ODL Study Skills: Evidence from Professional Accounting Qualification Students

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Abstract

Online distance learning (ODL) is known to have its challenges, especially for students pursuing a professional accounting qualification course that has a high failure rate. This is due to its wide and in-depth syllabus coverage and higher order thinking examination demands that cause great challenges to the students. Thus, determining the best study skills for students pursuing this qualification is paramount so that they can complete the course within the programme duration despite the additional burden of ODL. This study aims to determine the best study skills set that could enhance students' ability to pass their professional accounting examination. This study employs a quantitative approach and collects data using a questionnaire survey. The respondents are students pursuing the professional accountancy programme, Association of Chartered Certified Accountants (ACCA) offered at University Teknologi MARA (UiTM). The results reveal that two of the most dominant study skills are organizing and processing information, followed by study aids and note-taking. The findings from this study provide input to learning providers and professional bodies in curating materials and support programs that could further enhance students' chances of passing the examination.

Keywords: online distance learning, professional accounting education, accounting education, study skills

1. Introduction

Malaysia is set to produce 60,000 chartered accountants (CA) as part of the profession's contribution to the Economic Transformation Programme, which aims to elevate the country's status to a developed nation (Lee, 2018). The goal is to be achieved by 2030, but the number of Chartered Accountants (CA) in Malaysia as of July 2022 is only 37,500, and this is still far from achieving the target (MIA, 2018, 2022). Obtaining a professional accounting qualification is one of the fastest ways to become a CA in Malaysia, as candidates would need to complete all the exam papers and complete 3 years of working experience.

Compared to studying a diploma or bachelor's degree in accounting, studying for a professional accounting qualification is far more challenging (Bahari, Tahir, and Mat Rahim, 2014), and as mentioned by Masters (2015), many students embark on this journey without understanding what is expected of them. However, one of the major challenges is the ability to pass the examination, because failure of the examination means extending the time for students to graduate and obtaining the qualification (Roos, 2009; Mustapha and Abu Hassan, 2012).

Though there are many modes of studying for a professional accounting qualification, with the recent Coronavirus or COVID-19 pandemic, educational institutions are forced to close in an attempt to stop the virus from spreading. This decision has affected at least 1,268,164,088 learners, or 72.4% of students from 177 countries (UNESCO, 2020), and it has led to the implementation of online distance learning to ensure students are able to complete their academic year.

Online distance learning meant students were more at risk of obtaining poor final examination results and retention as compared to face-to-face learning (Goomas and Clayton, 2013). A study by Ibrahim et al. (2007) in Saudi Arabia found that the intention of the students to stay in distance learning programmes depends critically on the variety of support and delivery techniques. According to Hoskins (2013), distance learning can be transformational through effective encouragement and support, a safe and secure environment, and appropriate guidance. Therefore, determining effective study skills or techniques for online distance learning may provide support and guidance to students that

could contribute to their success in passing the professional accounting qualification examination in an online distance mode of study.

2. Literature Review

Study skills refer to effective study strategies and techniques in time management as well as other resources to attain academic success (Credé and Kuncel, 2008). Having good study habits can make study time effective and reduce the failure rate within educational institutions (Gettinger and Seibert, 2002; Nonis and Hudson, 2010). For professional accounting students, the passing rate is only within 30% – 50%, and studying for the qualification is challenging even with previous accounting knowledge as the nature of the qualification is different due to the high volume of materials and practical application of knowledge (Masters, 2015). By having a study strategy and being consistent with the approach, success would be attainable for professional accounting students (ACCA, 2018).

2.1 Time Management and Procrastination

Time management is the art of arranging, organizing, scheduling, and budgeting one's time for the purpose of generating more effectiveness in both work and productivity (Gerald, 2002). According to Brigitte et al. (2005), time management plays a significant role in improving student's performance and achievements. Another closely-related element to time management is procrastination, which is also used to correlate with an academic performance by many researchers (Sayari et al., 2017; Hassanbeigi et al., 2011; Alyami et al., 2021). Procrastination means intentional delay of an intended course of action in spite of an awareness of negative outcomes (Steel, 2007). Sayari et al. (2017) found contradicting results between prioritization and procrastination as variables for time management. Prioritization significantly correlates to students' academic performance, but no significant relationship between procrastination and students' academic performance.

