Match or Mismatch: Teaching Styles and Learning Styles in an ESP Classroom

[1]Lee Mei Ph'ng, [2]Thang Siew Ming and [2]Radha M.K. Nambiar
[1]Centre for Languages and Human Development, Universiti Teknikal Malaysia Melaka,
Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia
[2]Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia,
43600 Selangor, Malaysia

Abstract: Much emphasis and effort have been put on creating meaningful learning experiences for learners. Today, diversity among learners and teaching staff has led to diversity in their teaching styles and learning styles preferences. Not much has been documented on the interaction between teaching styles and learning styles, particularly in an English for Specific Purposes (ESP) classroom. Studies have generally examined these two phenomena in separate contexts. Thus, this study aims to identify the learning styles preferences of five engineering undergraduates and examine how their technical communication lecturer's teaching styles have impacted the students' learning experiences. Of particular interest is what occurs when the lecturer's teaching styles mismatches the students' learning styles preferences. The index of learning styles was used to identify the students' learning styles preferences while the teaching style survey was used to identify the lecturer's teaching styles preferences. The students were also interviewed and requested to write reflective journals of their learning experiences. Data analysis indicated diversity in terms of their learning styles and teaching styles preferences. The implications of this study indicate that students' learning styles preferences should be taken into consideration when selecting teaching strategies.

Key words: Teaching styles, learning styles, Malaysian engineering undergraduates, ESP, emphasis

INTRODUCTION

Though there is recent emphasis on the generic skills such as communication skills, critical thinking and problem solving skills that every graduate should have upon graduation, the way these engineering undergraduates are taught are of paramount importance in ensuring that they are effectively benefitting from the teaching and learning process. As educators we are constantly focused on providing meaningful learning experiences to our students. In addition, diversities that occur among students and their instructors point to variation in their learning styles and teaching styles preferences. Students' learning styles preferences indicate the way they prefer to obtain and manage ideas while instructors' teaching styles preferences indicate their beliefs and chosen instructional methods (Ph'ng et al., 2015). Wooldridge (1995) highlighted that diversity among students in terms of their learning styles should not be ignored. It is important for lecturers to know students' learning styles preferences. This is because when students' learning preferences and needs are accommodated by the lecturers there will be positive response and higher achievement (Naimie et al., 2010). Anderson (1995) pointed out that instructors need to arm themselves with knowledge of the needs of the students in order to optimize teaching and learning. As explained by Song et al. (2007) the instructors have the capacity to perceive and respond to students as well as design instruction to promote successful student learning.

In line with that, it is equally important to understand the way our students prefer to learn to ensure that they are effectively benefitting from the teaching and learning process. Understanding the way an individual learns is vital towards understanding learning and improving student learning (Zin et al., 2002) and the findings from learning styles can be integrated into course design and delivery (Wooldridge, 1995). Having such information aids instructors when making decisions on choosing the instructional strategies for the particular lesson of the day. Given the increasing diversity among our learners, the use of one instructional strategy in our classroom is not suitable anymore. This study believes that there should be variety in instructional approaches in order to address student diversity (Burben and Byord, 2010).

Corresponding Author: Lee Mei Ph'ng, Centre for Languages and Human Development, Universiti Teknikal Malaysia Melaka,
Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia

In addition, examinations of student perceptions allow insight into their learning experiences and can be used as background knowledge on how the teaching and learning process can be enhanced. This is in-line with the continued emphasis on obtaining students' feedback regarding their learning experience (Victoroff and Hogen, 2006) as students' evaluation of teaching is generally reliable and valid (Keane and Labhrainn, 2005). This is because feedback from students provides insight into lecturer-student relationship in terms of teacher effectiveness (Rajoo, 2004). According to Hativa (2001), students have a profound experience of teaching and thus teaching effectiveness should be judged primarily by students".

Therefore, this study aims to examine the perceptions that engineering undergraduates from Universiti Teknikal Malaysia Melaka (UTeM) have of their Technical Communication lecturer's teaching styles. Of particular interest is the extent their lecturer's teaching styles have impacted the students' learning experiences. The research questions for this study are:

- What are the preferred learning styles preferences of UTeM engineering undergraduates?
- What are the preferred teaching styles preferences of their technical communication lecturer?
- To what extent are these students willing to accommodate to their lecturer's teaching styles preferences?

