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## Instructional and Assessment Strategies in the 21st Century Classroom: A Comparative Analysis of Two Lecturers from Different Higher Education Institutions

(Strategi Pengajaran dan Penilaian dalam Bilik Darjah Abad ke-21: Analisis Perbandingan Dua Orang Pensyarah dari Institusi Pengajian Tinggi Berbeza)

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### Abstract

This is a study on the instructional and assessment strategies in the 21st-century classroom. It is done through a comparative analysis of two lecturers from different Higher Education Institutions (HEIs) in Kuching, Sarawak. This study is conducted as the first step to a more comprehensive research study. The qualitative data obtained are to be used to determine the best practices on 21<sup>st</sup>-century learning between two HEIs. The eight-item interview questions were adopted from the technology as lever principles. The findings between the two interviewees were found to be consistent with each other. In addition, the findings of this study were also found to be consistent with past research studies. As to conclude, four recommendations were developed and can be immediately implemented by lecturers in HEIs to create a productive learning environment in their 21<sup>st</sup>-century classrooms.

Keywords: Instructional Strategies, Assessment Strategies, 21<sup>st</sup> Century Classroom, Technology as Lever

## **INTRODUCTION AND BACKGROUND OF THE STUDY**

In an education setting, there is one constant, regardless of whether it is delivered in conventional or open distance learning mode, the classroom practices (learning, teaching and assessment) must always aim to create a productive learning environment for both lecturers and students (Gaytan & McEwen, 2007; Ling, 2021). To attain the intended learning outcomes, there are many pedagogical methods to implement instructional and assessment strategies (Ormrod et al., 2017a, 2017b, 2017c). As much as we would like to say that our education setting is moving toward a student-centred approach, the sad reality is that it is still a very much teacher-centred approach (Agopian, 2021; Ling, 2021). Content or learning materials are still very much prescriptive and do not encourage critical thinking and problem-solving among students. Both formative and summative assessments are also still very traditional, and exam based, which is still focusing on rote learning (Gaytan & McEwen, 2007; Ormrod et al., 2017d). In today's rapid advancement of technology and digital era, many have coined the term the 21<sup>st</sup>-century classroom, whereby students become learners and lecturers become the facilitators (Apak et al., 2021). Learning and teaching happened in flipped mode and peers become collaborators throughout the process (Shafie et al., 2019). Therefore, this study seeks to understand the view of lecturers from different higher education institutions (HEIs) on the instructional and assessment strategies in the 21<sup>st</sup>-century classroom and how it is implemented to create a productive learning environment.

### **STATEMENT OF THE PROBLEM**

With the sudden shift to online learning during the pandemic in March 2020 up until now, HEIs have quickly adopted whichever platforms or technological tools that are made available to them. The main focus was to ensure continuity and not many efforts have been taken to ensure its effectiveness (Göçen et al., 2020; González-Pérez & Ramírez-Montoya, 2022). Therefore, this study seeks to understand lecturers' perspectives and readiness for the instructional and assessment strategies they have implemented.

The research objectives of this study are:

1. To understand the view of lecturers on the 21<sup>st</sup>-century skills between two HEIs.
2. To understand the view of lecturers on 21<sup>st</sup>-century learning between two HEIs.
3. To understand the view of lecturers on instructional and assessment strategies to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs.
4. To understand the level of instructional and assessment strategies implemented to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs.

The research questions of this study are:

1. What is the view of lecturers on 21<sup>st</sup>-century skills between two HEIs?
2. What is the view of lecturers on 21<sup>st</sup>-century learning between two HEIs?
3. What is the view of lecturers on instructional and assessment strategies to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs?
4. What is the level of instructional and assessment strategies implemented to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs?

## **LITERATURE REVIEW**

Three years ago, the pandemic pushed everyone (including the non-believers of online learning) to go fully online as there were no other options available. Whether it is conducted in a traditional or online or hybrid setting, the 21<sup>st</sup>-century classroom should

