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Factors Influencing Student Learning Outcomes: A Study on Behavioural, Cognitive and Experiential Challenges

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Abstract This study investigated the factors influencing student learning outcomes as perceived by teacher-participants. The mixed methods approach was utilised to find out the teachers' personal views on the instructional challenges faced by students in attaining the desired learning outcomes. A structured questionnaire adopted from the University of Waterloo and a focused group discussion were employed to collect data. Among the three instructional challenges namely cognitive, behavioural, and experiential, the results showed that behavioural challenges are the foremost problem that hinder students in achieving learning outcomes. This is manifested in terms of their interest towards learning, classroom participation, excessive absences, and diligence. It is concluded that students encountered such challenges due to several factors: 1) students' capability which is generic to all students, 2) mastery of the module which is common to all, and 3) students' interest, engagement, and prior knowledge which are typical to all students. The implications for further research and directions were discussed.

Keywords: *Education, Cognitive challenges, Accomplishments, Student engagement, Classroom participation*

1. Introduction

Nowadays, Artificial Intelligence (AI) helps learners develop their academic skills; however, this does not mean that there are no more challenges at all in terms of their critical skills, such as problem-solving, creativity, and communication. These are only some examples of academic skills that the students need to engage interactively to attain their learning outcomes and achieve their academic goals.

To aid the students in the achievement of their learning outcomes, the teacher needs to create a relevant environment. The teacher is urged to carefully examine and consider the instructional materials, appropriate tasks, and pertinent learner characteristics in order to help learners effectively and efficiently process the information received from the cognitive perspective because students learn by receiving, storing, and retrieving information. Demonstrations, instructive examples, and constructive criticism should all

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be included in instructional materials so that students can develop their intellectual abilities to properly act out. The individual's memory is the initial place where information from instructional material is processed (Yilmaz, 2011).

A difficulty or hindrance that prevents the learners from achieving a certain outcome is called an instructional challenge. The first step in developing a teaching strategy to aid the students in overcoming these problems is to ascertain the instructional challenges that occur during the academic journey (University of Waterloo, 2023). Stavredes (2011) declared that education is a process that lasts a lifetime and is meant to alter a person's attitudes for the better.

The roles of a teacher and students are necessary in the processes of learning and teaching. The ability to build superior coping mechanisms is developed through the learning process. The diversity of the students in their class must be accepted by the teachers. Moreover, it is crucial for students to utilise their learning preferences while they are acquiring knowledge; thus, teachers should collaborate with their students and employ a variety of teaching strategies (Agyekum, 2019; Richman et al., 2011).

Numerous studies have discussed the different learning theories; however, it is noticed that very few studies have been conducted to specifically determine what instructional challenges students face in achieving their desired learning outcomes. The current study aimed to investigate the factors influencing student learning outcomes as perceived by the teacher-participants. This specifically attempted to answer the following questions:

1. What are the instructional challenges faced by students that hinder in achieving specific learning outcomes?
2. What are the factors that contribute to the instructional challenges of students that end up with low performance?
3. What do these factors imply about the low level of performance of the students?

2. Theoretical Framework

Within the field of learning theories, there are three main subfields: constructivism, behaviourism, and cognitivism. Yilmaz (2011) found that behaviourism dominated educational settings, impacting all facets of curriculum and instruction as a framework for teacher-centered learning.

2.1. Theories on Instructional Challenges

2.1.1. Cognitivism Learning Approach

As the studies in the field of different learning approaches are growing McLeod (2003) expressed that cognitively oriented instruction ought to be genuine and practical. Students' needs, interests, and backgrounds are considered while designing lessons. According to Prayekti (2018), cognitive style is a variable related to learning conditions that should be taken into account while creating a lesson plan, among other things. Cognitive style is a behavioural trait that falls under the skill and personality categories and can be seen in a variety of contexts.

Academic accomplishment can be directly impacted by cognitive capacity, according to Rohde and Thompson (2007). According to Xingli et al. (2020), who corroborated the earlier findings, students with high cognitive abilities are better able to retain important information in memory more quickly and accurately. This increases brain capacity and improves academic performance on tests. Shi and Qu's (2022) study, which found that cognitive capacity can have a considerably favourable effect on academic accomplishment, confirmed the findings of earlier studies. According to Vock et al. (2011), there is a definite correlation between reduced cognitive ability and missed knowledge, which results in less effective information production and worse academic accomplishment.