Another study was by Limone et al. (2020), who analyzed whether cognitive and metacognitive learning strategies, together with time management, may predict the tendency to procrastinate. The data collected generally confirmed the idea that procrastination represented a failure in regulating students' behavior. A careful inspection revealed that the use of time has a negative association with procrastination tendency, which means inefficient use of time may lead students to procrastinate. The majority of respondents in Alyami et al. (2021) believe that the COVID-19 pandemic and online learning affected their time and decreased procrastination, while the increase in time management helped students to have better academic performance. This suggests that time management and procrastination can be considered as an important component for study skill variables that may have a relationship with academic performance.

2.2 Concentration and Memory

Working memory is composed of multiple components whose coordinated activity is responsible for the temporary storage and manipulation of information (Alloway & Alloway, 2010). Several research findings on short-term and working memory predict academic performance to a high degree are evident by Colom et al. (2007) and Beilock & Carr (2005). In addition, the latter suggest that performance pressure harms individuals most qualified to succeed by consuming the working memory capacity that they rely on for their superior performance. Basic cognitive abilities (defined by fluid intelligence, short-term memory, and working memory) and temperament difficulties predict academic performance to a high degree by accounting for 60% of the variance in academic performance (Colom et. al., 2007).

Hassanbeigi et al. (2011) investigated the relationship between various study skills (including concentration and memory) and the academic performance of university students. They concluded that teaching study skills to university students can play an important role in the improvement of a student's academic performance. Therefore, it is evident that many studies are rooted for concentration and memory as a study skill variable that may influence students' academic performance.

2.3 Study Aids

Writing and creating notes helps students to remember information more easily and helps them focus on what's most important. Most prior studies relate the use of cognitive note-taking (Makany et al., 2009) and good academic performance (Makany et al., 2009, Weinstein & Mayer, 1986, Kiewra, 1984). Cognitive note-taking is an activity that strongly depends on the central executive functions of working memory to manage comprehension, selection, and production processes concurrently (Piolat et al., 2005). College students are of the opinion that note-taking eases the comprehension of the material to be learned and when attending to the lecture (Van Meter, Yokoi, and Pressley, 1994). The past study stated above focuses on note-taking in a physical classroom. When Covid-19 pandemic caused the switch to online learning, students are to be more independent in taking online notes. Cooper et al. (2018) stresses

the need to be an active learner in the classroom during lectures. Here we can see how important that the knowledge delivered by the lecturer can be transformed into strategic notes immaterial of whether it is physical or online learning. Online learning has been found to have a significant relationship with students' performance (Arukwe et al., 2022) when with a structured and organis ed note (Salame & Thompson, 2020). Makan (2009) suggests that the way in which students take notes has little to no bearing on how precisely they will use them.

2.4 Test Strategies and Anxiety

For every student in any test or exam, it is common and natural to feel some sort of anxiety. The anxiety that the students face will eventually influence their readiness and, eventually, influence their performance and achievements (Rana et al., 2010, Chapellet al. 2005). The calls for online tests and examinations are now being normalized in the tertiary level of education since the pandemic of Covid-19 hit the world. Would there be the same level of test anxiety between paper-based tests and online-based tests? In Saudi Arabia, students at the University of Tabuk find that they are less prone to test anxiety when their tests are done using the computer and online (Alghamdi, 2022). In professional exams, they are 100% examination-oriented, and passing the subject matter is important.

The fear of failure can also lead to a high-test anxiety. Rina and Mahmood (2010) stated that the reason for a high cognitive (worry scale) test anxiety is the pressure of getting high scores on tests, fear of passing a course, consequences of failing in tests, and incompatibility of preparation for tests and demands of tests. Students seek help from teachers, parents, and peers to keep them motivated by giving them training/education about handling stressful situations in academic life. (Rina and Mahmood, 2020, Neuderth et al., 2008). In building students' confidence, Spencer (2011) suggests that students should be learning how to budget their time based on the amount of time given to complete the test. They should be paying more attention to the test directions and items, as well as to parts of tests that have been highlighted by teachers in class. However, the onset of the pandemic covid 19, has had a minimal impact on students' preparation before the examination, but they struggled to maintain attention while studying online (Ewell et al., 2022). This could hinder them from getting the right examinable area in the subject matter.

