Teaching Entrepreneurship Education (EE) Online During Covid-19 Pandemic: Lessons learned from a Participatory Action Research (PAR) in a Malaysian Public University

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Abstract
This article focuses on a Participatory Action Research (PAR) project that was carried out in a Malaysian Public University during three series of lockdowns during the Covid-19 pandemic. During that time, all higher education institutes in Malaysia were barred from conducting face-to-face lectures that resorted to fully online learning throughout two semesters during the academic session of 2020 to 2021. As an educator, I was primarily concerned about their achievement in learning outcomes and knowledge transfer through online learning of the Entrepreneurship Education (EE) Course. Therefore, this PAR described my critical reflections on my students’ feedbacks from the analysis of my online video lessons, online student forums, and open-ended online surveys regarding their sentiments and perceptions on their learning experience. Ultimately, this PAR is to help me improve my teaching skills, to highlight gaps in the course content and suggest strategies of delivery in the future. As such, this article concludes by highlighting the mismatch between learning gaps, the extent the EE course learning outcomes address the students’ personal obstacles in entrepreneurship and my future strategies to mitigate the challenges of entrepreneurship education.

Keywords
participatory action research, entrepreneurship education, online learning during Covid-19 pandemic, online teaching during Covid-19 pandemic, challenges in online learning during Covid-19

Introduction
It happened during the Covid-19 pandemic, and all educational institutions were forced to closed in Malaysia. In each semester, I taught two classes of Entrepreneurship Education (EE), with each class averaging about 120 students. Due to the large class, the challenge was to conduct the class and at the same time ensure that they could complete the group assignments successfully. All lessons in the university had to be conducted fully online. At the same time, it was a totally awkward experience to me, because this was also the first time that I have conducted participatory action research that is purely based online for two semesters of session 2020–21. To provide some context, the entrepreneurship course is an elective for undergraduate students across various faculties like computer sciences, law, architecture etc. And so, student-groups are formed voluntarily for the course assignments, and they must achieve all the major assignments by the 14th week.

From the perspective as an educator, the eagerness to improve my professional practices was driven by several curiosities. In terms of self-evaluation, I was wondering how much I had achieve with the online classes lasted for the whole semester. I knew I had limitations and obstacles to face. Within the context of my university, we have adapted to using a hybrid teaching and learning system—a mixture of having live telecasting in a physical lecture hall once this is over. In terms of teaching and learning, will online learning be significant to impact students’ learning, especially to a course like entrepreneurship education? As such, I wrote this article to describe my lived experience resulting from a participatory action research throughout the past two semesters. For literature review, I first explore existing information to address two curiosities. First, to what extent online learning during Covid-19 pandemic improve the process of achieving
the course learning outcomes? Secondly, to what extent online learning during Covid-19 pandemic enhances knowledge transfer?. To assist my initial understanding, I searched into the Web of Science database in the last 5 years to synthesize my thoughts.

Achieving Learning Outcome

Many scholars have argued over whether learning goals could be properly defined, such as the outcome-based education (OBE) that are being adopted in many institutions in the world. In essence, the concept of learning outcomes is a notion that has been utilized in a lot of educational research. On the other hand, the assessment of learning outcomes is typically done in a straightforward manner using just one indicator (Mong et al., 2008). From literature reviews, there are not many reports of OBE deployment in real-context that utilizes various learning objectives in different curricula such as entrepreneurship education (Delany et al., 2016). However, there are studies that are beginning to determine the key variables that influenced university students’ usage of e-learning during the pandemic (Mo et al., 2021). The need evaluation on course learning outcomes is even more vital in a fully blended learning, as in the times of the Covid-19 pandemic due to its implementation and challenges that persist (Bralić & Divjak, 2018). Moreover, identifying these essential elements will aid in the development and implementation of online learning systems in the future (Mo et al., 2021).

