

ACCOUNTING STUDENTS' PREFERENCES TOWARDS LEARNING STRATEGIES IN UNIVERSITI MALAYSIA TERENGGANU

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Abstract: Learning preferences among undergraduate accounting students might vary considerably and are still largely unexplored although their findings might be useful for lecturers to improve learning and teaching strategies. Students' preferences in selecting the appropriate learning strategies can help improve their understanding and lead to improved competency for better academic achievement. This study examined students' preferences towards learning strategies and the differences in learning strategies among accounting students in Universiti Malaysia Terengganu, between genders. The data were collected using online survey completed by accounting undergraduate students from Year 1 until Year 3 for the academic session 2018/2019. 150 students responded to the online survey, with 32% response rate. Using a revised two-factor version of the Study Process Questionnaire, the survey assessed deep and surface approaches in learning preferred by the students. The results showed that deep learning approach scored a higher mean of 3.36 compared to surface learning and gender was found insignificantly related to the preferred learning approach. This finding suggests that the use of deep approach (for example, active learning or student-centered learning) is to encourage better learning process that would contribute to better academic performance and teaching strategy practices among accounting students.

Keywords: Accounting students' preferences, learning strategies, deep approach, surface approach

Introduction

The future of accounting depends on the competence of accountants which relies heavily on the education process that they undertake. In an education process, engaging students and instilling their interest in learning can be challenging in all disciplines (Holmes & Rasmussen, 2018). Thus, it is essential to give the opportunity for students to select the appropriate learning style that would motivate them in order to learn independently, not dependent too much on their lecturers to inform them what, when and how to learn. Student preferences towards a learning approach can assist lecturers to choose suitable learning and teaching strategy and to arrange the

academic environment to better support students' learning needs (Entwistle *et al.*, 2002). There is a crucial need for lecturers to better-know their students, in order to plan effective policies and programmes in supporting effective students' learning (Hu & Kuh, 2003). It would be fascinating to explore the interrelationship between students' preferences and approaches to learning. Findings of the study could assist lecturers in selecting relevant learning and teaching strategies that would engage students during the learning process.

In the context of higher education, teaching and learning strategies are the most important element for academic performance. In previous literature

(Christou & Dinov, 2010), it has been shown that the academic performance of higher education students is linked to the learning styles. Students have an advantage if they know their own learning styles. Moreover, Cano-Garcia and Justicia-Justicia (1994) reported that recognizing students' learning styles early in their academic profession would prepare the students to attend to their potential academic weaknesses and for those involved to teach those tools by which to adapt their learning. In addition, Dembo and Howard (2007) asserted that students can develop their learning effectiveness in and outside of the classroom if they can identify their learning styles.

Students' approaches to learning are influenced by the assessments, the learning situation, curriculum overload, teaching design and teaching method (Entwistle, 2000). Lublin (2003) agreed that assessment of the subject was the major factor that influences students' preferred styles. Biggs *et al.*, (2001) proposed that students need to implement their learning styles based on the demands of the course they enrolled in.

Good lecturers can encourage students to use the deep approach learning strategy (Biggs, 1999). In addition, Biggs *et al.*, (2001) found that good teaching techniques were able to encourage students towards using deep approach strategy. In contrast, poor teaching techniques lead to students using surface approach in learning (Biggs, 1999). Referring to Biggs (1989) and Tagg (2003), students who used surface approach focused on the main information and emphasized on rote learning and memorization of the subject matter. The students adapted surface approach to avoid failure in the examination and ignored grasping and accepting the key concepts of the subject. As a result, these students failed to relate the knowledge in other situations (Bowden & Marton, 1998).

On the other hand, students using deep approach concentrated not only on

substance but also the important meaning of the information (Biggs, 1989; Tagg, 2003). Deep approach was symbolized by a personal guarantee to know the material by using various strategies such as reading, linking resources, discussing ideas and relating knowledge in a real-world situation (Biggs, 1989).