2.5 Organizing and Processing Information

Olgren (1998) argued that "the quality of learning outcomes depends on how well the learner organizes and integrates the information" (p. 79). This is particularly true in professional accounting examinations that require the application of knowledge in scenario-based questions that are workplace-relevant, thereby demanding higher cognitive processing ability to integrate a wide syllabus covered throughout the programme (Jamaluddin et al., 2020). Students are required to identify the central issues, recognize important relationships or associations, and infer accurately, interpret and draw conclusions from the case study as initial training prior to being awarded the professional accounting qualification (Latif et al., 2019). Therefore, possessing the right skills to process information can help to improve a student's academic performance (Hassanbeigi et al., 2011).

Building on Biggs's (1999) and Entwhistle's (1998) works that conceptualize the approach to learning, Hassanbeigi et al., 2011 deduced the approach to deep information processing and surface information processing. While the former refers to the ability to analyze and synthesize information and integrate it with prior knowledge to enhance understanding by relating it to real life, the former merely memorizing and repeating the content in the analysis process. Both approaches are considered crucial to be employed by learners. Nevertheless, in an online learning environment, the ability to process information may be hindered due to the technical mediation used in the communication process (Dillon and Greene, 2003), especially if the online class is conducted on an asynchronous basis. Therefore, using deep information processing can be value-added as it encourages the students to have more initiative and self-regulation (Vermunt & Verloop, 1999), particularly in an online environment that can cause deterioration in interest and engagement (Garrison, 2005). Thus, using the theory of approach to information processing as a lens, it is hypothesized that when learning online, the ability to process information using deep information processing can better assist students to perform well in their professional accounting examination.

2.6 Motivation and Attitude

Schunk et al. (2008) defined motivation as "the process whereby goal-directed activity is instigated and sustained" (p.4). Acting as an impetus of learning, motivation drives what, when and how we learn (Schunk & Usher, 2012) by influencing the level of engagement and persistence to complete a course, the quality of output (e.g., assignment) produced and more importantly the level of achievement attained (Hartnett, 2016). For example, motivation proved to positively shape the learning behavior and the academic achievement of students in Indonesia (Tokan et al., 2019), South Africa (Sikhwari, 2014), and Malaysia (Bakar et al., 2010). Hence, motivation is deemed crucial in determining the success of a learning process.

While motivation is claimed to be vital in learning and achievement in the face-to-face educational contexts (Brophy, 2010), it is equally important in the online learning environment (Jones and Issroff, 2007; Bekele, 2010). In fact, the need for motivation may be higher as the learning process demands greater initiative from the student to engage and concentrate in an online learning environment (Knowles and Kerkman, 2007) upon facing deficient facilities such as poor internet connection (Gustiani, 2020) and the probability that motivation level can wane off over time as learner become accustomed to the new technology (Keller and Suzuki, 2004). According to intrinsic-extrinsic motivation theory, as students are more motivated to learn, their level of engagement is higher, therefore are more likely to enhance their performance academically (Frick et al., 2008; Kuh et al., 2007; Rangel & Berliner, 2007). This is further evidenced by Gustiani's (2020) claim that students learn more using online mediums driven by their intrinsic motivation. Against this backdrop, it is hypothesized that when professional accounting students are intrinsically motivated, they engage more in the online learning environment and are more likely to contribute towards their performance in professional accounting examinations.