2.1.2. Behaviorism Learning Approach

Shaffer (2000) cited that John B. Watson (1878–1958) is one of the founders of behaviourist learning theories. Watson believed that various stimuli and associated responses led to particular behaviours in people. According to Ng'andu et al. (2013), behaviourism theory focuses on overt behaviours that can

be witnessed and measured. Miltenberger (2001) argues that behaviour is generally defined as what people say and do. Good and Brophy (1990) cited that according to behaviourists, since inner states like intentions or mental states cannot be quantified scientifically, only overt behaviour should be observed and investigated.

Another contribution of behaviourism to education was clarified by Saettler (1990), as it is the teacher's responsibility to foster a supportive environment for students. The teacher should manage the learning environment to make it suitable to learning to facilitate effective learning. Mekonnen (2020) enunciated that the focus of behaviourism is on visible and quantifiable features of human behaviour. The goal of behavioural awareness is to help students to become effective learners. Good and Brophy (1990) said that behaviour issues require extra learning support.

2.1.3. Experiential Learning Approach

A group activity known as an experiential learning activity places a strong emphasis on the process itself rather than the final product. To achieve the desired specific learning outcome, both students and teachers must actively participate in the process, steps, and content. Thote and Gowri (2021) found that experiential learning increases students' interest in learning their subject and positively correlates with improving their academic performance in order to meet the desired learning objectives.

In the paper written by Kolb and Kolb (2012), they mentioned that experience was critical in the development of knowledge construction, as learning occurs through discovery and active participation. They defined learning as the process whereby knowledge is created through the transformation of experience. The whole tenet of the concept is turning experience into knowledge.

2.2. Factors that Contribute to the Instructional Challenges

2.2.1. Obligations toward Learning

Educators must follow the tenets of cognitive learning theories when instructing their students. Reiser and Dempsey (2012) elaborated that learning can be characterised as the process of acquiring knowledge through perception and thought. In the body of existing literature, several research papers promote the useful application and prospective benefits of constructivist ideas. They assert how the human brain gathers, processes, and stores information. The retention of the information is improved by breaking it into pieces, paying attention, staying motivated, getting ready, and explaining how to relate new material to what is already known.

Drachsler and Kirschner (2012) explained that the concept of learner characteristics is used in the sciences of learning and cognition to designate a target group of learners and define those aspects of their personal, academic, social, or cognitive self that may influence how and what they learn. According to Buabeng et al. (2014), teachers must use creativity to produce engaging instructional materials and learning media. Lessening the number of academic instructions given will facilitate students' learning (Sutherland & Oswald, 2005). In the study of Adeyemo (2012), it was revealed that students' achievement is strongly and favourably influenced by the effectiveness of classroom management or teaching methods. Thus, it can be concluded that it is clear in the said study that the students' academic progress and efficient classroom management have a connection. Sutherland and Oswald (2005) clarified that transactional processes in the classroom with emotional and behavioural issues, somewhat like teacher-student behaviour must be addressed at the earliest possible time. Saettler (1990) asserts that behaviourists' primary objective is to forecast and regulate human-related behaviours. The utilisation of lesson objectives during the instructional process can be seen as another behaviourist contribution to education (Ng'andu et al., 2013). Behaviourist said learning is "a relatively enduring change in observable behaviour that occurs as a result of experience" (Eggen & Kauchak, 2001, p. 164). The study of Pishghadam et al. (2015) showed that teachers' views of intelligence had a big impact on how they rate their students. Schunk (2012) indicated that an individual builds this knowledge based on his or her own experiences and interactions with the outside world. The learner adapts the information from the new knowledge that is based on prior attitudes, ideas, and experiences.

2.2.2. Attitudes Toward Learning

Greenwood (1999) rationalised that most people gave credit to Edward Tolman, a known psychologist, who started the cognitive movement. It was believed that changing expectations into behaviour required incentives. Yilmaz (2011) articulated that cognitive psychologists focus more on how knowledge is acquired than on what learners accomplish; thus, the cognitive approach places a strong emphasis on helping students organise and relate new information to past knowledge in their memories. Cognitive theory-based classroom instruction includes learner control. This signifies that learner's active participation is important in the learning process.