always provide a productive learning environment. So, what is the 21<sup>st</sup>-century classroom? The 21<sup>st</sup>-century classroom is student-centred (Göçen et al., 2020) and the teacher is the facilitator (Apak et al., 2021). This is made possible with the enhancement of technology whereby learners and facilitators can learn from each other, regardless of their geographical locations (Göçen et al., 2020). With the flexibility of classroom settings through technological platforms, the curriculum can be integrated and interdisciplinary, hence allowing learning to be designed on the higher thinking order of Bloom's Taxonomy (Apak et al., 2021; Shafie et al., 2019). This is an advantage compared to the traditional mode classroom whereby testing and summative evaluation are often conducted at the end of the study period. Within the 21<sup>st</sup>-century classroom, content and learning materials are research-driven and outcome-based (Thannimalai & Raman, 2018) and active learning is practised. Hence, learners are given the freedom to choose what they want to learn and how they want to learn, even remotely and asynchronously (Shafie et al., 2019). In addition, the lessons are driven by exploration and creativity (Apak et al., 2021). Teachers as facilitators with nurturing nature can encourage learners to be creative through authentic assessment that is project-based and utilizes multiple forms of media for classroom practices (learning, teaching and assessment) (Göçen et al., 2020; Shafie et al., 2019; Thannimalai & Raman, 2018).

To have a productive learning environment in the 21<sup>st</sup>-century classroom, the players of the 21<sup>st</sup>-century classroom must also possess a certain skill set. So, what are 21<sup>st</sup>-century skills? To be an active player in the 21<sup>st</sup>-century classroom, learners must have a certain skill set or at least to be instilled in them upon completing the course. According to Rotherham and Willingham (2010), learners must have critical thinking skills to be able to a problem solvers, as most outcome-based education are focusing on solving real-world problems. To solve problems in the best and most effective way, discussions and decisions must be made with stakeholders and considering various feedback. Hence, collaboration or group work is an essential skill to have to be a player in the 21<sup>st</sup>-century classroom (Hilliker & Loranc, 2022). To collaborate well in a group, learners must then need good communication skills, being able to articulate and present ideas while getting the right message across will ensure a productive and constructive learning environment (González-Pérez & Ramírez-Montoya, 2022). Last but not least, as the list is non-exhaustive and keeps evolving, is creativity skill. Due to the flexible and fluid learning environment, learners must be equally creative to design, develop and conduct the classroom amongst peers and facilitators (Hilliker & Loranc, 2022; Ormrod et al., 2017a, 2017b). Depending on the creativity of the players, learning materials and methods can be in many forms and through many technology platforms (Hilliker & Loranc, 2022).

Having the skills to be players in the 21<sup>st</sup>-century classroom is no longer sufficient. It is also the responsibility of the facilitators to ensure that learners also obtain or attain other skills set upon completing the study or course. So, what exactly is 21<sup>st</sup>-century learning? According to Guneri et al. (2022), the most important skills to have or attain by learners should be life and career skills whereby learning outcomes should focus on preparing learners for the future or at least for the real world. Learning from the pandemic, lifelong learning is something that should be instilled in learners. Learners should be able to constantly seek alternative ways and be resourceful despite the situation and this can be achieved through learning and innovation skills (González-Pérez & Ramírez-Montoya, 2022). In addition, in this digital era, it is crucial to also have information, media and technology skills (Hilliker & Loranc, 2022). Exchange of knowledge is no longer done in traditional pen-paper, it is now done in digital forms with assessments completed in various technology and social media platforms such as Facebook, Twitter and even Tik Tok (González-Pérez & Ramírez-Montoya, 2022; Griffin & Care, 2014; Ling, 2021).

In any classroom setting, regardless of virtual or conventional, the implementation of the instructional and assessment strategies determines or provides the platform for a productive learning environment (Griffin & Care, 2014). To deal with 21<sup>st</sup>-century learners,

instructional and assessment strategies must be flexible, agile and non-traditional (Agopian, 2021; Apak et al., 2021; Gaytan & McEwen, 2007; González-Pérez & Ramírez-Montoya, 2022; Guneri et al., 2022). Some of the methods suggested are blended learning, cross-curriculum teaching, flipped classroom, differentiated instructions, cooperative learning strategies and integrated technology (Gaytan & McEwen, 2007; Griffin & Care, 2014; Hilliker & Loranc, 2022; Ormrod et al., 2017a; Shafie et al., 2019; Taft, 2015)

### *Instructional Strategies*

In any type of classroom, instructional strategy is referred to the method of how a lesson is conducted through planning, development of the lesson, and devising interventions to create a productive learning environment (Ling, 2021). Therefore, for open and distance learning modes, the online instructional quality must maintain open communication between learners and facilitators (Hilliker & Loranc, 2022). This is to ensure that online courses are as rigorous and equivalent as their traditional counterparts. To achieve this, the course development team needs to consider a variety of instructional strategies to appeal to varied learning styles, by enhancing interactions to foster group cohesiveness through group work (Gaytan & McEwen, 2007).