2.7 Selecting Main Ideas

Having good reading comprehension skills is vital for students in higher education as they would need to process large amounts of information. These are "tools or plans for facilitating and extending comprehension," and they can help readers remember the key points, distinguish the necessary and unnecessary information, think about the main idea, and comment on the subject matter (Routman, 2003; Cogmen & Saracaloglu, 2009). Without supportive skills of reading comprehension, the desired level of learning may not be reached (Cogmen and Saracaloglu, 2009). Reading is regarded as fundamental to the procurement of knowledge and the most important language skills needed by students in the business and engineering fields (Cheng and Good, 2009). The level of listening and reading required in accounting courses of a technical nature (e.g., financial accounting) is less demanding than in courses of a theoretical nature (e.g., law, accounting theory, and auditing) (Wong, Delaportas & Cooper, 2017). With online distance learning, students must be self-directed learners, and they have the additional burden of dealing with technical delays and difficulties that may occur (Appana, 2008). Therefore, reading may address this limitation as it reinforces knowledge acquired and a crucial skill in understanding subject matter, especially for theoretical courses (Wong, Delaportas & Cooper, 2017). Hence, it can be hypothesized that reading is one of the skills that may further enhance professional accounting students' performance in an online distance study mode.

2.8 Writing

Writing enables a person to develop and present one's thoughts in a systematic way. It requires the development of compositions involving content, organization, and structure to appropriately convey what the writer truly means (Brown, 2007). A full text may contain a series of sentences that have main sentences followed by supporting sentences, which indicates that writing is a complex cognitive activity where writers are required to control the content, format, structure, and another related linguistic component at the level of the sentence (Flower & Hayes, 1981).

In accounting courses, possessing good writing skills is considered important as it carries a substantial proportion of the overall allocation of marks in formal examinations. To improve their writing skills, students should practice in a systematic and organized manner by repeatedly practicing assigned tutorial questions so that the appropriate techniques can be enhanced when sitting for accounting written examinations (So & Lee, 2013; Wong et al., 2017). It is found that blended learning received much attention as a way of teaching and learning English and has a positive impact on enhancing student writing skills. it enhances students to shape and organize their ideas, develops sub-skills such as writing content, grammar skill, and vocabulary knowledge (Quvanch & Na, 2020).

2.9 Academic Performance

Academic performance is frequently measured in the form of academic achievement, accomplishment of learning objectives, and acquisition of skills and competencies. Specifically, academic achievement is most frequently used and is almost entirely measured with grades (by course or assignment) and GPA (York et al., 2015).

The professional accountancy programme, Association of Certified Chartered Accountants (ACCA)(UK), requires students to complete a maximum of 13 papers depending on prior qualifications. Upon successful completion of these exam papers, a student is considered to have completed the programme. The ACCA(UK) qualification does not have GPA as a measurement of academic performance, just a pass or fail of the exam papers.

For the purpose of this study, professional accounting students were categorized, i.e., ACCA students, into 3 categories which are straight sitter, Graduate on time (GOT), and others. The straight-sitter students are those who are able to finish all ACCA papers in one attempt. GOT students are those who are able to finish their ACCA study within the

study duration set by the tuition provider, i.e., finish all 13 papers within 10 semesters. While professional accounting students who fall under the other category are those who are not straight sitters and GOTs, ie, non-performing students.

3. Methodology

This study is quantitative in nature, using a questionnaire survey to collect data. The questionnaire developed consists of 8 study skills, namely, time management and procrastination, concentration and memory, study aids and note taking, test strategies and test anxiety, organizing and processing information, motivation, and attitude, reading and selecting a main idea, and writing. This study adapted the "Study Skills Assessment Questionnaire" from Houston University. Several items were reworded to reflect the emphasis on online distance learning activities, such as virtual lecture and digital resources. Each section of the questionnaire was scored using a Likert scale. An electronic survey was made using Google Forms and was sent to professional accounting students pursuing the Association of Chartered Certified Accountants (ACCA) in University Teknologi MARA, and a total of 286 responses were collected and analysed using Statistical Package for Social Science (SPSS).

4. Results and Discussion

4.1 Descriptive Statistics

The questionnaire went through a pre-test of the criterion validity process. All the necessary changes in the instrument were based on pre-test results, as shown in Table 1. The eight items were removed from the instrument due to low correlation values. Therefore, the final construct for study skills consisted of eight elements with 56 items.