2.3. Implications on the Low Level of Performance

Prayekti (2018) concluded that the students' cognitive learning styles strongly influenced their learning outcomes. Stadler et al. (2016) impliedly agree with Prayekti (2018) and hold that cognitive ability refers to the human brain's ability to store memory, process, and extract information, including attention, memory, logical reasoning, and thinking transformation. Also, behaviour issues receive extra attention in the classroom. Learning outcomes may have behavioural causes or consequences. If students want to achieve the desired learning outcomes, engagement in the teaching and learning process is a must. Experiential learning activities increase students' interest in learning to achieve the desired learning outcomes.

3. Methodology

3.1. Research Design

This study used a mixed methods research design to ascertain the teachers' personal views on the instructional challenges faced by students in attaining the desired learning outcomes. The first phase was done through the use of a questionnaire. For the second phase, a Focused Group Discussion (FGD) was created, and a thematic analysis was utilised to analyse the information gathered from the participants. Thematic analysis is one of the most common forms of analysis in qualitative research emphasizing, pinpointing, examining, and recording patterns (or "themes") within data. It is a method for identifying, analysing, organising, describing, and reporting themes found within a dataset (Braun & Clarke, 2006).

3.2. Participants

The participants in this study were 45 teachers who were teaching various modules from levels 3 to 6 in one of the colleges in the Sultanate of Oman. The participants were males and females with diverse nationalities and educational attainment from different colleges and universities around the globe. The age and gender of the participants were not elicited in this study. The sampling technique employed by the researchers was based on the accessibility of the participants. The same participants took part in the FGD. The researchers requested participants' free time, and small groups with eight members were created. FGD took place to get participants' observations on the instructional challenges that the students faced in their respective classes.

3.3. Instruments

The "Factors that Influence Students' Learning Outcomes" questionnaire was administered to the participants by the researchers after permission was granted from the head of the department. The tool used in gathering the data was adopted from a published article entitled "Instructional Challenges Survey" from the Centre for Teaching Excellence at the University of Waterloo (2019). The said instrument consisted of thirteen indicators (see Appendix 1) that measure the behavioural, cognitive, and experiential challenges of the participants. A minimal modification was made to the questionnaire, the content of which was validated by a number of experts. To interpret the results, the following qualitative scale of measurements was utilised (Table 1).

Table 1
Qualitative Scale of Measurements

Numeric Value	Hypothetical mean range	Qualitative Description	Interpretation
1	1.00 – 1.75	Strongly Disagree (SD)	It never hinders the students' achievement of learning outcomes.
2	1.76 – 2.50	Disagree (D)	It does not hinder the students' achievement of learning outcomes; thus, the problem needs occasional support.
3	2.51 – 3.25	Agree (A)	It hinders the students' achievement of learning outcomes most of the time; thus, the problem needs supplementary actions.
4	3.26 – 4.00	Strongly Agree (SA)	It severely hinders the students' achievement of learning outcomes; thus, the problem needs an immediate plan of action to help the students.

3.4. Procedure

3.4.1. Data Collection

The data for this study was collected from the participants through questionnaires using Google Forms. The said form was disseminated to the participants for them to express their views regarding the instructional challenges that are faced by their students in the classroom. Since the questions were structured and closed-ended, the participants had to select the qualitative descriptions that corresponded to the indicators mentioned therein. A FGD was also conducted afterward to validate the participants' feedback.

3.4.2. Data Analysis

3.4.2.1. Phase 1

The 13 items of the questionnaire were categorised according to the three instructional challenges, namely cognitive, behavioral, and experiential. The researchers utilised the qualitative scale of measurement, which consists of the numeric value (1 to 4), hypothetical mean range (1.00–4.00), qualitative descriptions (strongly disagree, disagree, agree, strongly agree), and its corresponding verbal interpretation (Table 1), to statistically calculate the average for each item, followed by the computation of the factor average using the weighted mean formula. The factor average of each category was the basis for determining the top instructional challenges faced by the students in achieving the learning outcomes.

3.4.2.2. Phase 2

After the FGD, the researchers transcribed, analysed, and interpreted the data. The researchers used theme analysis and scrutinised the data to identify common themes, ideas, and patterns of meaning that came up repeatedly. The theme refers to the occurrence of patterns during the coding of the information. The core ideas refer to the specific ideas that suggest the theme. The occurrence of the participants' responses dealt with the rate of occurrence of the idea. The theme includes *General* - if the occurrence of the responses was 50% and more; *Typical* - if the responses occurred 21-49%; and *Variant* - if the responses occurred 20% and less. The researchers also used the following steps and processes in using thematic analysis, according to Caulfield (2019):

Step 1. Familiarisation of data. The first step was to transcribe the responses, make some initial notes, and look over the data in general.