Most of the earlier studies on the area of learning strategies and approaches were conducted in developed countries some time ago (Biggs, 1989; Bowden & Marton, 1998; Biggs *et al.*, 2001 Tagg, 2003). Learning is for life and is important to build an educated nation, and therefore, there is a need to understand the learning strategies among students in the Asian countries, especially Malaysia, with a focus on the public university students with diverse cultures and education systems. One of the local universities in the East Coast of Peninsular Malaysia was selected for the research, namely, Universiti Malaysia Terengganu and the objectives outlined are twofold. Firstly, the objective was to identify the preferred learning strategy among accounting students in UMT and secondly, to identify the differences between the learning strategies preferred among them with regard to gender.

Literature Review

Learning preferences relate to the tendency of learners to choose the way they learn, preferably a particular way of what is referred to as learning strategy (Ariffin, 2007). Learning strategy relates to distinctive teaching and learning methods or approaches when engaged in the learning process (Lublin, 2003). Tuan (2011) found a mismatch between students' learning preferences and teaching strategies which led to students' low performance. However, it is suggested that understanding learning preferences would be able to keep learners actively involved in the learning process, which also could impact a learner's performance.

In response to changing educational needs, technological and societal developments, there is a strong need for higher education institutions (HEIs) to change and adapt their learning and teaching strategies. Students need to be equipped with transferable skills, such as critical thinking, problem solving and analytical skills that are useful for their career in the future and life in general. The learning and teaching strategies ought to emphasise on students as the key players in learning and that they need to be engaged throughout the process. Students' engagement in an active learning environment, for example in discussions, may promote higher knowledge retention rate as compared to the traditional lecture style of learning. Students are passive during lectures, hence learning occurs at surface level and knowledge retention will be minimal. Therefore, Justice *et al.* (2009) suggested the use of active learning and student-centered learning (SCL) to develop transferable skills at HIEs.

Learning Strategies

There are several classifications of learning strategies. Study and learning strategies involve the considered use of any behaviours, thoughts, or actions through learning for the purpose of obtaining, integrating, and storing in memory new knowledge and skills (Proctor *et al.*, 2006). Both study and learning strategies have also been defined as systematic practices used by a student to develop a deeper and wider understanding of a concept (Weinstein & Hume, 1998 not in reference list). Research has shown that individual students differ considerably in strategy use of language learning (Tang & Tian, 2015; Abraham & Vann 1987; Oxford 1989; Wenden 1987).

Oxford (1989) debated that many factors which influenced learning strategy choice can be influenced by language being learned, duration, degree of awareness,

age, gender, affective variables (attitudes, motivation level or intensity), language learning goals, motivational orientation, personality characteristics, and general personality type (learning styles; aptitude; career orientation, national origin), language teaching methods and task requirements. Learning strategies are referred as specific actions taken by learners for easier, faster, and more effective learning. It also leads to more self-directed, enjoyable learning which are convertible to new situations in learning. Students who know how to use learning strategies have the potential to secure success in learning.

Many aspects influence the type and frequency of learning strategies used. Students do not use similar strategies in the practice of learning and good students would differ from poor students both in type and regularity of strategies used. Oxford (1995) stated that students of different ages used different strategies, with definite strategies used more by older or more advanced students. Magogwe and Oliver (2007) also stated that students' age apparently determined the choice of particular strategies, at least in part.

Massey *et al.* (2011) mentioned that a study on learning styles could increase the capability of the faculty to gather information on student experiences and produce new learning chances. Furthermore, Csapo and Hayen (2006) argued that the main element in effective teaching is an understanding of learning styles and the part of learning styles used in the teaching or learning practice. As Naik (2003) indicated that knowledge on the spread of the students' learning styles can help the lecturers review teaching methods to match the modal learning styles in the class. Similarly, Lashley and Barron (2006) proposed that lecturers must plan their teaching and learning activities in a way that identifies student learning preferences and the educational practice that best benefits student learning.