Table 1. Criterion Validity of the Study Skills

Variables of Study Skills	Actual items	Removed items	Correlation of removed item
Time Management and Procrastination	8	1	-0.53
Concentration and Memory	8	1	-0.237
Study Aids and Note Taking	8	1	-0.244
Test Strategies and Test Anxiety	8	1	-0.136
Information Processing	8	1	-0.199
Motivation and Attitude	8	1	-0.511
Selecting Main Idea, Self-testing, and Reading	8	1	-0.016
Writing	8	1	0.18

As shown in Table 1, a liability coefficient should lie within 0 to 1 and is indicated as a more reliable measure of the generated values close to 1. The standard acceptable value for reliability coefficients is 0.6, and items less than the value of 0.6 should be omitted due to insignificant cand do not contribute to constructs (Hair et al., 2014).

The construct reliability was assessed using Cronbach Alpha. The results show that all eight variables of study skills meet the acceptable standard for reliability coefficient, with values greater than 0.6. The reliability results are summarized in Table 2.

Table 2. Reliability Test of the Study Skills

Variables of Study Skills	No. of item	Cronbach alpha
Time Management and Procrastination	7	0.725
Concentration and Memory	7	0.704
Study Aids and Note Taking	7	0.874
Test Strategies and Test Anxiety	7	0.786
Information Processing	7	0.796
Motivation and Attitude	7	0.827
Selecting Main Idea, Self-testing, and Reading	7	0.81
Writing	7	0.657

As shown is table 2, the skewness and kurtosis values between -2 to +2 are acceptable for psychometric purposes (George & Mallery, 2010; Khan, 2015).

Table 3. Descriptive Analysis

Variables of Study Skills	Skewness Statistics	Kurtosis Statistics
Time Management and Procrastination	-0.142	0.134
Concentration and Memory	-0.124	-0.12
Study Aids and Note Taking	-0.503	0.674
Test Strategies and Test Anxiety	-0.366	1.297
Information Processing	-0.514	2
Motivation and Attitude	-0.303	0.414
Selecting Main Idea, Self-testing, and Reading	-0.065	-0.305
Writing	-0.273	1.429
All variables	-0.114	0.508

As shown in Table 3, the skewness and kurtosis values fall within the acceptable range of -2 to +2, indicating that the data are normally distributed and meet the assumption of parametric testing for further analysis (George & Mallery, 2010).

4.2 Mean

Table 4 presents the overall mean and standard deviation for the eight constructs of study skills among professional accounting qualification students in open and distance learning (ODL).

Table 4. The mean and standard deviation of study skills

Rank	Study Skill	Mean (M)	Standard Deviation (SD)
1	Organising and Processing Information	3.89	0.55
2	Study Aids and Note Taking	3.82	0.68
3	Reading and Selecting Main Idea	3.79	0.58
4	Test Strategies and Test Anxiety	3.73	0.58
5	Time Management and Procrastination	3.69	0.57
6	Motivation and Attitude	3.68	0.62
7	Concentration and Memory	3.58	0.59
8	Writing	3.31	0.63

The results show that the mean values range from 3.31 to 3.89, indicating a generally moderate to high level of study skills across all constructs. Among the eight dimensions, Organizing and Processing Information recorded the highest mean score (M = 3.89, SD = 0.55**)**, followed by Study Aids and Note Taking **(**M = 3.82, SD = 0.68**)** and Reading and Selecting Main Ideas (M = 3.79, SD = 0.58). Meanwhile, Writing obtained the lowest mean score (M = 3.31, SD = 0.63). The relatively small standard deviation values indicate a consistent response pattern among students across the study skill dimensions. Overall, the descriptive results suggest that the students demonstrated good proficiency in managing their study skills, with notable strengths in organizing information and using study aids effectively.

Table 5 presents the mean and standard deviation of study skills across three student performance categories: straight sitter, graduate on time (GOT), and others.