Step 2. Coding of responses. The second step was to highlight sections of the text – usually phrases or sentences to come up with short labels and codes. Each code describes the idea or feeling expressed in the text. Then, the researchers collated all the data into groups identified by the codes. With these

codes, the researchers could get a quick look at the main points and common meanings that kept coming up in the data.

Step 3. Generating themes. The third step was to examine the codes created, identify patterns among them, and start coming up with themes.

Step 4. Reviewing themes. The fourth step was to ensure that the themes were useful and accurate. When there were problems with the themes, the researchers defused, combined, discarded, or created new ones.

Step 5. Defining and naming themes. The fifth step was to define themes and figure out how they helped understand the data. It was necessary to choose a short and easy-to-understand name for each theme.

Step 6. Writing up. The sixth step was to prepare the write-up for the analysis of the data.

4. Results

4.1. Phase 1

Table 2 presents the quantitative results based on the participants' perception of the instructional challenges faced by the students in achieving their learning outcomes.

Table 2
Factors that Influence Students' Learning Outcomes

Learning Theory	Indicators	Item Ave.	Qualitative Description
Cognitivism	Students seem to forget one unit of material shortly after we move on to a new one.	3.23	A
Cognitivism	Students have difficulty breaking down their assignments into manageable portions.	3.26	SA
Cognitivism	Students have pre-existing misconceptions about the course content that interfere with their learning.	2.70	A
Cognitivism	Students lack confidence in their ability to master the course content.	2.55	A
	FACTOR AVERAGE	**2.94**	A
Behaviorism	Students seem uninterested in the course content.	2.63	A
Behaviorism	Students come to class unprepared (for example, without having finished assigned readings).	3.22	A
Behaviorism	Students underestimate how much time they need to devote to assignments.	3.50	SA
Behaviorism	Students just want to know the right answer.	3.50	SA
Behaviorism	Students do not ask questions during class.	2.85	A
Behaviorism	Students do not participate in classroom-based discussions (or participate only half-heartedly).	2.87	A
Behaviorism	Students are resistant to group work and are reluctant to collaborate with their classmates.	2.41	D
	FACTOR AVERAGE	**3.00**	A
Experiential	Students do not see the relevance of the course content to their program, career, or life.	2.87	A
Experiential	Students lack prerequisite or background knowledge for the course.	3.10	A
	FACTOR AVERAGE	**2.99**	A

The challenges that the undergraduate students faced, as assessed by the teacher-participants, were cognitive, behavioural, and experiential challenges. It can be noted that behavioural challenges are the foremost problem that the students were facing, with a weighted mean of 3.00 as perceived by the

participants; almost all of them agreed on it as the main challenge. The least is the cognitive challenge, which has a weighted mean of 2.94.

4.1.1. Cognitive Challenges

Cognitive challenges (μ = 2.94) are the third of the critical learning challenges faced by most undergraduate students in higher education as perceived by their teachers. According to Andreev (2023), cognitive learning is a dynamic style of learning that focuses on how to maximise the brain's potential. Undergraduate students must use their memory to comprehend whatever information and knowledge gained to ensure the achievement of the desired learning outcomes.

Students are having difficulty mastering the course contents and are unable to manage their coursework if multiple assessments are given. Thus, these behaviours are manifestations of students facing cognitive instructional and learning challenges. In the study of Chan and Sidhu (2015), cognitive challenge is recorded as the critical challenge encountered by students in higher education.

4.1.2. Behavioral Challenges

As observed by the teacher participants, behavioral challenges (μ = 3.00) are manifested by the students in terms of their interest in learning, classroom participation, excessive absences, and diligence. As shown in Table 1, this challenge is on top of the three instructional and learning challenges faced by undergraduate students. It is manifested in their behaviours towards learning which include: disinterest in the course contents, students' absences and tardiness, class participation and engagement, and reluctance to do group work. Chan and Sidhu (2015) classified this challenge as a second critical challenge faced by most of the students in higher education. The result of the present study impliedly signifies disagreement with their findings since the result indicates that it is the instructional challenge that hits on top of the other two challenges. On the other hand, Silva (2019) revealed that there are many factors that contribute to the behavioural learning challenges faced by students. This includes poor study habits, lack of motivation, refusal to follow instructions, lack of focus, and shyness; thus, behavioral learning contributes to predicting and managing behaviour, and understanding how individuals learn.

