STUDENTS' LEARNING STYLES AND THEIR ACADEMIC PERFORMANCE IN ACCOUNTING COURSE

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Abstract

Learning accounting for non-accounting major students is constantly considered challenging. Therefore, the objective of the study is to identify the relationship between the learning style adopted by non-accounting students in learning accounting course and the impact on their course performance. The Kolb's learning style survey model that was redesigned by Honey and Mumford in 1986 was adopted to recognise the learning style preferred by students. The students' academic performance in accounting course was obtained from their scores in major assessment methods including assignment, test, quiz, and final examination result, which represented their final grade. Further, this paper identified other factors affecting students' academic performance. The result indicated that students who adopted the Pragmatist and Theorist learning styles were more excellent in their academic performance in accounting course, while those who adopted the Activist learning style were poorer in their academic result. Accordingly, accounting course does not only involve number, data, and calculation but requires fact-finding and applying critical thinking, areas in which the Activist learning style lacks. Other factors found that educators who conducted the lecture were recognised as important contributors towards the students' achievement in accounting course. Nevertheless, students with a higher level of anxiety performed better academically as compared to those with low anxiety. In conclusion, to succeed in accounting course, students should not rely merely on one style in the learning process.

Introduction

Accounting course consists of theoretical and application parts that require students' ability and capability to successfully comprehend the topics. As such, students need to adopt the appropriate learning styles that will help them in the theoretical structure of the accounting course and the applications of the accounting principles (Adler et al., 2004). Learning style refers to how students learn rather than what students learn. It is defined as an individual's preferred way of digesting new knowledge. The main challenge for educators is to adopt a suitable teaching style that can be applied to all students. This is because in the same education environment, each student will have a different approach of the learning process. Most educators believe that a single strategy may not be able to provide optimal learning condition of all students (Idris et al., 2017). Therefore, it is significant to identify the particular learning style that contributes towards successful academic performance of the students.

Over the past 35 years, the emergence of various learning style models has brought increasing attention to the idea that students learn in many ways. Consequently, by knowing their preference, educators are able to match the education activities and their preferred style to engage students in the learning process. Moreover, accounting subjects have always received negative perception among non-accounting students. Nevertheless, in University Teknologi MARA (UiTM), students majoring in science policy, computer science, sports science, business studies, plantation and agriculture, and several other courses are required to enrol into an accounting course as part of their plan of study.

Elias (2005) affirmed that accounting is one of the difficult subjects for the non-accounting major to pass. Hence, educators face significant challenges in capturing students' attention and interest to evade their bad perception that eventually will have an effect on their academic results. In response to this issue, the objective of the present study is to identify students' learning style and the influence of their preference towards their academic performance. Other than learning style, this paper also aims to recognise other factors including state of anxiety that may influence students' academic performance.

Literature Review

It cannot be denied that students learn in various ways that requires educators to design lessons according to different learning styles. Based on the study conducted by Devrim and Eryilmaz (2011) in Turkey, mechatronic and manufacturing engineering students prefer auditory as compared to electrical, mechanical, and computer engineering students who mostly prefer kinesthetic learning styles. This study contradicts with the research conducted in Malaysia. Jamali and Mohamad (2018) who used the Felder-Silverman learning style model (FSLSM) found that engineering students from different areas, such as mechanical, electrical, and civil engineering, showed strong preference towards visual learning styles. This study was supported by Gaikwad (2017) who also realised that most engineering students were likely to gain high scores under visualised methods especially those who are under input dimension.

On the other hand, medical students preferred to apply the write and read learning style to cater their needs in enhancing their performance (Ojeh et al., 2017). This result was as expected as most medical students are always attached with their interaction with textual materials (Heidi & Lujan, 2006). However, based on the study conducted by Busan (2014), medical students are keen on having multimodal rather than unimodal learning styles and their selected learning styles are visual, followed by auditory and kinesthetic. Even though the studies mentioned above showed that the multimodal learning style is mostly preferred, a research by Karthika et al. (2017) presented otherwise as medical students in India preferred unimodal instead of multimodal.