Table 5. The mean and standard deviation of respondents categorized into straight sitter, graduate on time and others

STUDY SKILLS	STRAIGHT SITTER		GOT		OTHERS	
	Mean (M)	Standard Deviation (SD)	Mean (M)	Standard Deviation (SD)	Mean (M)	Standard Deviation (SD)
Time Management and Procrastination	3.69	0.6	3.7	0.55	3.69	0.57
Concentration and Memory	3.63	0.62	3.5	0.53	3.58	0.58
Study Aids and Note Taking	3.88	0.64	3.78	0.58	3.81	0.74
Test Strategies and Test Anxiety	3.79	0.63	3.71	0.59	3.71	0.54
Organizing and Processing Information	3.9	0.63	3.85	0.5	3.89	0.52
Motivation and Attitude	3.69	0.67	3.76	0.59	3.65	0.59
Reading and Selecting Main Idea	3.83	0.59	3.75	0.57	3.78	0.58
Writing	3.32	0.66	3.27	0.53	3.32	0.65

Overall, the mean values across all groups ranged between 3.27 and 3.90, reflecting generally consistent study skill levels among the respondents. The results show that Organizing and Processing Information recorded the highest mean scores for all three groups (Straight Sitter: M = 3.90, GOT: M = 3.85, Others: M = 3.89), followed closely by Study Aids and Note Taking and Reading and Selecting Main Ideas. In contrast, Writing consistently yielded the lowest mean scores (Straight Sitter: M = 3.32, GOT: M = 3.27, Others: M = 3.32) across all groups. The standard deviation values were relatively small, indicating stable response patterns among students within each category. These findings suggest that the distribution of study skills among straight sitter, GOT, and other students was broadly similar, with no substantial variation in the overall ranking pattern across groups.

The result is discussed in the next section.

5. Discussion

The results from the analysis show that the most dominant study skills amongst professional accounting students in ODL study mode are Organizing and Processing Information, followed by Study Aids and Note Taking, Reading, And Selecting the Main Idea, Test Strategies and Test Anxiety, Time Management, And Procrastination, Motivation, and Attitude, Concentration and Memory and lastly Writing. The findings of this study are consistent with Masters (2015), whereby students must possess good organization of knowledge from lectures and have a systematic approach to utilize the available study resources as it enables them to successfully complete the professional accounting course.

The results show that Organizing and Processing Information was the highest-ranked study skill among ODL professional accounting students, as ACCA examination questions require students to apply knowledge to real business scenarios rather than provide generic answers. This skill allows students to analyze, structure, and present their responses effectively to meet the examiners' expectations. Study Aids and Note Taking ranked second, reflecting students' reliance on lecturers with extensive ACCA experience to highlight key areas and guide their study focus through exercises and practice sessions. Interestingly, Writing was ranked lowest, possibly because this skill is already

developed through classroom activities and practice of past year questions, making students view it as part of information processing rather than a separate ability. Together, these findings suggest that professional accounting students value skills that directly support exam application and performance in an ODL environment.

The following section discusses each study skill separately based on its ranking and relevance to the learning performance of ODL professional accounting students.

5.1 Information Processing

Information organizing and processing skills are perceived as the most important study skills to excel in the professional accounting examination among all the students undergoing ODL mode. One reason proffered for this is to shape the students to possess the required skills and competency expected of an accountant; questions tested are scenario-based and application in nature (Master, 2015). The evidence echoes Kim and Frick's (2011) findings that students experience an increased level of motivation using online mediums when the courses mimic real-world problems. This is incongruent with Jamaluddin et al. 2020's claims that adopting a deep learning approach increases the chances of performing well as it allows the students to develop high cognitive abilities required to pass the professional accounting examination. As argued by Knowles and Kerkman (2007), for a deep approach to learning to occur, students need to be intrinsically motivated, allowing them to be more self-regulated to be able to apply their knowledge best. Hence, molding the students to develop skills in organizing and processing information is vital to improving their performance.

5.2 Study Aids and Note Taking

Study aid comes as the second important ODL study skills to the professional accounting students. The results show that students are able to graduate on time with good study aid and note-taking. The process of imparting knowledge, i.e., note-taking, helps professional accounting students to pass the examinations (Mam Yudi, Ahmad, Sahol Hamid, Yatim, & Abdullah, 2018). Good study aid and note taking in the context of students relying on the lecturer and taking notes while being taught in class. Jamaluddin et al. (2021) also suggest that students should rely on the teachers who are experts and have experience in addressing professional examinations. Note taking is suggested as one of the effective revision techniques (ACCA). In professional examinations, rote learning is dangerous, and few marks are available. The students should be able to apply the knowledge in answering the question. Hence, listening to lecturer-teacher-centered pedagogy and taking notes in class may help the students in passing the examination. This is in line with one out of 10 ways to study professionally, i.e., ACCA; by understanding what has been taught in class by the tutor, students should be able to explain every aspect of the topic effectively and accurately.