Recent and related studies in Indonesia have also highlighted that both teachers and students perceived that online learning could accomplish knowledge learning objectives (LOs), but not in cultivating attitude or skill learning goals, and concluded that online learning is ineffective during the pandemic (Syofyan et al., 2021). While some lecturers and students generally believed that online learning online learning is a viable alternative for performing educational activities, learning activities and media should nevertheless be carefully chosen to ensure that all elements of the LOs are met. Other scholars have found several key critical factors that drives toward a successful online learning experience (Mo et al., 2021). They have highlighted that: (1) the simpler the online learning platform, the better it was regarded by students, and therefore the students were more likely to utilize it; (2) the ease of use and usefulness of online learning platforms were linked to the instructors’ choice and their ability to create a good match between course design and platform navigation, and thus affecting students’ learning outcomes and attitude toward usage; (3) students’ perceived ease of use of online learning improved as a result of instructors’ self-favorable attitudes toward teaching; and (4) teachers’ attitudes toward, and desire to offer, online teaching were improved by family support, which is a significant source of support for instructors in online teaching during the pandemic. On the other hand, studies have also indicated that teaching and learning in higher education have often embroiled with mismatch between knowledge and practice (Sagy et al., 2019). For me, I am more concerned on this area, as my responsibility as an educator is to ensure that students are truly learning and developing their skills for the real work environment in the future.

In essence, the entrepreneurship education course that I taught has three major course learning outcomes:

- a. Explain the basic concepts of entrepreneurship
- b. Producing creative and innovative entrepreneurial ideas
- c. Develop a business plan framework

On the other hand, all courses designed and taught in Malaysia’s public and private university must be accredited by Malaysia Qualifying Agency (MQA). As such, the course learning outcomes in the EE course cannot be changed until its next round of accreditation. As the lecturer, I could only manage improving the teaching and learning strategies and determining the best approach to maximize the learning outcomes among the students. As mentioned earlier, the course is attended by many students, across various faculties in the university. As such, teaching and learning could not be differentiated among the types of students because of their different fields. Nevertheless, although the teaching strategy is applied uniformly, students could base their business and marketing portfolio according to their field interests such as engineering, medical, biotechnology products and services. If students do not wish to organize their business assignments according to their field background, they are also given the option to introduce new lines of products and services that is totally different. At the time of writing, there is no obligation for students to sell their products/services in the marketplace. They are encouraged to use social media marketing and other forms of digital marketing as their learning platforms.

Their learning outcomes were assessed in three major assignments. For group assessment, students must: (a) produce a group case study report from a seminar presented by an industrial partner; (b) write up a group business plan or marketing portfolio; and (c) present them in a live and recorded session in Microsoft teams. For individual assessment, only a quiz consisting of 20% of the total course outcomes was needed for completion.

In light of the discussions above, my first concern to conducting this participatory action research (Greenwood et al., 1993) is to identify and describe if there is any mismatch between the EE course syllabus with students’ own perceptions on their learning gaps (Addison et al., 2020). The second concern is to draw out their perceived obstacles on becoming entrepreneurs and conclude if the EE course learning outcomes does (or does not) address these personal obstacles. Thereafter, my third concern is to evaluate myself, in relation to the students’ feedbacks; whether have benefited
from the process of knowledge transfer through online platforms that was uncalled for because of the Covid-19 pandemic. These three concerns have not been explored simultaneously from other literature sources, and thus becomes important for me through a Participatory Action Research (PAR) (Schiller et al., 2021).

**Applicability of Knowledge Transfer**

For many years, knowledge transmission has been a topic of study from a variety of perspectives (Curda & Westeren, 2019). Education is one of the most important ways to improve the workforce’s knowledge and educate students to be able to transmit that information toward functional practices in the future (Caputo et al., 2019). There is a growing body of study on how social interactivity and digital technology provides students with the necessary knowledge and transferability (Hayes & Graham, 2019). However, one area that has received little attention so far is to describe how effective university-level education is equipping students with the knowledge needed for entrepreneurship (Maritz et al., 2019). Industrial entrepreneurs have also argued that university education that are often theoretical entrepreneurship education does not impact directly to the intentions of the students, but it has influence on entrepreneurial intentions of the students through antecedents of intentions (Asghar et al., 2019). Other studies have also shown that the higher education institution must improve its ability to balance tacit and explicit transfers to students so that they can take it forward to innovative businesses. Studies have found that practical—rather than theoretical—entrepreneurship courses favor the creation of academic spinoffs (Sansone et al., 2021).