Ling et al. (2017) performed a research on the learning styles and academic performance of MBA students of a private institution in Malaysia. The study showed that visual and sequential learning styles had a positive impact on the students' academic performance. Visual learners achieve better academic performance through what they see from diagrams, pictures or video clips in the lecture. They are good observers and investigate details precisely (Felder & Spurlin, 2005). The learning style inventory developed by Honey and Mumford in 1986 was referred by Polat et al. (2015) as well as Ling et al. (2017) to examine the relationship between the learning styles and academic performance of economic and administrative students in learning accounting course. They found that there was a relationship between learning styles and academic achievement as students who adopted the pragmatist learning style were more successful than others. In this context, a pragmatist learner is defined a person who enjoys taking risks, prefers group discussions, and acts practically and realistically. Thus, educators or lecturers should play an important role to design and arrange the learning activities by considering the best learning styles that should be adopted by the students to achieve the learning objectives of the course. As such, this paper investigates the learning style adopted by the students and the influence on their academic performance particularly in accounting course.

Methods

Kolb's Learning Style

One of the most popular learning styles that was applied in this study is Kolb's model, which has been redesigned by Honey and Mumford in 1986. The model identifies learners into four categories, namely Activist, Theorist, Pragmatist, and Reflector. Honey and Mumford suggested that each individual has a tendency to fall into one or two of the learning style categories. The learning style indicates learning activities that are preferred by students. Activists learn by doing what they tend to act upon first rather than considering the consequences of their action. As for Theorists, they prefer to understand and analyse first the theory behind the action. Meanwhile, Reflectors learn by observing, listening, and thinking, and tend to be thoughtful persons. Finally, Pragmatists learn by experimenting with theories, ideas, and techniques, and identify how to adapt knowledge into practice in the real world. Kolb and other psychologists suggested that an effective learning process should engage with each learning style.

Survey Design

A survey was performed to identify students' learning style and consisted of three parts. The first part comprised a descriptive analysis of the participants. The second part of the survey identified their learning style based on Kolb's Model, where it was divided into two categories: (1) Processing Continuum, which refers to how students approach a task either by doing or watching; and (2) Perception Continuum, which indicates emotional response either by thinking or feeling. The final part of the survey identified their preference on learning approach. This part was set into five scales, where "strongly disagree" and "disagree" were identified into categories "1" and "2", while "agree" and "strongly agree" into categories "4" and "5". On the other hand, "3" indicated neutral neither disagree nor agree. The survey was also designed to determine the participants' state of anxiety on a five-point scale, where "1" indicated never experienced panic attack and "5" indicated experienced panic attack. The academic performance of the students was obtained from the participants' scores in major assessment methods including assignment, test, quiz, and final examination result, which represented their final grade. For the purpose of analysis, the results were divided into three groups, namely excellent (participants with grades A+, A, A-), average (participants with grades B+, B, B-), and poor performance (participants with grades C and below).

Sampling and descriptive analysis

The quota sampling was utilised as the sample investigated in this study involved 142 students from the Faculty of Administrative Science and Policy who enrolled for Financial and Management Accounting (ACC466) course. The responses of the survey indicated that all of the students participated in the survey, which consisted of N = 142 (30 males, 112 females). The mean age of the participants was 20.12 years (SD = 2.5; range: 18–21 years). ACC466 is a course comprising three main areas in accounting that represent financial accounting, management accounting, and financial management. The course consists about 50% theory and 50% calculation. The Faculty of Administrative Science and Policy students were chosen for the data subjects of this study as they formed the majority number of non-accounting students in a single faculty who were undertaking this course (ACC466) at University Teknologi MARA (UiTM) Seremban Campus.

Result and Discussion

The statistical analysis of the study was analysed using SPSS software.

Table 1 Reliability Coefficient

Reliability Statistics	
Cronbach's Alpha	N of Items
0.780	80

Table 1 shows the reliability test of the survey and indicates that the alpha coefficient for the 80 items is 0.78. This suggests that the items had reasonably acceptable internal consistency.

Table 2 Learning Styles Adopted by Participants and Their Academic Performance

	Percentage out of academic performance							
	Excellent		Average		Poor		Total	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*	*Frequency*	*%*
Pragmatist	12	33.33%	16	22.86%	10	27.78%	38	26.8
Activist	8	22.22%	26	37.14%	12	33.33%	46	32.4
Theorist	12	33.33%	18	25.71%	10	27.78%	40	28.2
Reflector	4	11.11%	10	14.29%	4	11.11%	18	12.7
Total	36	100%	70	100%	36	100%	142	100.0

Table 2 depicts the learning styles adopted by participants and their academic performance. Pragmatist

and Theorist learning styles showed the highest percentage of 33.33% students with excellent academic performance who adopted these learning styles. This might explain that students who study by understanding the theory, analyse, practise, and are able to relate the underlying theory with the real world have a higher tendency to succeed in accounting course. The result is partly consistent with Polat et al. (2015) and Ling et al. (2017), where they found that students who adopted the Pragmatist learning style were more successful than others. On the other hand, students with Activist learning style had the highest number of students who fell into the category of poor academic performance (33.33%). It was noted that Activists learn by performing actions and lack thinking skills. This explains that the accounting course requires students' ability to have critical thinking skills.