5.3 Selecting the Main Idea, Self-testing and Reading

ODL has empowered professional accounting students to be more independent in selecting main ideas and reading study materials. Note-taking improves students' recall of information, which enhances learning and academic performance (Salame & Thompson, 2020). Consistent with the examination result, straight-sitter students applied the reading before classes, reading several times and organizing their notes using their own words. Professional examinations, i.e., ACCA, held every 4 months, can be an uphill journey for others, other than GOT and Straight-sitter students. Hence, ODL is useful for them to enhance their learning phase through rewatching the recorded lecture or video anywhere. Effectively, the students should actively read and study and ensure they understand the subject matter. Whenever they do not understand, they have to re-read and re-work the examples from the material given. Stevens, E. A., Park, S., & Vaughn, S. (2019) suggested that the identification of the main idea and reading comprehension of struggling readers may be improved through main concept and summarizing instructions. Overall, ODL has facilitated the development of study skills that benefit professional accounting students in their educational journey.

5.4 Test Strategies and Test Anxiety

Test strategies show a close gap between all 3 types of students and placed fourth as the preferred study skills among professional students during ODL. It shows that the non performing students have test anxiety more than Straight-sitter and GOTs. The finding is consistent with findings of past studies by (Chapell et al., 2005), which found significant influence between test and graduate student’s academic performance. Test anxiety may not solely be a personality trait but could be a result of inadequate subject knowledge. (Hassanbeigi et al., 2011).

Hassanbeigi et al. (2011), where the author suggests that highly anxious individuals focus more on irrelevant cues than relevant ones, leading to a decrease in performance. Hence, programmes for assisting such students should emphasize the development of learning methods, strategies for their studies (Neuderth et al., 2009), and coping mechanisms for the exam environment. The findings highlight that non performing students might need more time to understand the subject matter as there are many topics to be covered in the professional accounting syllabus. The test anxiety will be at

high risk if they do not strategize at their learning phase. It is suggested that a comprehensive learning schedule should be made. Professional accounting students, i.e., ACCA students, should utilize the study planner template prepared by ACCA and amend it according to their style. The exam anxiety can be managed by having good time management.

5.5 Time Management and Procrastination

Time management is placed fifth among study skills by professional accounting students during ODL. Professional accounting students were introduced to good time management as they entered the first class. The students have been practicing ACCA examination questions within the time-constrained. The tutor prepares the questions as much as they can to mimic the real exam condition. Effective time management to answer the question under examination conditions is essential to familiarize themselves with the structure, timing, and requirements of each exam component. ACCA exams cover a wide range of subjects and topics. Effective time management ensures that students can allocate sufficient time to study and review all the required material. It helps them cover the syllabus thoroughly and reduces the chances of missing important concepts or areas. ACCA exams are known for their challenging nature. Proper time management allows students to create a study plan, set study goals, and allocate time for each subject or topic. It helps them distribute their study load evenly, reducing stress and improving overall exam preparation (Flood & Wilson, 2008). Time management enables students to allocate dedicated time for practicing exam-style questions, solving mock exams, and revising key concepts. It ensures that they have enough time to reinforce their understanding and identify any knowledge gaps. Effective time management not only focuses on academic commitments but also ensures a healthy work-life balance. It allows ACCA students to allocate time for relaxation, hobbies, family, and social activities. Maintaining this balance helps prevent burnout, promotes overall well-being, and enhances productivity during study sessions.

5.6 Motivation and Attitude

The result shows that Straight-sitter students have the highest motivation as compared to the GOT and Others. It indicates that professional accounting students perform better when they are intrinsically motivated, even in an online learning environment. One plausible reason is passing professional accounting examinations is challenging and the fear of failure (Flood and Wilson, 2008) make them more accountable in their online learning (Knowles and Kerkman, 2007). Accordingly, they become more alert, more engaging and participate in the online discussions or classes to confirm their understanding. Interestingly, using online as a medium of learning allows students to watch the recorded videos multiple times, which not only helps them to obtain a clearer view of difficult concepts, but sometimes are aware of parts that they may miss during class (FACT UiTM, 2022). Hence, the results support Jamaluddin et al. (2020)’s contention that the teacher-centered learning pedagogy contributed to better performance in professional accounting examinations as it boosts intrinsic motivation.