A study on academic achievement by Ariffin (2007) focused on a person's learning style and how it affects academic achievement. Even though learning styles have a close connection with a person's personality and intellectual abilities, the choice of learning styles is also influenced by environmental aspects such as educational tools provided by peers and lecturers (Awang *et al.*, 2013).

Surface and Deep Approaches

A study on learning in higher education recommends that students have a preferred approach to their studies, normally referred to as either a surface approach or a deep approach. Surface and deep approaches to learning were first famous in a well-known series of studies in the late 1970s by Marton and Saljo (1976a, b). The term 'approach to learning' is a combination of what students do (strategy) and why they do it (intention) (Marton & Saljo, 1984). In addition, Ramsden (1988) hypothesized that surface and deep approaches would have very dissimilar manifestations in different academic pieces of knowledge. The Gothenburg group and others have revealed that these approaches are associated to qualitative differences in outcomes, with the deep approach being referring to high quality learning outcomes, while a surface approach is referred to lower quality outcomes (Marton & Saljo 1984; Prosser & Millar 1989).

When a surface approach is embraced students are characterized as having an extrinsic motivation and a fear of failure and they use surface learning practices which are inadequate and stress on rote memorization and a narrow, syllabus-bound attitude (Entwistle & McCune 2004). Furthermore, the surface approach has also been found to be related with students' incapability to see connections between ideas or concepts as their knowledge is fragmented (Meyer, 1991). Students who used the surface

approach focused on the text itself, where they try to memorize as much as possible. According to Flood and Wilson (2008), female students scored significantly higher than males on the surface approach (Flood & Wilson, 2008). Such findings show that female students are good in memorizing facts.

In contrast, students adopting deep approach strategy tend to use deep learning processes which are related to understanding the concepts by using data and looking for meaning in order to grasp their understanding of the subject matter. Students applying the deep approach applied critical thinking and gained their own understanding of the matters they are studying (Lindblom-Ylänne *et al.*, 2019). The deep approach relies on the objective to understand, which then leads to the routes required to know (Entwistle *et al.*, 2000). The key finding is that when students approach learning in a deep manner, learning outcomes were qualitatively better (Biggs, 1987). Marton (1976) had suggested that a deep approach would necessarily illustrate all its defining features. These analyses indicated that some students concentrated more on facts and details in developing a deep understanding, whereas others were more focused with personal meaning.

Students can use either one of the learning approaches: deep or surface, or they also can use both of the approaches in their learning processes. Based on Volet and Chalmers (1992), they suggested a series of circumstances and, interestingly, they noted that there is an interchange to the surface end of the continuum as examinations grow nearer. This opinion is also supported by Entwistle and Entwistle (1991), as they suggested that, although a student may have a general predisposition to a particular approach, it is how that individual interacts with the perspective in which learning is taking place that will be instrumental in shaping the approach to learning that will be taken.

Further evidence suggests that students while preferring one approach may differ in the use of that approach according to situational reasons, one of which has been found to be an assessment (Scouller, 1998). The importance of assessment in influencing students' approaches to their learning has been well recognized (Scouller & Prosser 1994). In addition, an assessment has been created to figure how much has been learnt, how their approach works, and what content students have learnt (Scouller, 1998). It seems that the majority of students will study the forms of knowledge and develop the cognitive abilities that they have to demonstrate and students are to "get ready for what they guess to be the performance requirements" (Fransson, 1977).

Methodology

In the academic year 2018/2019, there were 605 undergraduate students of the Bachelor of Accounting programme (from Year 1 to Year 4), in the School of Maritime Business and Management as shown by the statistics of the Academic Unit, UMT. However, the target population for this study was for only 473 students, from Years 1 to 3 for the Bachelor of Accounting programme. The final year students were not considered in the study as they were doing their internship programme and are not in campus. Table 1 shows the total population and sample size of the accounting students for the 2018/2019 academic year.