Apparently, the teacher-participants denoted that behavioral challenges cannot only impact students' quality of learning but also hinder the achievement of their learning outcomes most of the time and may cause major disappointment for teachers. Behavior as a psychological concept can be observed and brought about by stimuli (McGrath, 2014) that may be internal or external to each of the students. Since behavior is learned from the environment, students can be influenced, motivated, and helped if the right stimulus is given.

4.1.3. Experiential Challenges

Learning by doing is the core of the experiential challenge. This problem is manifested among the undergraduate students in terms of their participation in the class discussion. This challenge ranks 2 with a weighted mean of 2.99, as perceived by the participants. Experiential learning focuses on the idea that the best way to learn things is by having experiences. Those experiences then stick out in the minds of the students, helping them retain information and remember facts. On the contrary, the teacher-participants perceived that students did not have enough schema on the topic being discussed when asked to participate in the class discussion. It implies that the students do not see the relevance of the contents of the course to their programme and even to their future careers. Thus, this challenge hinders the student's attainment of desired learning outcomes.

4.2. Phase 2

To strengthen the results of the study, the researchers performed a thematic analysis of the FGD data. Major themes are shown below, indicating those factors that contribute to the instructional challenges faced by students, which can lead to low performance (Table 3). The researchers categorised the results and presented them as follows:

Table 3
Themes and Central Ideas on the Perception of Teachers about the Factors that Contribute to Instructional Challenges Faced by Students

Themes	Central Ideas	Participants' Response
1. Students' Capability	• Short-term memory	General
2. Mastery of the Course	• Difficulty in mastering the course content • Difficulty in managing their coursework • Misconception of the course content	Common
3. Students' Interest	• Disinterest in the course • Passive behavior in independent learning activities • Attitude towards learning • Underestimation of time spent on coursework	Typical
4. Students' Engagement	• Lack of class interaction/participation • Resistance to group activities	Typical
5. Students' Prior Knowledge (Schema)	• Less prior knowledge of the relevance of the course • Poor foundation of the course	Typical

4.2.1. Students' Capability

Generally, the participants observed that the students are incapable of remembering the previous lessons when moving to the new lesson due to short memory.

> *Students seem to forget one unit of materials shortly after we move on to a new one.*
> **T1- *P****2,7,9,13,17,23-24,27-32, 34-35, 38-40, and 42-43**
> * The numbers indicate the participants' code in the FGD.

When students are asked to recapitulate the previous lesson, most of them are unable to remember the highlights of the topic. The inability to recall the previous lessons generally affects the students' performance in achieving what is expected of them to learn in a specific module they are attending. Students who have difficulty with memory may have shortfalls in registering, storing, and consolidating information in long-term memory. Katus and Andersen (2015) defined short-term memory (STM) as a cognitive function for the storage, maintenance, and mental manipulation of information that is no longer present in the sensory environment.

4.2.2. Mastery of the Course

Difficulty in mastering the course content is one of the factors that students are unable to meet the desired learning outcomes. This is because some of the students have misconceptions of the course contents. Though the module descriptors of the course are discussed with them, there are still students who have difficulty in mastering the course contents.

> *Students have pre-existing misconceptions about the course content that interfere with their learning.*
> **T2- *P****1-3, 16, 20-24, 27, 30-32, 35, 39-40, and 43*

Pre-existing misconceptions of students about the course occur depending on their proper mindset. Some students thought that learning is fast and can happen a lot faster than it does. They do not consider that there are no shortcuts to reading comprehension (Weimer, 2017). Another misconception is the class-specific challenge. This misconception is formed through students' live experiences and exposure to the module (Verkade et al., 2017).

> *Students have difficulty breaking down their assignments into manageable portions.*
> **T2- *P****1-3, 16, 20-24, 27, 30- 32, 35, 39- 40, and 43*

In terms of coursework, students find difficulty in breaking down the main idea into details. This can be due to the level of complexity of the coursework or based on the students' knowledge or ability to

digest the coursework. This type of challenge is linked to the cognitive load theory. The said theory described the instructional strategy that mirrors the students' cognitive architecture on how they process the information they receive (Mindtools, 2023). It implies that during classroom discussions, students are not able to grasp comprehensively the information discussed by the teacher.