Recent empirical studies have also shown that there are statistically significant links between e-learning material and e-learning quality, as well as between e-learning quality and student satisfaction. To ensure that learners are satisfied, higher education institutions should endeavor to provide high-quality e-learning material. The importance of e-learning quality in moderating the relationship between content and student satisfaction has also been demonstrated (Kumar et al., 2021). Another research discovered that there seemed to be a lack of trust in information technology for tacit knowledge transfer, and staff readiness to utilize technology for sharing tacit knowledge was low, and thus indicating uncertainty (Chugh, 2019). Other scholars have also highlighted that combining problem-based learning (PBL) with effective statistical process control (SPC), and tech-friendly educational techniques with the appropriate modalities and online delivery model may provide a fantastic opportunity for educators and institutions all around the globe to expand the reach of education (Bumblauskas & Vyas, 2021).

For educators, having the ability to define what EE is, acquiring the knowledge on how to monetize talents, ideas, products, services, and intellectual property are all vital areas of personal growth. There must be consideration is how to best fit and balance the cultural backgrounds of students, universities, and the business to achieve optimum outcomes (Sansone et al., 2021). For the students in my university, they have been affected by the closure of physical lectures during Covid-19 pandemic. I wonder how applicable or effective for me to transfer the EE knowledge successfully while they are faced with the challenge for more self-discipline and social interactions with others (Luísa Rodrigues, 2020; Vorbach et al., 2019). Perhaps these must also be classified as other challenges to improving the students learning curve. In a nutshell, the theoretical frame for this study is illustrated in Figure 1, and these concerns shall be specified in the next section. With the gearbox illustration, it is rationalized that the first area (achieving learning outcomes) must be achieved first (Bralić & Divjak, 2018; Mo et al., 2021). Only then can the second and the third gears could move (Syofyan et al., 2021). This is in conjunction with the research gaps indicated above. It is speculated that if empirical evidence can be obtained on the first two gears, this would lead to the next level of PAR to improve the teaching and learning of the EE course.

**Purpose of Study**

The theoretical framework is necessary for me to set the stage of my participatory action research (Bennett, 2020). As this form of research is often useful for personal practice and growth(Schiller et al., 2021), it could also be beneficial to those who could understand and compare if my lived experience is like their views (Nyirenda et al., 2020). In the previous section, I have indicated the three concerns that made me want to conduct this action research on the EE course. Following these concerns, I listed out three research questions as the purpose of my study:

Research Question 1: Was there any mismatch between learning gaps with the EE course learning outcomes?

Research Question 2: To what extent the EE course learning outcomes address the students’ personal obstacles in entrepreneurship?

Research Question 3: What are my future strategies to mitigate the challenges of entrepreneurship education?

The methodology will be presented in the following section. Thereafter, I shall present my discussions on achieving learning outcomes and extent of applicability will be presented in the finding’s sections below.

**Research Methodology**

This participatory action research was carried out in accordance to its inquisitive process (Schiller et al., 2021) and with the assistance of ATLAS.ti, a Computer Assisted Qualitative Data Analysis Software (CAQDAS). PAR does
not test on relationships using inferential statistics, and it does not necessarily must contain hypothesis (Meinefeld, 1997). The fundamental goal for a PAR is to promoting social change through organizational learning (Greenwood et al., 1993). As my classes were all conducted online, the sources of data would be recorded lectures, students’ business pitching presentations, their marketing portfolios, and their reflections, discussions, and interactions in the virtual learning environment (Ayers et al., 2020; Winstead & Alterio, 2021). The questions were self-design and in accordance with my needs for answers, and data collection was carried out continuously through two semesters through an interactive and reflective process (McGrath et al., 2019). Individual data was also collected using Google Form, and were analyzed for findings pertaining to other research questions that is not presented here. These are considered primary documents and were uploaded into ATLAS.ti for coding and thematic building (Paulus et al., 2019). In addition, the memo function (likened to a reflective journal) in ATLAS.ti to describe the journey of my lesson deliveries. As a result, the coding of my reflections is to supplement to knowledge in this narrative (Castleberry et al., 2016). My reflections are considered most important, mainly because this paper is concerned with the methodology that was derived from my experience of this participatory action research (da Silva et al., 2021). Alternatively, there is a need to for me to provide some viewpoints on the quality and the usability of the data from my memo, so that readers could relate between theory, my strategies in participatory action research and context (Kalpokaite & Radivojevic, 2020).