Table 1: Population and Sample of the Study

Population	Year 1: 182
	Year 2: 161
	Year 3: 130
	Year 4: 132
	Total: 605
Sample	
Distributed (Years 1+2+3)	:473
Students' responses	:150
Rejected	: Nil
Final Sample	:150

Table 1 shows that 150 students responded to the online questionnaire survey and the 32% response rate was used for further analysis. All respondents answered questions given in the survey since the researcher used control technique in which all the respondents had to complete the current question before they could proceed to the next question.

The study involved the distribution and analysis of a revised two-factor version of the Study Process Questionnaire (R-SPQ-2F) established by Biggs *et al.*, (2001). The questionnaire used the Likert Scale as a measurement for all the variables used. A five-scale was used which are 1 = Never or Only Rarely True, 2 = Sometimes True, 3 = True about Half the Time, 4 = Frequently True and 5 = Always or Almost Always True. The measurement allows flexibility in the collection of data. The questionnaire has two parts: Section A refers to the respondents' demographic profiles while Section B refers to the students' preferences in learning.

This questionnaire is made up of 20 questions, which are 10-item questions (deep approach and surface approach). Each approach has two subscales and each consists of five questions relating to motivation and five questions referring to strategy. Four categories are formed: deep motivation, deep strategy, surface motivation and surface strategy. The responses are coded as 1 = "never" to 5 = "always or almost always" and the results range from 10 to 50 points for each scale.

The "deep approach" scale score is based on the sum of the deep strategy subscale (five questions) and the deep motivation subscale (five questions), and higher scores denote use of a deeper approach. The score for the "surface approach" scale is based on the sum of the surface strategy subscale (five questions) and the surface motivation subscale (five questions), and higher scores denote use of a more surface approach).

After the responses were collected, the data were analyzed quantitatively using descriptive statistics involving mean and standard deviation, percentages and frequency distribution and an independent sample t-test was also performed by using

the Statistical Package of Social Sciences. In this study, the reliability coefficient (Cronbach's alpha) for the total scores of the R-SPQ-2F was 0.923. This shows that the questions used in the questionnaire were acceptable and reliable for the study.

Results and Discussion

Frequency Analysis

The analysis summarised the respondents' demographics for the study. The frequencies of respondents' demographics for the research are shown in Table 2.

Table 2: Frequency Analysis for Respondents' Demographics

Item	Choice	Frequency	Percentage
Gender	Female	122	81.3
	Male	28	18.7
Race	Malay	138	92.0
	Chinese	6	4.0
	Indian	3	2.0
	Others	3	2.0
Age	18-20 years	28	18.7
	21-23 years	114	76.0
	24 and above	8	5.3
Year of study	Year 1	43	28.7
	Year 2	46	30.7
	Year 3	61	40.7
Accounting background	Yes	133	88.7
	No	17	11.3
Accounting level	STPM	14	9.3
	Matriculation	112	74.7
	Foundation	1	0.7
	Diploma	11	7.3
	Others	12	8.0
CGPA before enrolment for degree programme	Below 2.00	2	1.3
	2.51-3.00	5	3.3
	3.01-3.50	14	9.3
	3.51-4.00	129	86.0
Sponsor for the study	Parents	28	18.7
	PTPTN	91	60.7
	JPA	16	10.7
	State Government	9	6.0
	Others	6	4.0
Engagement in part time activities/work	Yes	37	24.7
	No	113	75.3

Time for part time activities/ work	Weekday (night time)	2	1.3
	Weekday (day time)	7	4.7
	Weekend	4	2.7
	Others	24	16.0

Table 2 shows that the majority of the respondents are females with 81.3 percent (n=122) and males are 18.7 percent (n=28). The majority of the respondents are Malays with 92.0 percent (n=138), followed by Chinese 4.0 percent (n=6), Indians 2.0 percent (n=3) and the rest are other races with 2.0 percent (n=3). About 76.0 percent (n=114) of the respondents come from the 21-23 age group. About 40.7 percent (n=61) out of the total respondents are from Year 3 and 28.7 percent (n=43) are Year 1 students, while the rest are Year 2 with 30.7 percent (n=46).