### *Assessment Strategies*

According to Ling (2021), instructional strategies are inseparable from assessment strategies as effectiveness can only be measured through an assessment. In today's rapid advancement digital era, there are many approaches to assessment strategy, both formally and informally (Gaytan & McEwen, 2007; Griffin & Care, 2014; Hilliker & Loranc, 2022; Ormrod et al., 2017a; Shafie et al., 2019; Taft, 2015). Formal assessments are usually used to administer a test to a larger group (Ling, 2021). On the other hand, informal assessments are conducted via observation in a less structured manner (Ling, 2021). Gaytan and McEwen (2007) opined that administering effective assessment strategies is essential to effective learning and teaching in a digital or virtual environment.

## **RESEARCH METHODOLOGY**

This study is conducted as the first step to a more comprehensive research study. The qualitative data obtained are to be used to determine the best practices on 21<sup>st</sup>-century learning between two HEIs (Grant & Thornton, 2007). In addition, the findings can also be articulated into immediate recommendations for practitioners to adopt and implement to better improve their 21<sup>st</sup>-century classroom.

### **RESEARCH DESIGN**

This qualitative study is implemented using the comparative analysis whereby two sets of data as references are compared (Taft, 2015). Comparative research compares two groups to conclude by identifying and analyzing similarities and differences between them (Mello, 2022). The sample selected is two lecturers teaching the English language course for foundation programs at two HEIs in Kuching, Sarawak. The two HEIs are selected due to the size of the campus as well as being public and private institutions respectively. The interviews were conducted to cross-validate the practices between the two HEIs. The data was collected using virtual interviews through the Google Meet platform. The research instrument – Technology as Lever Principles, an eight-item survey adopted from Chickering and Ehrmann (1996) was open-ended to allow for more descriptive responses. The interview questions were open-ended and additional eight questions mapped to the individual adopted questions were prepared and asked to probe more responses (Grant & Thornton, 2007). This is to provide the 21<sup>st</sup>-century learning and skills context which is relevant to this study. After the interviews were conducted, the responses were analyzed

collectively for similarities in keywords, common patterns, and emerging themes. This would then provide a view of the best of the two HEIs.

### INTERVIEW QUESTIONS

The interview questions as listed.

No.	Technology as Lever Principles (Chickering & Erhmann, 1996)	Follow-up Questions
1.	How do you utilize technology to encourage communication between yourself and your students?	Briefly explain your experience on the transition from conventional to fully online. Was training provided?
2.	How have you promoted cooperation among students both during and outside of the classroom setting?	In your own words, what is your perspective on the 21 <sup>st</sup> -century classroom?
3.	How does your teaching style directly or indirectly foster active learning?	Based on your experience, what are the 21 <sup>st</sup> -century skills needed by students?
4.	How have you offered feedback about students' abilities and performance, at the start of a program, as it goes on, and as it is ending for your online students? (feedback includes but isn't limited to assessment)	How do teachers view instructional and assessment strategies for teaching, learning and assessment in their 21 <sup>st</sup> -century classroom?
5.	How has the format of your courses increased the time students spend working productively?	Based on your observation, are there any significant changes in the student's learning behaviour?
6.	How are your expectations communicated by what students hear you say and by the nature of your assignments?	How do teachers ensure that their instructional and assessment strategies help provide a positive learning environment in their 21 <sup>st</sup> -century classrooms to enhance student learning gains?
7.	Can you describe one or two activities that, directly or indirectly, help all students learn despite their differences and/or in ways that take advantage of their differences?	What are your views on 21 <sup>st</sup> -century learning and what have they done to address this aspect?
8.	Are there other ways of using technology to improve learning that you would like to share and that you have not yet mentioned? In addition, if you had the opportunity to create a principle that you believe would benefit the online classroom environment, what would it be?	Post-pandemic, what do you think are the students' readiness level and expectations on instructional and assessment of learning and teaching?

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### ETHICAL CONSIDERATIONS

The two interviews were conducted with proper online interview protocol and began with the interviewer reading out the confidentiality statement to the interviewees (Oates et al., 2022). The interviewees were also given the option to terminate the interview session at any point in time, if not comfortable to proceed. Prior to interviews, phone calls were made to the interviewees to briefly explain the research purpose and upon verbal agreement, formal invitation letters using the cover letter provided by this course were sent. As to uphold privacy and confidentiality, the two selected interviewees remain anonymous and unidentifiable in the research findings (Morse, 1998). In addition, to encourage casual chatting and minimize tension, the interview sessions were not recorded and only responses were recorded through notetaking by the interviewer.