5.7 Concentration and Memory

In relation to the sixth skill, concentration, and memory, ACCA exams require a high level of concentration to comprehend complex concepts and solve challenging problems. Students need to develop the ability to focus their attention on the study material and eliminate distractions. Richard Griffin et al. (2012) define concentration scale as a student's ability to pay attention and focus while completing academic tasks. Poor attention and a limited ability to "block out" unpleasant thoughts and emotions when focusing on academic activities are reflected in low scores. This can be seen among the GOT professional accounting students as they pay attention during ODL and focus on completing tasks, such as completing all the tests and mock examination questions from their lecturer or even from the professional body itself.

5.8 Writing

Finally, in relation to the seventh skill, writing has become the last study skill preferred by professional accounting students during ODL. This could be due to ODL often involving remote learning, where students primarily engage with course materials and lecturers through online platforms or recorded lectures. The absence of face-to-face interaction and immediate feedback can make writing assignments feel more isolated and less interactive compared to other forms of communication or skill development. ACCA stipulatesthat good writing is crucial to obtain professional marks, such as answer clarity, format, and presentation. GOT and non performing students perceived writing skills more than straight-sitter students. However, writing can be seen as less important than other skills. Professional accounting students may prioritize studying and practicing technical concepts over developing strong writing skills. This can lead to a relative neglect of writing proficiency, resulting in lower scores in written exams. ACCA students may have limited opportunities to engage in extensive writing practice or receive regular feedback on their writing performance. Without consistent practice and constructive feedback, it can be challenging for students to enhance their

writing abilities. ACCA students come from diverse linguistic backgrounds, and English may not be their first language. Language barriers can impact their writing performance, leading to difficulties in expressing ideas clearly or effectively in written form. This can result in lower scores in writing assignments or exams.

6. Conclusion

The COVID-19 pandemic has transformed the landscape of education worldwide, compelling institutions, educators, and students to rapidly adapt to Open and Distance Learning (ODL) environments. This shift required not only changes in teaching delivery but also adjustments in students' learning behaviours, particularly in the development and application of effective study skills. For professional accounting students, adapting to ODL is crucial, as the nature of professional examinations demands a higher level of self-regulation, discipline, and analytical capability than traditional classroom-based learning.

The findings of this study show that Organising and Processing Information was the most dominant study skill, followed by Study Aids and Note Taking, Reading and Selecting Main Ideas, Test Strategies and Test Anxiety, Time Management and Procrastination, Motivation and Attitude, Concentration and Memory, and Writing. This ranking highlights the importance of cognitive and metacognitive abilities in helping professional accounting students succeed in an application-based learning and examination environment. In ACCA examinations, marks are awarded for the ability to apply knowledge to business cases rather than recalling theory, and generic answers often result in capped marks.

Based on these findings, learning providers should strengthen students' information processing skills by integrating past year question (PYQ) practice as a key learning strategy. Since the professional examinations are designed to reflect real business situations, consistent exposure to them helps students develop analytical thinking and apply accounting concepts to realistic professional contexts. Similarly, lecturers should continue guiding students in effective note-taking and study-aid preparation, as these skills help them identify what is important and build understanding through structured revision. While writing was ranked lowest, it remains fundamental to examination success, as professional marks in ACCA are awarded for clarity, format, and logical presentation. Thus, writing practice should be embedded within information processing and classroom discussion activities, allowing students to apply their writing skills naturally during analytical and problem-solving exercise.

This study contributes to a better understanding of study skills among professional accounting students in the ODL setting. It underscores the need for educators and professional bodies to design learning interventions that focus on applying knowledge, developing analytical skills, and promoting self-regulated learning. By aligning teaching methods with the application-based nature of professional examinations, learning providers can enhance students' readiness to meet both academic and professional demands effectively.

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