Most of the respondents, with 88.7 percent (n=133), had some accounting knowledge before enrolling on the degree programme in the accounting course at UMT and only 11.3 percent of the respondents (n=17) did not have any accounting background. Most of the knowledge of accounting was obtained during the matriculation level (74.7 percent, n=112). The CGPA results of the respondents before enrolling on the degree programme were

86.0 percent (n=129) between 3.51- 4.00 and only 9.3 percent of them (n=14) were between 3.01-3.50.

In terms of sponsorship, 60.7 percent (n=91) of the respondents were sponsored by PTPTN, followed by 18.7 percent (n=28) by parents. Sponsorship by JPA, state government and others was 0.7 percent, 6.0 percent and 4.0 percent respectively. Only a minority of the respondents 24.7 percent (n=37) were engaged in part-time jobs. From this, about 1.3 percent (n=2) were engaged in a part-time job during the weekday (night time), 4.7 percent (n=7) worked weekdays (day time), 2.7 percent (n=4) worked during the weekends and the rest with 16.0 percent (n=24) were engaged in doing other activities.

Descriptive Analysis

To simplify the data, a descriptive analysis was done for the variables of deep approach and surface approach. Table 3 shows the ranking of the questions using mean and standard deviation for deep approach.

Table 3: Results of descriptive analysis on deep approach.

Items on Deep Approach	Mean	SD	Rank
I find that at times studying gives me a feeling of deep personal satisfaction.	3.42	1.082	6
I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied.	3.76	1.115	2
I feel that virtually any topic can be highly interesting once I get into it.	3.79	1.032	1
I find most new topics interesting and often spend extra time trying to obtain more information about them.	3.49	1.091	4
I find that studying academic topics can at times be as exciting as a good novel or movie.	3.19	1.091	8
I test myself on important topics until I understand them completely.	3.47	1.047	5

I work hard at my studies because I find the material interesting.	3.51	1.079	3
I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.	3.02	1.084	9
I come to most classes with questions in mind that I want answered.	2.77	1.136	10
I make a point of looking at most of the suggested readings that go with the lectures.	3.20	1.030	7

Based on Table 3, the highest mean with 3.79 mean for deep approach suggests that the respondents felt that virtually any topic can be highly interesting once they get into it. Thus, if they put in their best effort on understanding each course material, success in their academic performance would be achieved. The second rank with a total mean of 3.76 is where the respondents felt that they could be satisfied if they put in enough

work on a topic so that they could form their own conclusions. If the respondents found the topic hard to understand, they would need some strategies to deep understand the topics so that they could form their own conclusions which might lead to success in their studies. These situations would indirectly make the respondents happy and less stressed to study because they would have the strategies that were suited to the topics.

Table 4 shows the ranking of the questions using mean and standard deviation for surface approach.

Table 4: Results of descriptive analysis on surface approach.

Items on Surface Approach	Mean	SD	Rank
My aim is to pass the course while doing as little work as possible.	3.22	1.247	3
I only study seriously what is given out in class or in the course outlines.	3.33	1.078	2
I do not find my course very interesting so I keep my work to the minimum.	2.41	1.205	10
I learn some things by rote, going over and over them until I know them by heart even if I do not understand them.	3.37	1.027	1
I find I can get by in most assessments by memorising key sections rather than trying to understand them.	3.21	1.072	4
I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra.	3.16	1.124	5
I find it is not helpful to study topics in depth. It is confusing and is a waste of time, when all you need is a passing acquaintance with topics.	2.53	1.208	9
I believe that lecturers should not expect students to spend significant amount of time studying material everyone knows will not be examined.	3.13	1.101	7
I see no point in learning material which is not likely to be in the examination.	2.65	1.285	8
I find the best way to pass examinations is to try to remember answers to likely questions.	3.15	1.163	6