Table 3 Learning Styles Adopted by Participants and Their Academic Performance

Percentage out of each learning style							
	Excellent		Average		Poor		Total	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*	*Frequency*	*%*
Pragmatist	12	31.58%	16	42.11%	10	26.32%	38	100.0%
Activist	8	17.39%	26	56.52%	12	26.09%	46	100.0%
Theorist	12	30.00%	18	45.00%	10	25.00%	40	100.0%
Reflector	4	22.22%	10	55.56%	4	22.22%	18	100.0%
Total	36		70		36		142	

Table 3 illustrates the learning styles adopted and the percentage of the participants' academic performance out of each learning style. As per table above, it is indicated that 31.58% who adopted the Pragmatist learning style achieved excellent academic performance, which was the highest score as compared to the other learning styles. This affirmed the findings from Polat et al. (2015) and Ling et al. (2017). However, interestingly, the Pragmatist learning style also had the highest percentage of students with poor academic performance at 26.32%, followed by the Activist learning style with 26.09%. The finding for the Activist learning style was as expected as it is consistent with the previous analysis. As such, this finding clarified that those who adopted the Pragmatist learning style will have higher chances of either success or failure as compared to others. Those who were not successful might be due to their inability to fully execute their preferred learning style, such as unable to find a connection between theory and practical, etc.

Table 4 Learning Styles Adopted by Participants and Their Academic Performance

Percentage out of total participants							
	Excellent		Average		Poor		Total	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*	*Frequency*	*%*
Pragmatist	12	8.45%	16	11.27%	10	7.04%	38	26.8
Activist	8	5.63%	26	18.31%	12	8.45%	46	32.4
Theorist	12	8.45%	18	12.68%	10	7.04%	40	28.2
Reflector	4	2.82%	10	7.04%	4	2.82%	18	12.7
Total	36	25%	70	49%	36	25%	142	100.0

Table 4 displays the learning styles adopted by the students and their academic performance percentage. The table indicated that 32.4% adopted the Activist learning style, followed by Theorist and Pragmatist with 28.2% and 26.8%, respectively. Only 12.7% participants applied the Reflector learning style, which meant that only a few students preferred investigating, observing, and thinking before acting. Meanwhile, most participants preferred the Activist learning style. In terms of academic performance, the result above is consistent with the previous findings. It can be concluded that, Activist represents the highest score of 8.45% participants with poor academic result, suggesting that this learning method is not suitable for accounting course. By adopting this learning style, students practically learn by doing first without understanding the theory indicates lack of thinking process,

resulting in poor academic performance. On the other hand, Pragmatist and Theorist respectively recorded 8.45% participants with excellent academic performance. Technically, students adopting these styles prefer reading, experimenting with theories, ideas, and techniques, and taking the time to think about how their actions relate to reality.

Table 5 Students' Learning Techniques

	Mean	Std. Deviation
(i) I learn Accounting most when lecturer lecture it	4.27	0.81
(ii) I learn Accounting most when I study myself	3.24	1.02
(iii) I learn Accounting most when my friend explains to me	3.72	1.00
(iv) I learn Accounting most when we study with a group of friends	3.80	1.03

Table 5 represents the means and standard deviation of students' learning techniques in accounting course. The result indicated that students believed they learned the most in class during lecture with a mean value of 4.27. This is followed by study group (μ=3.80) and when their friend explains the subject to them (μ=3.72). The least study technique applied by students in accounting is learning by themselves (μ=3.24).