Students lack confidence in their ability to master the course content.
T2- *P**2, 6, 8, 11, 14, 21-22, 26-27, 30, 32-36, 40, and 42*

It signifies that they are not confident in the amount of knowledge they gained during the entire class sessions where teaching and learning took place. Yilmaz (2011) cited some important qualities of cognitive theory-based classroom instruction, which include learner's control. It means that learner's active participation is important in the learning process. The metacognition instruction is also necessary (including methods for self-monitoring, self-review, and revision).

4.2.3. Students' Interest

A students' personal interest in learning can provide them with a useful foundation from which to build interest in a subject, engage their critical thinking skills, and help them grasp ideas that might otherwise be hard for them to understand.

Students seem uninterested in the course content.
T3- *P**1-2, 5, 7-9, 13, 17, 19- 21, 24, 27, 29-31, 33-38, 42-45*

A lack of student's interest and motivation can be quite a challenge for teachers to combat. The mixture of the learners in their class must be understood by the teachers. However, it is vital for learners to use their learning preferences while inside the classroom, while tutors should facilitate learning clearly with their students and provide a range of teaching strategies (Patrick et al., 2002). The selection of activities depends on the course content and is based on the level of the students (Pintrich & Schunk, 1996).

Another reason why students show disinterest is the class size. As per the participants' belief, the overall consequence based on their experience is that teaching and learning in large class sizes is not generally stimulating compared to the small class size. Lukman (2022) clarified that class size affects the level of understanding of the learners since the tutor will not pay full attention to every learner in the classroom. Thus, both large and small class sizes affect students' learning interests. Situational interest is linked to the course contents, such as the contents being too broad and students do not have enough prior knowledge. Thus, there is a gap between the course content and the students' knowledge, which causes the students to be disinterested.

Students come to class unprepared (e.g., assigned readings and other homework are undone).
T3- *P**2-5, 9-10, 15, 19, 27, 33, and 42*

Teachers feel disappointed to see students who have poor attitudes towards learning, do not come to class, or come unprepared. Many teachers try to avoid these behaviours, but it seems policies that punish these offenses are unrecognised by students, which persuades them to continue showing these unbecoming behaviours towards learning. Participants claimed that they are suffering much in dealing with unproductive student behaviours in the classroom.

Students underestimate how much time they need to devote to assignments.
T3- *P**2, 6-8, 13, 16-17, 21-24, 27, 30, 32, 35-36, 38-40, 42-45*

The participants observed that students underestimate how much time they need to complete their assigned tasks. Nyamapfene (2017) pointed out that the tendency to put off things and delay some work is called procrastination, and when it comes to submitting assignments, regardless of the length of time available to do an assignment, only a few students submit well before the due date.

Poor time management, procrastination, and even lack of motivation are some of the factors that contribute to these challenges. However, with good planning and effective strategies, students can avoid these challenges and meet the deadlines positively. Procrastination is another major challenge

that students face when it comes to meeting deadlines. Many students tend to put off their assignments till the last minute, which results in poor output and low marks (Nyangu, 2023).

Students' interest in their studies is manifested in their behavior in terms of exam preparation. It has been observed that students are not making extra effort to answer the mock examination and even exercises given during the revision week. Participants' responses indicated similar observations, demonstrating that students just want to know the right answer rather than making extra effort to answer similar questions on the review materials provided to them. This shows that students are indolent enough to undertake the required learning outcomes.

> *Students just want to know the right answer.*
> **T3- *P****1-3, 7-8, 11, 13, 18, 20-25, 26- 32, 34-36, 40, 43-45*

One of the main causes of students' academic failure is indolence, and one of the primary reasons for students' indolence is absent-mindedness. A student lost his focus due to external distractions like having more time chatting with friends and excessive use of social media (Gunn, 2019).