For the questions on surface approach, as shown in Table 4, the range of mean is

from 3.37 to 2.41. The highest mean indicates that the respondents learnt some things by rote, going over and over until they knew them by heart even if they did not understand them. Through this, the respondents would always try to have a better understanding even though it would just be in the surface area as they had not understood the topics from the beginning. Secondly, the respondents only studied seriously what was given in class or in the course outlines. It shows that if the topics were not to be tested in the test or the final exams, the students would not give full attention during the lectures as they just wanted to focus on the important topics that could give them the marks

Independent T-test Results

Table 5, shows both the deep and surface

approaches show the mean and standard deviation of 3.363 and 0.792 for deep approach while 3.017 and 0.761 for surface approach. It means that the accounting students in UMT preferred deep approach to surface approach in learning.

Next, to answer the second objective of the study, the grouping variable divides into two mutually exclusive groups or categories, such as female or male for the grouping variable gender, while the test variable describes each item on quantitative dimension such as students' preference in learning. The t-test evaluates whether the mean value of the test variable (students' preference) for one group (female) differs significantly from the mean value of the test variable for the second group (male). Table 6 shows the result of gender differences on learning approaches variables.

Table 5 shows the independent t-test results to answer to objective 1: -

Table 5: Independent T-test result based on strategies.

Scale	Mean	Standard Deviation
Deep Approach Strategies	3.363	0.792
Surface Approach Strategies	3.017	0.761

Table 6: Independent T-test result based on gender.

Variable	Female		Male		t-value	Significance (p-value)
	Mean	SD	Mean	SD		
Deep Approach	3.397	0.763	3.218	0.912	1.078	0.283
Surface Approach	2.990	0.738	3.132	0.860	-0.890	0.375

For the gender differences on learning approaches, the results show that, there is no significance value for deep approach and surface approach. It means that there is no significant difference for gender in the approaches that they were using in learning. It cannot be said that for male or female only focuses on one approach to learning. Even

though there is no significant difference for the gender and approaches, for the mean value, females were found to have a higher mean value of 3.397 compared to the males with only 3.218 for deep approach. But for surface approach, males with a mean of 3.132 prefer surface approach if compared to the females with 2.990.

Conclusion

The study explores the learning strategies preferred by accounting students at UMT. The online survey answered by 150 students (from Years 1 to 3) shows that deep learning approach is preferred by the students compared to surface learning approach. However, there is no significant difference between male and female students' preference with regard to learning strategies. The findings would be of importance for accounting lecturers in selecting the appropriate teaching and learning strategies, especially with regard to the alignment between course learning outcome, assessment and methods used in the learning process. Students in higher education need to be responsible for their learning and hence, lecturers need to match the teaching and learning strategies to motivate students to learn effectively.

The findings infer that students prefer learning strategy with interactive sessions that promote deeper understanding of accounting courses. The findings, however, cannot be generalized because of its small sample size. The research only focused on UMT accounting students in the 2018/2019 academic year, so there is limitation on the data collected. With only 150 respondents from the total sample of 473 students, it is not enough to show the accurate results for this study as there might be some missed reported data.

With the limitation, it is recommended that the study could be conducted on all accounting students in the public and private universities and to compare the preferred learning strategy amongst accounting students in Malaysia. This is to ensure the data will have a bigger coverage of students doing accounting courses from the public and private universities in Malaysia, which will then increase the sample size of the research.

The research can also be expanded by examining the relationship between the

learning strategies preferred by accounting students with their academic performance. The use of deep learning strategy suggests better academic performance as compared to surface learning strategy. However, in UMT, most of the accounting students could not maintain their CGPA as they progressed from Year 1 to Year 4. It would be interesting to understand the reasons why the CGPAs keep dropping although the students preferred deep approach in the learning process.