In terms of process, the first step of this participatory action research was getting approval from my university’s ethical committee. It took about 2 months to be approved, due to the meetings and corrections I had to make on my instruments of data collection. As the semester was already running, the online lessons were recorded, but there is no data collection allowed. It was when approvals were granted in the middle of the semester, students are notified and invited for the research. Eventually, 240 students managed to provide their personal perspectives on their learning.

Figure 1. Theoretical framework this Participatory Action Research (PAR).
experience, and most importantly allowed me to analyze the key areas to improve on my personal teaching for the upcoming semesters. The findings of the students were presented in an international conference and published as a book chapter. However, as this is not the scope and purpose of this article to share what I found from the students who attended my EE class, selective coding was adopted to address the key research questions as listed above, mainly on (a) achieving learning outcomes; and (b) applicability of knowledge transfer. Nevertheless, some information will be provided as a context so that readers could link between my environment, my experience and my behavior when conducting this participatory action research.

Findings

Research Question 1: Was there Any Mismatch Between Learning Gaps With the EE Course Learning Outcomes?

From my reflections, I know of the limitations of time for this course. I do not expect students to be mavericks in entrepreneurship in just 14-week of learning. Conducting a PAR was meant for my personal and future delivery of this course. However, to arrive to any decision of change, there is a need to first understand reality from the perspectives of my students. Despite the busy schedule in the semester, I feel that I can lose touch easily if I just concentrate on delivering the subject without considering how students benefited from learning. As such, it is vital for me to ask my students on what is lacking in the EE subject that they learnt.

From my data, I found the following gaps for them to self-learn beyond the semester. The gaps are presented based on the density of codes as analyzed from ATLAS.ti, and thereafter presented with the use of Treemap illustration with Microsoft Excel. These findings were valuable for me, and I presented them as in Figure 2 below.

Students have indicated the need to learn about strategic thinking, creative marketing, and communication skills as these three vital areas are useful in their preparation for business. These skills are considered tacit in nature, and I should pay more attention to it to prepare to embed these topics in my lessons for the next semester.

As a reflection, I coded my memo from ATLAS.ti (as my personal reflective journal) and realized that students wanted a course that realistically addresses their cognitive, affective and psychomotor development. These three areas are seen among the themes of learning gaps. For example, cognitive aspects would be areas of strategic thinking, creative marketing, and learning from mentors and future (digital skills). For affective, it would be consisting of positive psychology. And as for psychomotor, it would be in areas of social media.
marketing, building customer base, and branding. It is clear to me that these areas indicated are not specified in the taxonomy of the EE course learning outcomes. As such, I could conclude that there is a mismatch between learning gaps and course learning outcomes from students’ perspectives.

However, these areas of mismatch cannot be changed or included immediately in the course learning outcomes. This is because it must run for at least 3 years before its next rounds of audit and accreditation. Nevertheless, there is a solution to this as I will discuss in the later part of this article.

Research Question 2: To What Extent the EE Course Learning Outcomes Address the Students’ Personal Obstacles in Entrepreneurship?

It is obvious that students were not efficacious enough to try out entrepreneurship when they graduate from their tertiary education. During data collection students were asked to identify their personal obstacles to become an entrepreneur, they each provided their feedbacks, and were coded into several themes as presented in Figure 3 below.

Personal funds, followed by courage and business exposure were three frequent mentioned themes highlighted by the students. Again, it is also obvious that these obstacles were all 21st century education skills, and they are not specifically addressed in the EE course. I came to realized that when the students learning gaps and personal obstacles are not identified and mitigated, student would not benefit most from the course they attended. In my opinion, the EE course could have provided some introduction, knowledge and exposure to what business is, but at the personal level, these areas are important to be addressed. Failure to understand this learning gaps and personal obstacles will not totally help these students as they are adult learners. In essence, my students need more andragogy rather than pedagogy. As described in the adult learning theory, their learning needs are dependent on their self-concept, learning experience, readiness, motivated, and oriented to their own maturity learning (Egan, 2020).