### LIMITATIONS OF THE STUDY

Due to time constraints and limited resources, this study is conducted based on interviewing two lecturers from two HEIs in Kuching, Sarawak. This qualitative study is done as the starting point for a more comprehensive study, providing future research with a better understanding of the view and perspective of lecturers on the instructional and assessment strategies to create a productive learning environment. At this stage, it is done to grasp the idea of instructional and assessment strategies between two HEIs and conducted only in Kuching.

### **FINDINGS**

The interviews were conducted separately, and the two interviewees were not introduced or mentioned to each other. This is to ensure the identities of the interviewees remain anonymous and to avoid any negative comparisons between institutions during the interview. The interviewees were Lecturer A from HEI A (hereinafter referred to as Interviewee A) and Lecturer B from HEI B (hereinafter referred to as Interviewee B). The discussion includes the findings on the lecturers' perspective of the 21<sup>st</sup>-century classroom as well as the instructional and assessment strategies employed to address teaching, learning and assessment to create a productive learning environment in their 21<sup>st</sup>-century classrooms. The discussion will be presented by answering all four research questions in its order.

*Research Question 1: What is the view of lecturers on the 21<sup>st</sup>-century skills between two HEIs?*

To answer the first research question, additional question 2 was referred and the responses by both interviewees were analyzed.

When asked by using their own experience to explain what the 21<sup>st</sup>-century skills needed by students are, Interviewee A answered that "... on 21<sup>st</sup>-century skills needed by students. I think today's learning is no longer pen and paper, hence both lecturers and students must master certain technology skills as well. For example, assessment can be presented in the form of YouTube videos, blogs or as social media posts."

Interviewee B answered that "I believe that having creative skills set is important. With creativity, students can present their knowledge in any form. Not only that, but with creativity students can be agile and easy to adapt to any situation or requirements. I think

*21<sup>st</sup>-century students should be able to express themselves well through various methods, and not only orally. Students should be encouraged to express and document their knowledge in digital form as knowledge sharing and to promote collaborative learning among their peers."*

From the responses, the keywords noted by both interviewees are technology or digital skills and creative skills. These findings are consistent with past research studies whereby learners are required to have digital and creative skills to share their knowledge and present the assessments through various social media platforms (Agopian, 2021; Göçen et al., 2020; González-Pérez & Ramírez-Montoya, 2022; Hilliker & Loranc, 2022). In addition, these findings also supported that sharing of knowledge is now done in digital forms through Facebook, Twitter and even Tik Tok (González-Pérez & Ramírez-Montoya, 2022; Griffin & Care, 2014; Ling, 2021).

*Research Question 2: What is the view of lecturers on 21<sup>st</sup>-century learning between two HEIs?*

To answer the second research question, additional question 3 was referred and the responses by both interviewees were analyzed.

When asked by using their own words to describe their perspective on the 21<sup>st</sup>-century classroom, Interviewee A answered that *"... For me, a 21<sup>st</sup>-century classroom should simply promote learning and equality for all. It should be conducted to cater to all students, attending physically, virtually or via hybrid mode. Each student should be able to control and share what they want to learn. Learning collaboratively should be the way forward and lecturers should be the facilitator to moderate only while ensuring the learning outcomes are achieved and assured. In short, according to me, the 21<sup>st</sup>-century classroom should no longer be a lecturer giving the lecture for two hours and students attend the tutorial session for another two hours."*

Interviewee B answered that *"I believe the 21<sup>st</sup>-century classroom setting happens beyond the classroom setting itself. Learning is continuous and students should be given the tool and ability to continue to explore further knowledge even after the class ended or the semester ended. Lifelong learning should be the skill that students obtain from the 21<sup>st</sup>-century classroom. That way, they are provided with the confidence and self-efficacy to further their learning even beyond the classroom."*

From the responses, the keywords noted are learning collaboratively, unconventional, lifelong learning and continuous learning. These findings are consistent with past research studies whereby it is clear that in the 21<sup>st</sup>-century classroom, collaborative learning is being practised and can happen even outside of the conventional classroom hours and settings (Hilliker & Loranc, 2022; Ling, 2021; Shafie et al., 2019).

*Research Question 3: What is the view of lecturers on instructional and assessment strategies to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs?*

To answer the third research question, interview questions 1, 2, 3 and 4 adopted from the Technology as Lever Principles by Chickering and Ehrmann (1996) were referred and the responses by both interviewees were analyzed.