Table 6 Students' Learning Technique and Their Academic Performance

	Excellent					Poor				
	Pragmatist	Activist	Theorist	Reflector	*Mean*	Pragmatist	Activist	Theorist	Reflector	*Mean*
(i)	4.5	4.8	4.8	4.5	4.67	3.5	3.8	3.8	4.0	3.76
(ii)	3.0	4.0	4.0	4.0	3.67	3.5	2.8	3.4	5.0	3.43
(iii)	3.5	3.8	3.5	4.5	3.67	3.4	4.2	4.2	3.5	3.86
(iv)	3.5	3.0	2.7	3.0	3.06	3.5	3.8	3.8	4.0	3.76

Table 6 provides the mean value of students' learning techniques based on their learning styles and academic performance. For the purpose of discussion, only excellent and poor academic results are to be discussed. Excellent students showed that on average, they learned the most in class when the educator taught the accounting subject. This is indicated with Activist and Theorist having a mean value of 4.8 each, followed by Pragmatist and Reflector with 4.5, respectively. As such, regardless of the learning style, with an average mean value of 4.67, excellent students believed that they understood most of the accounting subject during class when the lecturer was teaching. Excellent students least favoured was studying in a group, which indicates the mean value of 3.06. Meanwhile, for poor academic result, most of them studied the subject when their friends explained it to them (μ=3.86). Unsurprisingly, they least preferred to study alone (μ=3.43). This might indicate that these students possibly represent those who were frequently absent during class or who came to class for the sake of attendance but did not pay attention during class. Thus, they had to refer to their friends to explain the subject. However, they did not study by themselves afterwards, resulting in their poor academic performance in accounting course. Based on the learning style, Activist showed a mean value of 2.8 for studying on their own, which was the lowest score by students with poor academic performance. This explains the learning style by Activists who were not interested in reading, writing, and thinking on their own, analysing and interpreting data; thus, resulting in poor academic performance.

In the table of Factors Influence Students' Performance in Accounting Course, the table represents factors that students believed to have influence on their understanding on accounting course. The highest mean value of 4.20 implied that lecturers contributed the most on their success by efficiently and effectively delivering the accounting subject. Next, they believed that the lecture of theory should be supported with exercises to strengthen their understanding on the topic (μ=4.03). It can be seen that individual abilities, blended learning, physical facilities, and overall success had slightly small differences but merely indicated that the students agreed that these factors had influence on their performance in accounting course.

Table 7 Students' State of Anxiety and Their Academic Result

	Frequency	Percentage	Anxiety (Mean)
Excellent	36	25.35	3.36
Average	70	49.30	3.59
Poor	36	25.35	2.61

This study also identified the state of anxiety that might be one of the factors that affected student performance. Nicholson (2009) found that there is a relationship between students' anxiety and their academic performance. Generally, students with higher academic performance may have a lower level of anxiety (Khalid & Hasan, 2009; Akinleke, 2012; Cheng & Liao, 2016). However, Table 7 that represents students' state of anxiety and their academic performance indicate excellent students had a higher level of anxiety as compared to the poor result students with a mean value of 3.36 and 2.61, respectively. This contradicts with prior results. It can be explained that students with higher anxiety might represent those who were more concerned with their academic performance and those with poor results might indicate those who cared less about their academic performance.

Conclusion

The objective of this paper is to investigate whether students' learning style have an influence on their academic performance. The result indicated that students adopting the Pragmatist and Theorist learning styles achieved excellent academic performance in accounting course; whereas those adopting the Activist learning style showed poor academic results. This may explain the reason those who adopted the Activist learning style were inclined to get poor academic performance as compared to other styles. Activists prefer taking actions and going through new experience, but they fail to review and conclude from the experience. As such, to succeed, they need to adopt other learning styles such as Pragmatist and Theorist. These learning styles adopted by those who study by reading, experimenting with theories, ideas, and techniques, and taking the time to think about how their actions relate to reality. Furthermore, the result on the study techniques adopted by the students indicated that learning while the educator is teaching in class is very important to excel in accounting course, regardless of the learning style. Likewise, the most contributing factors towards the success of the accounting course are efficient and effective lecture conducted by the educators, followed by the learning process that provides theory and is supported with exercises. Finally, this paper identified whether the level of anxiety contributed towards the academic result of the students. Surprisingly, those with higher anxiety performed better than those with a lower level of anxiety contradict with prior research. This may explain that those who were more concerned with their academic performance feel more distressed than those who care less. Overall, it can be concluded that learning style adopted may affect students' academic performance as well other factors such as study techniques and level of anxiety. The limitation of the study is that the participants were only selected from the Faculty of Administrative Science and Policy. Thus, for future research, comparisons between different faculties may give insightful views of different academic backgrounds. In addition, more statistical analysis may be able to provide further significant findings on the relationship between students' learning style and their academic performance.

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