Literature review: Ruutmann and Kipper (2012) suggested that attempts should be made to improve the quality and efficiency of teaching. Much has been documented on the benefits of understanding the ways students prefer to learn in order for educators to improve student learning (Zin *et al.*, 2002; Rochford and Mangino, 2006). One of the good practices of undergraduate education is the recognition of diversity in students' learning (Chickering and Gamson, 1999). By addressing the learning styles of the students, this means lecturers recognize that their students are unique and different (Ayre and Nafalski, 2000; Samsiah, 2004). Students' learning styles do influence their learning experiences (Cassidy and Eachus, 2000; Forest, 2007). Thus, engineering students' learning styles should be understood and instruction should be designed to meet them. Doing this changes the learning environment in the classroom into one that promotes learning in an active way and encourages interaction. This is because the learning climate or environment (for example motivation, interaction, support, etc.) affects the learning outcome (McDougal, 2005).

There are several commonly used learning styles models for example Kolb's Experiential Learning Model, Honey and Mumford's Learning Styles Model and Myers-Briggs Type Indicator. The Felder-Silverman Model is chosen for the current study because it was designed to explain the learning styles differences among engineering students (Felder and Spurlin, 2005). Its assessment instrument is one of the two predominant learning styles assessment instruments in science and engineering education besides Kolb's Learning Styles Inventory (LSI) (Zualkernan *et al.*, 2006). In this model, learners are categorised as active, reflective, sensing, intuitive, visual, verbal, sequential or global learners. As explained by Felder and Brent (2004), active learners prefer to learn by working with others while reflective learners prefer to work alone. Sensing learners prefer to memorise facts and solve problems using well established methods while intuitive learners prefer to discover relationships. Visual learners retain more from the things they see while verbal learners learn from words. Sequential learners gain understanding in linear, logical steps while global learners learn from random pieces of materials.

The amount a student learns in class depends on the students' ability and prior preparation and the compatibility between their learning styles and their teachers' teaching styles (Ruutmann and Kipper, 2012). Heywood (2005) advised educators that the way they teach actually encourages the students to be active or passive. This is similar to Forest (2007) who said the way a teacher reacts to his/her classroom will influence the way he/she interacts with it as students are able to differentiate and prefer faculty members who are interested in teaching. Therefore, besides acknowledging the students' learning styles preferences, it is necessary to give due recognition to lecturers' teaching styles preferences in order for the process of accommodation to be successful. Their teaching styles preferences should be identified and this knowledge utilised to better prepare teachers for the teaching and learning in their classrooms.

There are various teaching styles models which are commonly used such as Canfield's Instructional Model and the Spectrum of Teaching Styles by Mosston. This study uses Grasha's Teaching Style Model. One of the reasons this model was created was he wanted a model that could explore the relationship between the teaching styles of teachers and learning styles of students to be explored. Under this teaching style model, lecturers' teaching styles are classified as expert, formal authority, personal model, facilitator or delegator. As explained by Grasha (2002), an instructor who favours the expert teaching style has the knowledge and expertise the students require while an instructor who favours the

formal authority places emphasis on providing feedback to students. An instructor is said to favour the personal model teaching style when he or she believes in becoming a role model. Instructors who favour the facilitator teaching style emphasize the personal nature of teacher-student interactions. An instructor who is said to favour the delegator teaching style is concerned with developing students' capacity to function in an autonomous fashion.

Having said this, an on-going debate would be whether to match teaching styles to the learning styles of the students. This study is advocating that lecturers should instead attempt to accommodate to teach to the students' preferred learning styles by adopting a balanced teaching approach. By a balanced learning approach, it means a mix of teaching methodologies should be used (Visser *et al.*, 2006). Thus, when the teaching styles do not match the learning styles of the students, the students will be challenged to expand their repertoire by having to adjust to the lecturers' teaching styles. Shindler pointed out that while it is important to effectively address the learning needs of the students, there are several key issues which should be taken into consideration. Teachers should not change their personalities to adapt to the styles of their students as it will not benefit the teachers nor should they attempt to create individualized learning for every student as it is time consuming and impractical.

MATERIALS AND METHODS

The respondents: This study involved five UTeM engineering undergraduates and their technical communication lecturer madam B. Three of them were male students. All of them were in their second year of study. They were invited to participate in the study, assured of the confidentiality of their identities and were informed that no risks were associated with the study.

The research instruments: The students' learning styles preferences were identified using the Index of Learning Styles by Felder and Solomon. It was chosen as it was designed with engineering students in mind and studies have indicated its reliability and validity (Felder and Spurlin, 2005; Zywno, 2003). The instrument has 44 questions and respondents are required to choose between two options for each question (for example, "it is more important to me that a lecturer; lay out the material in clear sequential steps, give me an overall picture and relate the material to other subjects"). Some of the questions were adapted to suit the students' learning experiences in the university (for example, item 15 was revised from "I like teachers" to "I like lecturers").