When asked question 1, how they utilize technology to encourage communication with their students, Interviewee A answered that *"... at the start of each semester, students are given a Unit Outline to ensure they are clear of the learning outcomes, unit content, and assessments. The delivery modes for the units in this course are facilitated through various means including lectures, tutorials, group projects, assignments, presentations,*

*online discussion forums and class exercises. Teaching and learning materials are supplemented by materials that are available from the online Learning Management System (LMS), Canvas.”.*

Interviewee B answered that *“In my institution, the main learning management platform is Moodle. All forms of communication between lecturers and students and between institutions and students are done through Moodle. All lecturer notes, learning materials and additional notes are also made available to students through Moodle. However, depending on lecturers, in addition to the Moodle platform, some are supplementing it with other tools like WhatsApp, Telegram and even Facebook. I believe that it is a better way to stay connected with students through social media platforms.”.*

From the responses, the keyword noted is learning management system. Both interviewees stated that their institutions have a single learning management platform to manage and disseminate all the instructional and assessment strategies. However, Interviewee B also stated that for more enhanced communication, it is supplemented with other tools as well. These findings are consistent with past research studies whereby various communication tools should be utilized to reach different learners (Agopian, 2021; González-Pérez & Ramírez-Montoya, 2022).

In addition, when asked about their experience transitioning from conventional to fully online, both interviewees claimed that it was an easy process for them as they have already been using technological tools for their instructional and assessment strategies. However, they noted that training could be provided on handling technical disruptions during classes and the psychology of handling students online due to the lack of physical engagement. Their concerns were consistent with the recommendations of Chambless et al. (2022) and (Saha et al., 2022).

When asked question 2, how have they promoted cooperation among students both during and outside of the classroom setting, Interviewee A answered that *“As the driver of my classroom, I believe that I navigate my students to achieve learning outcomes through my instructional and assessment strategies? Most of the assessments typically have a combination of individual and group assignments with varying difficulties. A variety of formative and summative assessment tasks are used throughout the course, including but not limited to professional action plans, tutorial tasks, written reports, reflective journals, online forums, micro-lessons, critical term papers, class presentations, and literature reviews.”.*

Interviewee B answered that *“This is done through the instructional and assessment strategies. Assignments are mapped to learning outcomes which are also mapped to the MQF five clusters, such as personal skill, interpersonal skill and leadership skill. Hence, assignments wherever possible are designed to be done collaboratively in groups. Also, online discussions are made as part of the assessment requirement, whereby students need to share and comment on certain topics through Moodle. This is to encourage critical thinking, ability to provide and take constructive feedback as well as encourage them to stay engaged both in and out of the classroom setting.”.*

From the responses, the keywords noted are learning outcomes, assessment strategies, and collaborative and group work. These findings are consistent with past research studies whereby the way to promote cooperation among students is through assessments that require group or collaborative work and of course, through the enhancement of utilizing technological tools (Agopian, 2021; Duke et al., 2013; Grant & Thornton, 2007; Griffin & Care, 2014).

When asked question 3, how do their teaching styles directly or indirectly foster active learning, Interviewee A responded that *“... various teaching strategies that involve critical*

*discussions, reflections based on YouTube videos, samples, as well as assessment methods that consist of tutorial tasks, lesson planning, written reports and oral presentations were used to achieve the learning outcomes for the course. This is to encourage students to be creative and actively looking for alternative learning materials other than textbooks. Also, to foster active learning, in another unit, I incorporated the use of both synchronous and asynchronous teaching strategies and assessment methods that involve reflective journals, online discussions, micro-lessons and critical term papers to achieve the learning outcomes for the course. Students are required to handle micro lessons for their peers and that way they are pushed to be interactive."*

Interviewee B responded that *"... implementing a mixture of instructional and assessment strategies is very crucial to foster active learning. I have applied a mixture of strategies such as forum discussion, reading materials, module assignments and weekly check-in sessions to help students and incorporated teaching strategies such as live sessions, recordings, online discussions, collaborative ultra-sessions, as well as reports and presentations as assessment methods. By mix-matching these methods, I found that students are not bored and can learn better in a bite-sized learning manner."*

From the responses, the keywords noted are a variety of methods of instructional and assessment strategies. These findings are consistent with past research studies whereby it is found that using a variety of teaching methods through a variety of platforms or media can increase active learning as well as promote better understanding through bite-sized learning materials (Firdaus, 2022; Jacobs et al., 2022a, 2022b).