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References

- Ariffin, K. (2007). The relationship between learning styles and academic achievements in the subject of Electromagnetic among first-degree students in UTHM. *PSP's Research Digest*, 17-21.
- Awang, M. M., Ahmad, A. R., Bakar, N. A., Ghani, S. A., Yunus, A. N. M., Ibrahim, M. A. H., & Abd Rahman, M. J. (2013). Students' attitudes and their academic performance in nationhood education. *International Education Studies*, 6 (11), 21-28. <https://doi.org/10.5539/ies.v6n11p21>
- Biggs, J., Kember, D., & Leung, D. Y. (2001). The revised two-factor Study Process Questionnaire: R - S P Q - 2F. *British Journal of Educational Psychology*, 71(1), 133-49.
- Biggs, J. B. (1987). *Student Approaches to Learning and Studying*. Melbourne: Australian Council for Educational Research.

- Biggs, J. B. (1989). Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development*, 8(1), 7-25.
- Biggs, J. B. (1999). *Teaching for Quality Learning at University: What the Student Does*. Open University Press McGraw-Hill Education Berkshire England.
- Bowden, J., & Marton, F. (1998). *The University of Learning*. London, England: Kogan Page.
- Cano-Garcia, F. C., and Justicia-Justicia, F. J. (1994). Learning strategies, styles and approaches: An analysis of their interrelationships. *Higher Educ.* 27: 239–260.
- Christou, N., & Dinov, I.D. (2010), A study of students' learning styles, discipline attitudes and knowledge acquisition in technology-enhanced probability and statistics education, *MERLOT Journal of Online Learning and Teaching*, 6(3), 546-572.
- Csapo, N., & Hayen, R. (2006), The role of learning styles in the teaching/learning process, *Issues in Information Systems*, 7(1), 129-133.
- Dembo, M. H., & Howard, K. (2007), Advice about the use of learning styles: a major myth in education. *Journal of College Reading and Learning*, 37(2), 101-109.
- Entwistle, N. J. (2000). Approaches to studying and levels of understanding: The influences of teaching and assessment. In J. C. Smart (Ed.), *Higher education: handbook of theory and research (Vol. XV)* (pp. 156-218). New York: Agathon Press.
- Entwistle, N.J. & Entwistle, A. (1991). Contrasting forms of understanding for degree examinations: the student experience and its implications. *Higher Education*. 22, 205-227.
- Entwistle, N., McCune, V., & Hounsell, J. (2002). *Approaches To Studying And Perceptions Of University Teaching-Learning Environments: Concepts, Measures And Preliminary Findings*. Edinburgh : School of Education, University of Edinburgh.
- Entwistle, N., & McCune, V. (2004). The conceptual bases of study strategy inventories. *Educational Psychology Review*, 16(4), 315–345.
- Flood, B., & Wilson, R. M. S. (2008). An exploration of learning approaches of prospective professional accountants in Ireland. *Accounting Forum*, 32, 225e239.
- Fransson, A. (1977). On qualitative differences in learning : iv effect of intrinsic test anxiety on process and outcome. *British Journal of Education Psychology*. Nov. 47(3), 244-257.
- Holmes, A. F., & Rasmussen, S. J (2018), Using pinterest to stimulate student engagement, interest, and learning in managerial accounting courses, *Journal of Accounting Education*, 43, 43-56.
- Hu, S., & Kuh, G. D. (2003). Maximizing what students get out of college: Testing a learning productivity model. *Journal of College Student Development*, 44(2), 185–203.
- Justice, C., Rice, J. and Warry, W. (2009). Developing Useful and Transferable Skills: Course Design to Prepare Students for a Life of Learning, *International Journal for the Scholarship of Teaching and Learning*. 3(2), Article 9. Available at: <https://doi.org/10.20429/ijstl.2009.030209>
- Lashley, C., & Barron, P. (2006), The learning style preferences of hospitality and tourism students: observations from an international and cross-cultural study. *Hospitality Management*, 25(2), 552-569.