The lecturer's teaching style was identified using the teaching style survey by Grasha and Riechmann. This instrument was chosen as it is based on thematic analysis of the pervasive teaching styles found in college education (Grasha, 2002). There are 40 items and respondents are required to choose from a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

The student respondents were involved in individual, semi-structured interviews. These interviews were recorded and they anged from 30-45 mint. Semi-structured interviews were chosen as researchers could gather in-depth information (Berg, 2004; Wiersma and Wiersma, 1985). They were requested to sign a permission form that allows the researcher to use the data for research purposes. They were also informed that their identities would not be revealed. The interview sessions began with getting the students to talk about their courses and aspects which they liked and disliked about it. Then, they were asked to share about their learning experiences in the technical communication classroom and their technical communication lecturer's teaching styles. In addition, they also wrote a reflection about their technical communication lecturer's teaching styles preferences. Prompts were not given for the reflection to allow the students to express their opinions freely.

Data collection: The students were contacted via email and SMS. The researcher informed them about the objectives of the study and assured them of the confidentiality of their identities. The respondents were informed that they were required to answer the index of learning styles, participate in an interview and write a reflection on their technical communication lecturer. The interviews were conducted on campus according to their preferences. They were given the option for the interview to be conducted in English or Malay. The reflection was only administered during the following semester as the students were busy with their assignments. Similarly, they were given the option to write their reflections in English or Malay. The researcher could translate the reflections written in Malay into English and this did not affect the data analysis process. The translations were checked by an independent evaluator who has a translation qualification.

Data analysis: Data from the index of learning styles and teaching styles survey were manually analysed given the small number of respondents. The student interviews were transcribed in verbatim. Then, data from the student interviews and student reflections were matched against the students' learning styles preferences as well as their

lecturer's teaching styles preferences. These were done to identify similarities and differences between the students' learning styles preferences as indicated by the index of learning styles with the data from the student interviews and reflections. Of interest were the students' perceptions of their lecturer's teaching styles. Data analysis also included identification of matches and mismatches between the students' learning styles preferences and Madam B's teaching styles as well as instances of accommodation to their lecturer's teaching styles.

RESULTS AND DISCUSSION

Data analysis revealed that Madam B's students were generally inclined towards balanced learning styles preferences except for student 1 and 3 who had strong visual and strong sensing learning styles preferences, respectively (Table 1). As for Madam B, she had moderate preferences for the facilitator, expert, delegator and personal model teaching styles according to the teaching style survey. However, she had a low preference for the formal authority teaching style.

The main focus of this study is the students' perceptions of Madam B's teaching styles preferences. The students are generally moderate or balanced in their learning styles preferences while their lecturer has moderate teaching styles preferences. These suggest there should be minimal mismatch between the students' learning styles preferences and their lecturer's teaching styles preferences but the data did not indicate so. Data analysis revealed that the students only shared their opinions about their lecturer's formal authority, facilitator and expert teaching styles. Although, they did not share about Madam B's moderate preference for the delegator and personal model teaching styles, this does not mean an absence of these teaching styles as the experiences shared by the students would be ones that have impacted their learning experiences.

Therefore, the general rule used for analyzing the data is a student's balanced learning styles preferences can be an indication that the student is not inclined to either of the learning styles for that particular learning styles dimension. In other words, he or she is willing to accommodate or accept either style. For example, if a student has a balanced preference for the active-reflective learning style dimension, this means he or she is willing to accommodate or accept either the active or reflective learning style.

Table 2 shows that the students have positive perceptions of Madam B's facilitator teaching style regardless of whether her teaching matched or mismatched the students' learning styles

Table 1: Madam B's students' learning styles preferences

Students	Learning styles preferences
1	Strong visual, moderate sensing, balanced for active-reflective and sequential-global learning styles
2	Moderate visual, balanced for active-reflective, sensing-intuitive, sequential-global learning styles
3	Strong sensing, moderate reflective, moderate global, balanced for visual-verbal learning styles
4	Moderate sensing, moderate global, balanced for active-reflective, visual-verbal learning styles
5	Moderate sensing, moderate visual, balanced for active-reflective, sequential-global learning styles