When asked on question 4, how have they offered feedback about students' abilities and performance, at the start of a program, as it goes on, and as it is ending for your online students, Interviewee A answered that *"For me, feedback should be two-way traffic. Apart from the feedback provided to students in class and assessment, the existing process of the Student Feedback Survey aims towards providing early feedback on the unit quality and whether the unit is manageable by students. ... administered at the end of each teaching period for students to share their opinions about the unit and the quality of teaching. ... In the review, unit convenors are expected to reflect students' performance for the semester and identify any areas for improvement, including instructional methods."*

Interviewee B answered that *"At my institution, the normal practice is all markings on non-examination items should normally be completed by respective lecturers and feedback and results are provided to students within two weeks of submission. These results will be made available to individual students directly via Moodle before the task is returned to students. In certain circumstances, students are required to attend lectures, tutorials or consultation to obtain feedback on marked assessments."*

From the responses, there were different views from both interviewees. Interviewee A specifically noted that feedback should be a two-way traffic, while Interviewee B only stated on how feedback was provided to the students. Therefore, an additional question was asked to prompt the interviewees further. They were asked about their views on instructional and assessment strategies for teaching, learning and assessment in their 21<sup>st</sup>-century classroom. Both interviewees agreed that even post-pandemic, an online platform should be utilized to centralize all forms of communication between lecturers and students, students and students and vice versa. Gaytan and McEwen (2007) stated that using rubrics for assessments can help to provide meaningful and quick feedback that is beneficial to both lecturers and students. This is for a more "robust approach", "timely" and "convenient" task management. Having said that, although the initial responses differ, both interviewees noted that feedback is a crucial component in instructional and assessment strategies for both conventional and online learning environments. These are consistent with the works of Apak et al. (2021) and Saha et al. (2022).

*Research Question 4: What is the level of instructional and assessment strategies implemented to create a productive learning environment in the 21<sup>st</sup>-century classroom between two HEIs?*

To answer the fourth research question, interview questions 5, 6, 7 and 8 adopted from the Technology as Lever Principles by Chickering and Ehrmann (1996) were referred and the responses by both interviewees were analyzed.

When asked question 5, how the format of their courses increased the time students spend working productively, Interviewee A replied that *"The teaching and delivery modes are facilitated through a variety of lectures, tutorials, group projects, assignments, presentations, online discussion forums and class exercises. These are supplemented by teaching materials that are available online on Canvas where students can access the learning materials. The teaching methods are aligned with the contents and learning outcomes of respective units; the contents are assessed in the assessment items where these assessment items are mapped to the qualifications framework and the university's vision and strategic plan. All hours are planned accordingly and spelt out in the unit outline as a guide for the students. At the beginning of the semester, students are being briefed on the expectations and the number of hours they are expected to put in for learning and self-learning as well"*.

Interviewee B replied that *"... students are given opportunities to submit drafts of their assignments before their submission for each assessment component. Students will then either receive verbal or written feedback for their drafts. Upon submission of the assignment, the convenor will aim for a 2-week marking period whereby students will receive detailed feedback as well as a score for each rubric item. If necessary, consultations for the provision of detailed feedback and suggestions for further improvement will also be provided. This is to allow students to progress and be able to achieve each hurdle well in stages. Feedback can be obtained at each stage of the assessment as well and provide various opportunities for students to improve themselves."*

From the responses, it is noted that both interviewees agreed that a certain structured planner is provided to students to manage their learning time and ensure that the learning outcomes are achieved. Not only that, assessment strategies should be designed and communicated well through instructional strategies to encourage students to be proactive in their learning through individual and group work (Agopian, 2021; Brian, 2017; Grant & Thornton, 2007; Griffin & Care, 2014).

In addition, a follow-up question was also asked, based on their observations, are there any significant changes in the student's learning behaviour? It is noted that *"... students are hiding behind their switched off the webcam and are reluctant to volunteer to answer questions when being asked."* and *"Due to the lack of physical presence and lack of opportunity to ask questions face to face, students have resorted to different ways to find solutions online. They have proven to be more resourceful and independent"*. Hence, this is consistent with 21<sup>st</sup>-century learning skills whereby learners are independent and decide their learning content (Göçen et al., 2020; Hilliker & Loranc, 2022).