- Lindblom-Ylance, S., Parpala, A. & Postareff, L. (2019). What constitute the surface approach to learning in the light of new empirical evidence?. *Studies in Higher Education*. 44(12), 2183-2195.
- Lublin, J. (2003). *Deep, Ssurface and Sstrategic Approaches to Llearning*. Centre for Teaching and Learning, UCD, Dublin.
- Magogwe, J. M., & R. Oliver (2007). The relationship between language learning sStrategies, proficiency, age and self-efficacy beliefs: A study of language learners in Botswana. *System*, 35(2), 338-352.
- Marton, F., & Saljo, R. (1976a). On qualitative differences in learning: I. Outcome and process, *British Journal of Educational Psychology*, 46, 4-11.
- Marton, F., & Saljo, R. (1976b). On qualitative differences in learning: II. The outcome as a function of the learner's conception of the task, *British Journal of Educational Psychology*, 46, 115-127.
- Marton, F. (1976). What does it take to learn? Some implications of an alternative view of learning. In N. J. Entwistle (Ed.), *Strategies for Research and Development in Higher Education*. Amsterdam: Swets & Zeitlinger.
- Marton, F., & Saljo, R. (1984). Approaches to learning;. Iin Marton, F., Hounsell, D.J., & Entwistle, N. J. (eds.), *The Experience of Learning*. Edinburgh: Scottish Academic Press, 36-55.
- Massey, M. G., Kim, S. H., & Mitchell, C. (2011), A study of the learning styles of undergraduate social work students, *Journal of Evidence-Based Social Work*, 8(3), 294-303.
- Meyer, J. H. F. (1991). Study orchestration: The manifestation, interpretation and consequences of contextualised approaches to studying. *Higher Education*, 22, 297-316.
- Naik, B. (2003), Learning styles of business students, *Proceedings of the 34th Annual Meeting of the Decision Sciences Institute, Washington, DC., USA* pp. 22-25.
- Oxford, R. L. (1989), Use of language learning strategies: A synthesis of studies with implications for strategy training. *System*, 17(3), 235-247.
- Oxford, R. L. (1995), *Patterns of Cultural Identity*. Boston, MA: Heinle and Heinle.
- Proctor, B. E., Prevatt, F. F., Adams, K., Hurst, A., & Petscher, Y. (2006). Study skills profiles of normal-achieving and academically-struggling college students. *Journal of College Student Development*, 47(1), 37-51.
- Prosser, M., & Millar, R. (1989). The how and what of learning physics, *European Journal of the Psychology of Education*, 4, 513-528.
- Ramsden, P. (1988), Studying learning: improving teaching, in P. Ramsden (Ed.) *Improving Llearning: Nnew Pperspectives*, London : Kogan Page.
- Scouller, K. (1998). The influence of assessment method on students' learning approaches: Multiple choice question examination versus assignment essay. *Higher Education*, 35. 453-472.
- Scouller, K. M., and M. Prosser. 1994. Students' Experiences in Studying for Multiple Choice Question Examinations. *Studies in Higher Education* 19 (3): 267-279. doi:10.1080/03075079412331381870.
- Tagg, J. (2003). *The learning paradigm college*. Boston, MA: Anker.
- Tang, M., & Tian, J. (2015). Associations between Chinese EFL graduate students' beliefs and language learning strategies, *International Journal of Bilingual*

- Education and Bilingualism*, 18(2), 131-152.
- Tuan, L. T. (2011.) Matching and Stretching Learners' Learning Styles. *Journal of Language Teaching and Research*, 2(2), 285-294.
- Volet, S. E., & Chalmers, D. (1992). Investigation of qualitative differences in university students' learning goals, based on an unfolding model of stage development. *British Journal of Educational Psychology*, 62, 17-34.