Table 2: Madam B's facilitator teaching style: two-way communication

Madam B's facilitator teaching style	Students	Learning style preference	Match or mismatch	Students' perceptions
Two-way communication	2	Balanced	Match	Positive
	4	Balanced	Match	Positive
	3	Reflective	Mismatch	Positive

Table 3: Madam B's expert teaching style: teaching activities

Madam B's facilitator teaching style	Students	Learning style preference	Match or mismatch	Students' perceptions
Provided course overview	3	Global	Match	Positive
	4	Global	Match	Positive
	1	Balanced	Match	Positive
Explanations, examples	1	Visual	Mismatch	Positive
	4	Balanced	Match	Positive
Prepared students for the exam	2	Balanced	Match	Positive

preferences. Student 2 and 4 shared that there was two-way communication and this is a teaching style preferred by active learners. Student 5 on the other hand, was encouraged to approach Madam B as she was friendly. For example, the students were welcomed to consult her and they valued the instant feedback. This would be considered a match in teaching and learning styles as these students have a balanced preference for the active-reflective learning style dimension.

The data also revealed that the students had a positive perception of her facilitator teaching style although it mismatched their learning styles. For example, Student 3 who is a reflective learner was motivated to approach her for feedback on his work although this is normally associated with an active learner. He said:

> we always made appointments with her and
> she was very happy. So when will you come?
> She was always asking us

The data also indicated that the students generally had positive perceptions of Madam B's expert teaching style. As shown in Table 3, the students indicated that Madam B provided a course overview, gave examples and clear explanations. These activities proved to be useful in helping the students understand the lessons. For example, student 4 said that sample questions were given as

Table 4: Madam B's Formal Authority Teaching Style

Madam B's facilitator teaching style	Students	Learning style preference	Match or mismatch	Students' perceptions
Structured guidance	2	Balanced	Match	Positive
for assignments	4	Global	Mismatch	Positive
(e.g., dateline for drafts,	3	Global	Mismatch	Positive
showing sample reports)	4	Sensing	Match	Positive

examples and Madam B would provide explanations on the answers. This matched her balanced preference for the visual-verbal learning style dimension.

> Every time in the lecture, lots of examples will be given for us as exercise. The most important thing is madam will discuss with us about the errors and corrections" (exercise on error analysis)

She even highlighted the necessity of repeating the examples and this seemed to be consistent with her moderate preference for the sensing learning style.

> Explain step by step, giving examples and then repeat the examples. For a few times. Quite important for me. For me to really understand and get it

Madam B also prepared the students for the final exam and student 2 found this helpful. This is consistent with his balanced preference for the sensing-intuitive learning styles dimension.

Table 4 shows the students' generally positive perceptions of Madam B's formal authority teaching style although mismatches occurred. The students' responses highlighted Madam B's structured guidance for the assignments in class. This is a style which is favored by sequential learners. Although, student 4 and 3 have preferences for the global learning style, they found the structured guidance as very helpful as doing so helped the students to focus on the assignments. Student 4 said:

> Besides, she will ask from us to have a look on our report (based on previous chapter taught before). This is good to ensure students was following her lectures and completing the report. This is also good as we can finish our report and pass it on time. This is good to ensure we does

Student 3 added:

> Guide students step by step: how to write abstract. Then she said, combine all and this is the report. Students can focus and can focus. If do all together, students might miss out

Student 4 added that the sample reports shown by Madam B gave students an idea of what was required for the assignment and this matched her moderate preference for the sensing style.

CONCLUSION

This study concludes that matches and mismatches did occur between the students' learning styles preferences and their lecturer's teaching styles preferences. Nevertheless, the students generally had positive perceptions of their lecturer's teaching styles. More importantly, the students seem to be willing to accommodate to their lecturer's teaching styles even when there is a mismatch. This may be encouraged by the fact that the students were generally inclined towards balanced learning styles preferences. As in the case of their lecturer, she generally had moderate teaching styles preferences. The students' balanced preferences for all the learning styles dimensions indicate flexibility in accommodating to different learning styles. Such findings point towards the possibility of introducing teaching strategies which are in line with the proposed 'balanced teaching' advocated by Felder and Spurlin (2005) and Kazu (2009). By 'balanced', it means that there will be instances where the students have to learn using their preferred learning styles and there will be instances where the students have to learn using their non-preferred learning styles. This is due to the fact students need to stretch their abilities (Burden and Byrd, 2015; Joyce *et al.*, 2014). Future research should consider a more diverse group of students in terms of their learning styles preferences in order for more insightful analysis.

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