	Forty seven	1
Eight	2	Twenty eight	2	Forty eight	B
Nine	5	Twenty nine	C5	Forty nine	2A
Ten	4	Thirty	1	Fifty	C3
Eleven	A2	Thirty one	4	Fifty one	3B
Twelve	C3	Thirty two	A2	Fifty two	C3
Thirteen	2	Thirty three	3B	Fifty three	C4
Fourteen	A1	Thirty four	3B	Fifty four	5C
Fifteen	2	Thirty five	A2	Fifty five	B4
Sixteen	A	Thirty six	A1	Fifty six	B3
Seventeen	C5	Thirty seven	A1	Fifty seven	A1

Eighteen	A2	Thirty eight	A1	Fifty eight	3B
Nineteen	3B	Thirty nine	A1	Fifty nine	4
Twenty	B4	Forty	3B	Sixty	3B