When asked on question 6, how were their expectations communicated by what students hear and by the nature of the assignments, Interviewee A answered that *"A variety of formative and summative assessment tasks are used throughout the course... The Unit Outline sets the expectations for student completion of the unit, the standard of work required and the originality of work submitted. For each assessment, instruction and requirement are then broken down and communicated in chunks or stages based on the timeline."*

Interviewee B answered that *"For my class, the learning outcomes focus on students' understanding, reflection and practice of leadership and management. Each assignment assesses several learning outcomes and employs both formative and summative learning approaches. ... This scaffolding method provides students with sufficient feedback to move on to the next stage of the assessment."*

From the responses, it is noted that both interviewees agreed that a certain structured mechanism or guide is being put in place to ensure that expectations are communicated well. Interviewee B also noted that assessment strategies can be distributed to different levels to provide a scaffolding approach for students to meet the expectation first before proceeding further to other stages. Gaytan and McEwen (2007) in their study also found that students excel better when tested through levels, as the expectation is divided into chunks or stages.

Subsequently, both interviewees were asked how they ensure that their instructional and assessment strategies help provide a positive learning environment in their 21<sup>st</sup>-century classrooms to enhance student learning gains. Both interviewees agreed that students should be given sufficient time and information to excel. Interviewee B added that the culture of giving and receiving constructive feedback should be inculcated to build a positive learning environment. This is consistent with the claim of Ling and Abdullah (2015).

When asked on question 7, to describe one or two activities that, directly or indirectly, help all students learn despite their differences and/or in ways that take advantage of their differences, Interviewee A responded that *"... the university embarked on its journey into transiting the university's online LMS from Blackboard to Canvas in 2018. ... This provided students with a better and a more robust platform to manage their study as a whole."*

Interviewee B responded that *"In my institution, innovative teaching and learning methods are encouraged whereby students are required to embed videos that help in the explanation of the content they have written. Furthermore, students are required to link their writing with the sources they have referred to by using the linking feature. On learning differences, students are encouraged to have a study buddy to help each other throughout the semester. In addition, students are required to do a peer review for their final action plan. That way students with learning differences can help and learn from each other. Hence, promoting a productive learning environment."*

From the responses provided by the two interviewees, the keyword noted is the integration of technology. Technological tools are utilized to cater to learning differences (McLaren et al., 2022). In addition, both interviewees were asked how they address 21<sup>st</sup>-century learning in their classrooms. Both agreed that learning in the 21<sup>st</sup> century should be fun and incorporated the fun aspects through digital tools like quizzes. Both believed that incorporating the fun aspect of learning can increase a productive learning environment and this is consistent with the finding of McLaren et al. (2022).

When asked on question 8, are there other ways of using technology to improve learning that they would like to share and also, if allowed to create a principle that would benefit the online classroom environment, what would it be, both interviewees provided their views beyond the conventional classroom? Interviewee A claimed that *"With the rapid advancement of technology, there are many ways of using technology that has been implemented or upcoming ones yet to be explored. However, I believe that more research should be conducted to study on the effectiveness of achieving learning outcomes. Some believe that certain learning outcomes or skills cannot be achieved through online learning and still require a conventional classroom setting. Even before the pandemic, many lecturers have explored using gamification to increase student engagement and make learning more fun."*

Interviewee B claimed that *"If given the power, I want a specific code of conduct to be written and practised for online classes. Every student must turn on their camera to allow interactive learning and communication during classes. Online classrooms should be treated the same as conventional classrooms whereby the lecturer can see and communicate with the students and vice versa. For now, I try to encourage inclusive learning and teaching through online discussion tools to encourage students to think innovatively on how to be inclusive in the teaching and learning environments, outside of classroom and learning hours."*

Both interviewees noted in their responses that technology integration is the future of learning, whereby technology is used to support and enhance instructional and assessment strategies. However, Interviewee B specifically indicated that to encourage engagement and interactive learning, there must be something put in place for students to turn on their cameras. This is to mimic the conventional classroom setting and has proven to be effective in boosting engagement among students (Schwenck & Pryor, 2021). Their responses triggered the additional question on post-pandemic, what are readiness levels and expectations on instructional and assessment of learning and teaching. Both interviewees agreed that hybrid learning should be the way forward. Interviewee A quoted *"Learning should be universal and borderless by including diverse groups of students, learning wise and geographically."*

Overall, the findings between the two interviewees were found to be consistent with each other. Both interviewees provided similar views on 21<sup>st</sup>-century skills and learning. In addition, the views on the level of instructional and assessment strategies implemented to create a productive learning environment in the 21<sup>st</sup>-century classroom were similar. Based on the responses, the findings of this study were found to be consistent with past research studies (Agopian, 2021; Chambless et al., 2022; Göçen et al., 2020; González-Pérez & Ramírez-Montoya, 2022; Hilliker & Loranc, 2022; Ling, 2021; Saha et al., 2022; Shafie et al., 2019).