From the reflection notes of my memo, these personal obstacles were quite similar among the students, and that they often mentioned the same few things that stops them to trying out entrepreneurship. They would think that business requires financial capital, and they would automatically feel inadequate to start. Even if they have the money, they are risking their savings, spending their money on business operations that has no guarantee for income and profit. This is their second major concern. As such, these inter-related factors seemed to affect other themes like confidence, leadership, patience etc. I understand their predicament from their perspective, and it is good for me consider more feasible and

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**Figure 3.** Identification of students’ personal obstacles from PAR on EE course during academic session 2020–21 (Comparisons according to density of codes).
practical ways to help these students in starting their journey. There are many forms of internal support (from my university) and external support (from the private investors) for the students with bright ideas, but they do not know how to introduce it to the marketplace. This shall be my next area for networking and facilitation for the students. As an EE educator, it is important for me to not get trapped in the tunnel vision of just delivering and assessing the course. It is also important to expand my network and resources so that they can be used to help the students to progress in their paths to entrepreneurship. I came to understand that although there will be countless personal obstacles that students can bring onto my knowledge, none can be a problem if one is determined to find a way for it. Therefore, desire is more important than anything else, as mentioned by many “When there is a will, there is a way.”

**Research Question 3: What Are My Future Strategies to Mitigate the Challenges of Entrepreneurship Education?**

During data collection, students were asked to identify obstacles in every stage of business, if supposed they wanted to become entrepreneurs one day. The following Figures 4 to 7 shows the illustrations on the codes and themes that emerged from their responses. Each stage of business was coded into four themes: (a) Obstacles in understanding market conditions; (b) Obstacles in starting a business; (c) Obstacles in operating a business; and (d) Obstacles in sustaining a business.

In understanding market conditions, students have mentioned that there is stiff competition with established brands, products and services that could hinder them from entry into the marketplace. They have also highlighted that due to the present economic climate and Covid-19 pandemic, less people are not able to come out to shop and spend. This results in some of them concluding that doing business is not feasible now. There is also a fear that because technology changes fast, their products could go out of date, and the do not wish to invest too much, or they could end up stocking up goods to sell because there are always better products out there to replace their products.

My reflection to this matter is to bring in more industry experts who are willing to share about the present sentiment of the marketplace. As an educator, I am also limited by the knowledge of the marketplace, mainly because I am not a full-time practitioner. Experts would be able to provide insights into consumer behaviors, consumer spending and directions for the decision-making. I thought that for the seminar session, I shall need to invite more diverse and resourceful entrepreneurs to share his/her insight in conducting business that is relevant to the present Covid-19 pandemic so that students can listen and correct their views on the marketplace.

The next Figure 5 below shows the density of codes on students’ obstacles in starting a business. Most of them highlighted the difficulty in deciding the right business model, addressing high demands from consumers, findings suitable products, cashflow management, and taking on business risk as main obstacles in launching a business.

From my reflections, students’ responses are consistent with their learning gaps as mentioned earlier. They needed strategic thinking and creative marketing so that their products and services would have competitive advantage.

The following Figure 6 shows my students obstacles in operating a business. They mentioned of continual process of sales and marketing, continual improvements through research and development, building supply chain and managing costs and profits as key challenges in operation.
From my reflections, these are skills that need to be learnt through application and practice. It is impossible for students to just acquire the knowledge on what they are. Again, these are tacit and procedural knowledge that must be experienced through personal intervention and application. For the next semester, it would be useful for students to reflect on their experiential learning from their decisions and actions, rather than their knowledge and understanding about these matters. These should be the core areas of report writing following their seminar and questions of reflections on business operations. It is also vital that I encourage them to “just do it” and learn to understand the effects of their actions. The most basic approach to start their business is through digital marketing and readily e-commerce platforms like Shopee.
Students’ Obstacles in Sustaining a Business

| Category                  | Codes                                                                 |
|---------------------------|----------------------------------------------------------------------|
| Survivability of Business | Keep Talented Employees                                               |

Figure 7. Codes grouped under the theme of “Sustaining a Business” resulting from PAR on EE Course during Academic Session 2020–21. (Comparisons according to density of codes).