Nowadays, students spend more time sitting with friends and using social media applications rather than focusing on their coursework and examinations. Absent-mindedness causes procrastination. It implies that students may have lots of assignments to do, but they regularly delay them for the following day, and when this day comes, they realised they have a short period of time and cannot do all tasks simultaneously. In the same manner, students know that they have upcoming examinations, and they are encouraged to attend revision classes to ensure that they will have ideas on what would come in the exam, but unfortunately, they missed the opportunity due to their indolence. The study of Bocar and Tizon (2017) proclaimed that when students are proficient at taking notes and writing during class, they will become aware of the important things to remember. This finding seems to support Igun's (2007) paper, which claimed that effective subject-matter study would give students analytical skills, strengthen their ability to reason critically, promote self-reflection, improve conceptual understanding, and improve their capacity for independent learning.

4.2.4. Students' Engagement

Inside the classroom, students are expected to participate in the class discussion. Student's engagement is a critical aspect of educational success. When learners are not participating or have less engagement in the class, it will affect the progress of their learning.

> *Students do not ask questions during class.*
> T4- ***P*** 5, 8- 9, 12- 13, 17, 19, 21- 23, 26, 33, 35, 38-40, and 45

In the context of teaching and learning, students' participation matters most. The success of the teacher's lesson objectives is dependent on students' participation and engagement. Teachers are using the art of questioning to ensure active participation. In the online article of Waldeck (2024), she acknowledged that research continuously demonstrates the beneficial effects of a supportive communication environment on student success. Kraft and Dougherty (2013) identified three dimensions of engagement, which include behavioral, cognitive, and emotional. They presented the concept of behavioral engagement to cover the idea of student participation and involvement in academic and social activities, which are crucial for academic achievement. Thus, a student can be considered engaged in a behavioural context if he/she tends to comply with behavioral norms and demonstrates the absence of negative and/or disruptive behavior. Students' participation played a vital role in the success of education and students' personal development in the future.

> *Students do not participate in classroom-based discussions (or participate only half-heartedly.*
> **T4- *P****2-3, 5, 8- 10, 13, 16, 21, 23, and 34- 39*

One of the factors that caused students to participate half-heartedly in the class is their low level of English proficiency. Abebe and Deneke (2015) posited that a low level of English proficiency influences students' oral communication. As per the participant's perception, students who are weak in the English language are forced to keep silent in class instead of participating because of their fears of

making mistakes. Students' language abilities play a vital role, and if the student's language is weak, he/she will be passive in the class and will avoid asking, answering, or participating in classroom oral communication because he/she tries to avoid mistakes and embarrassment in the class.

4.2.5. Students' Prior Knowledge (Schema)

According to Dochy et al. (2002), prior knowledge helps students to learn new information and organise it, which can be added to their existing knowledge. With their prior knowledge and several other characteristics, students may grasp the world differently and respond to relevant issues in varied ways (Assessing Prior Knowledge, 2008).

> *Students lack prerequisites or background knowledge for the course.*
> **T5-** ***P****3, 5, 10- 11, 14, 18-20, 22, 24, 28-29, 33-34, 38, and 43-45*

Participants observed that most students lack background knowledge of the course they are taking. It is manifested in their participation and responses to the teacher's questions. According to Cerbin (2020), a teacher needs to assess the students before discussing the key concepts of the course in class.

Students' prior knowledge can either be declarative (which is the knowledge of facts and meanings that a student is able to remember or reproduce) or procedural, which is characterised by an ability to integrate knowledge and understand relations between concepts. Students need to utilise their procedural knowledge at the highest level and apply this knowledge to problem-solving (Hailikari et al., 2007). It has been concluded that prior knowledge of students who are mainly declarative did not contribute to their achievement. On the other hand, students who had a more integrated prior knowledge base and were able to work on higher levels of procedural prior knowledge at the start of the course were more likely to be successful.

> *Students do not see the relevance of the course content to their program, career, or life.*
> **T5-** ***P*** 2-3, 5, 7-8, 11, 16- 17, 19, 24, 27, 29, 33-34, 36, 39, 43-45

According to the participants, some students who are passive in the class give the impression that they did not realise the relevance of the course they are attending in relation to their future careers. Participation in the classroom has always been essential to ensuring that students acquire valuable lessons and advance their skills. This is one of the massive challenges to teachers in the teaching and learning process.

According to Dislen (2013), learning in the classroom is not an easy method. It needs motivation, time, and effort on the part of the learner. Students must always be motivated to learn and realise that what is discussed in class is relevant to their future careers. Also, it is highlighted that in teaching, teachers need to have cognitive, affective, and psychomotor skills to perform so that there is a possibility of achieving students' learning outcomes.