## **CONCLUSION**

As to conclude, from the responses of both interviewees, lecturers are aware of 21<sup>st</sup>-century skills and learning. Through their classroom practices even before the pandemic, there are some indications of the presence of 21<sup>st</sup>-century classrooms. Both interviewees also indicated their views on instructional and assessment strategies to create a productive learning environment in the 21<sup>st</sup>-century classroom which is being practised in their institutions. Not only that, but both interviewees are also aware of the level of instructional and assessment strategies implemented to create a productive learning environment in the 21<sup>st</sup>-century classroom that is being practised in their institutions. It is noted that technology and the 21<sup>st</sup>-century classroom a phenomenon that cannot be ignored. Its practices need to be further researched on its effectiveness and efficiency (Agopian, 2021; Apak et al., 2021; Hilliker & Loranc, 2022; Saha et al., 2022; Schwenck & Pryor, 2021). In addition, both interviewees agreed that hybrid learning should be the way forward. From this simple study, there are some implications from the findings for practitioners to consider and further discussed in the recommendations section.

## **RECOMMENDATIONS**

The findings from the interviews were used to explain emerging themes and relationships between categories of teaching strategies and best practices (Grant & Thornton, 2007). Therefore, themes were identified and recommended for future research purposes as well as for practitioners to immediately apply to their classroom practices.

*Effective Online Communication*

The communication methods for instructional and assessment strategies are noted to be very crucial in ensuring that there is a constant productive learning environment. Communicating in the digital world is very different from the conventional setting. Studies have shown that most lecturers were just transferring learning materials from conventional teaching approaches with minute modifications into their online lessons (Ling, 2021). This is the biggest mistake as it is not the same approach. With the lack of physical presence, effective online communication is beyond giving instructions. It is about guiding and providing students with sufficient information to do more self-learning (Göçen et al., 2020; González-Pérez & Ramírez-Montoya, 2022). For the 21<sup>st</sup>-century classroom, Ling (2021) further iterated that there is an urgency to look into providing customised alternatives or improvised instructional and assessment strategies to fulfil the intended learning outcomes.

#### *Group Work and Dynamic*

As clearly noted that in the 21<sup>st</sup>-century classroom, students are learners and lecturers are facilitators (Griffin & Care, 2014), therefore it can be said that the most effective assessment strategies are conducted through group work (Göçen et al., 2020; Guneri et al., 2022). This is in line with the findings of Gaytan and McEwen (2007) whereby a productive learning environment can be achieved through group work dynamics and by engaging students in both synchronous and asynchronous communication. The simplest method is through a chat room or discussion board to help build interaction and group cohesiveness in the virtual environment (Gaytan & McEwen, 2007; Göçen et al., 2020). Group work aided by technological tools can support both synchronous and asynchronous communication, both in and out of classroom settings (Gaytan & McEwen, 2007).

#### *Effective Assessment Strategies*

Gaytan and McEwen (2007) suggested that effective assessment strategies for the 21<sup>st</sup>-century classroom include projects, portfolios, self-assessments, peer evaluations, and weekly assignments with immediate feedback. To produce a productive learning environment, it is important for effective lecturers to nurture the students. Students should be able to solve real-world problems (Bains et al., 2022). This can be achieved through problem-based learning and students learn through solving problems in groups. Al Maawali (2022) in a study found that assessment strategies that require collaboration will produce connectivism. Connectivism is then believed to be able to increase students' confidence levels in their current skills (Al Maawali, 2022). In addition, it was also found that students are more comfortable with their learning abilities and skills after connecting with others of the same level (Al Maawali, 2022; Bains et al., 2022).

#### *Connectivism Learning Theory and Digital Age Theory*

In today's digital era, institutions can no longer ignore advancing their classroom practices with technological tools. The learning environment has shifted from the conventional mode and the learning psychology of students has also shifted to connectivism (Duke et al., 2013). Students prefer learning through various methods and with the assistance of technology tools. Therefore, to create a productive learning environment in the 21<sup>st</sup>-century classroom, instructional and assessment strategies have to take into consideration classroom management that caters to various types of learners and learning modes (Ling, 2021).

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