5. Discussion

The findings revealed that there are three major challenges faced by students in achieving the desired learning outcomes. Among these challenges, behavioural challenge is the top challenge that manifests in their attitudes and interest toward learning. The findings also indicated that there are several factors influencing student learning outcomes. These include the student's capability, mastery of the course, and their interest, engagement, and prior knowledge (schema). It can be noted that it is typical for the students to have disinterest in the course they are taking and show passive behavior in independent learning activities. In addition, it is indicated that students' engagement is less, showing resistance to group interaction. This attitude towards learning can be categorised as a behavioural challenge, which can also be quite difficult for teachers to combat. This is aligned with Lawrence-Browns (2004), who asserted that teachers facing the student motivation problem in the college classroom are to understand more about students' behaviours and values and how these affect learning. In doing so, teachers must build different strategies into their course activities that can potentially affect these values and behaviours.

It is also revealed that students' capability and mastery of the course influence students' learning outcomes. These manifest in their short memory and difficulty in mastering the contents of the course, the misconception of the course which leads them to an inability to manage their course work. These manifestations fall on the cognitive challenge which Sweller (1988) stated that the major reason for the student's difficulty in breaking down their coursework as part of their problem-solving skills as a learning device is that the cognitive processes needed in problem-solving skills and schema acquisition overlap inefficiently, and that predictable problem-solving in the form of means-ends analysis needs a moderately large quantity of mental processing capability which is therefore unavailable for schema acquisition. It implies that students' low cognitive level hinders their performance in achieving the desired learning outcomes most of the time; thus, it is a significant problem that needs supplementary actions.

The findings also show student's prior knowledge (schema) is typical to them as one of the instructional challenges perceived by the teacher-participants. The amount of knowledge learned from previous schooling is not enough to interact with the teacher. It implies that the students are suffering from experiential challenges. This finding is supported by Kolb and Kolb (2012), who asserted that experience is critical in the development of knowledge as learning occurs through discovery and active participation. Thus, if students have less prior knowledge of the subject matter, participation and engagement are less, which also leads to disinterest in learning, passive behavior, and resistance to group activities.

This study contributes to the body of knowledge in general and to the classroom teachers in particular. It will help teachers adapt appropriate teaching metaphors to the level of the students. It will also help teachers simplify their lessons and contextualize guided learning activities to ensure that the learning outcomes are met. The identified factors that influence student's learning outcomes can be used as guiding principles for teachers on how to motivate and deal with their students in the classroom.

The top three critical instructional challenges faced by students in attaining the learning outcomes must be addressed to ensure that learning will take place. Differentiated instruction as a teaching methodology can be adapted by teachers in the teaching and learning process. Since students in the classroom are homogeneous, the teacher must adapt this teaching style to ensure student engagement. Group work, pair work, and board work activities must be given as part of the teaching and learning activity (TLA) to ensure that the desired outcomes are performed by the students. Teachers must avoid 100 percent teacher-talking time to avoid boredom. Providing real-life situations in specialisation modules and consistent use of visual materials through IPTV can be helpful to elicit learning. The use of multimedia, particularly in communication modules, is also a must and encouraged to ensure that the four macro skills are developed and enhanced. Thus, management support is needed to ensure that these challenges are addressed and students' graduate attributes are met.

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Appendix 1

Factors that Influence Students' Learning Outcomes

Indicators	**Strongly Disagree (SD)**	**Disagree (D)**	**Agree (A)**	**Strongly Agree (SA)**
	1	**2**	**3**	**4**
1) Students seem to forget one unit of material shortly after we move on to a new one.				
2) Students seem uninterested in the course content.				
3) Students come to class unprepared (for example, without having finished assigned readings).				
4) Students underestimate how much time they need to devote to assignments.				
5) Students have difficulty breaking down their assignments into manageable portions.				
6) Students do not see the relevance of the course content to their program, career, or life.				
7) Students do not ask questions during class.				
8) Students do not participate in classroom-based discussions (or participate only half-heartedly).				
9) Students are resistant to group work and are reluctant to collaborate with their classmates.				
10) Students have pre-existing misconceptions about the course content that interfere with their learning.				
11) Students lack prerequisite or background knowledge for the course.				
12) Students just want to know "the right answer."				
13) Students lack confidence in their ability to master the course content.				