Lazada, Carousel etc. I would need to provide additional information on these two subjects so that students could learn this on a self-paced mode.

The next Figure 7 shows the students obstacles in sustaining a business. According to the Treemap, most students highlighted the issue with business leadership; and these are concerning talent management and other general factors of sustainability. In essence, their responses provided me with two insights from my reflections. First, they are aware of the importance and challenges of entrepreneurship leadership. Secondly, they are aware that doing business is a long-term commitment and change for improvements that are resulted from challenges, adversity, and risks. As their educator, I am also aware that the paths they take in entrepreneurship is never a guarantee for success. But it is more important to start early when they are younger, because they have the energy, time and ability to try out things again if they failed.

My knowledge on the students’ personal obstacles have also reminded me to create more feasible and realistic learning opportunities in the through problem-based learning. I reckoned that the activities must be real not simulated. Students could start applying their business ideation in online shopping platforms in the first 3 weeks into the semester (instead of in the 8th–14th week), so that there is more time for feedback, reorganization, implementation of new strategies. They would also interact more with their group members to solve real marketing and sales problems so that they could gain the most out of their experience. Student do not need to perfect their ideas and business proposals before they implement it in the marketplace. Instead, they could approach it as a continual process, and improve along the way till the point of readiness and final reporting at the end of the semester. As such, I would conduct the next round of participatory action research as early as possible when the semester starts, to record these experiences along these stages of business management.

Discussions

The experience from my participatory action research was fruitful and priceless for me. It was a totally different mode of delivery because of the Covid-19 pandemic, and the problems face was primarily classified into three major themes of approach: (a) Pedagogical; (b) Technological; and (c) Content Knowledge. These three themes were also based on the theory of TPACK, whereby educators around the world are using help educators understand how to integrate technology into their teaching and learning (Castéra et al., 2020; Sahrir et al., 2021). By referring to Figure 8, I am using these themes to relate how, through my participatory action research, has helped me to reflect and address the three research questions as phases of continual improvements resulting from PAR on EE Course during Academic Session 2020–21.

When I relate between Figure 8 with the cycles of participatory action research, I remind myself that teaching and learning of EE should portray some continuity toward self-improvements and professional growth for these students. As such, I could use this figure to highlight the areas for course improvements and evaluations in the future. The following discussions will focus on the pedagogical, technological and content approach resulting from this participatory action research.

Pedagogical Approach

As students were forced to learn online because of the campus closure, they were not accustomed to the mode in the first 2 weeks of lectures. As predicted, most of them did not turn on the webcam, as some had complained that they do not have enough of data to support video conferencing, some were following the class from their smartphones, or that their home environment was noisy behind the scenes. In short,
there were many personal reasons and environmental reasons that prohibit students from showing their face at the camera. Clearly, this reduces my ability to sense what is going on because I do not have any indication to their verbal or non-verbal cues. It was when a question is asked, or when names are called, that students must reply and turn on their camera to respond. This is part of the challenge that I faced to truly understand the students' thinking and behavior during class. Beyond the class lecture, they were supposed to work in groups. I provided the links for breakout rooms to them to join, so that I could join in and be a participant observer in Microsoft Teams. Within each group, I noticed that they were more willing to turn on the camera, and as I entered asked me more specific questions that could not be asked when they were together with the rest of students.

On the other hand, because the assessments were all carried out in groups (except for individual quiz), there was the difficulty to assess who among the students are hitchhiking on the rest of the group, mainly because of attitude and personal inclination when it comes to teamworking. All I could do was to identify them (with proof) and minus marks in their personal total. This again, is quite subjective, and I counter this by telling the students that the most benefit will fall on the person who works the hardest in the group, because they are the ones who will really learn the most. I hope that my students change their perspective that this is not a course where they present outstanding assignments, but experience the most in the process of ideation, marketing, sales and business management.

**Technological Approach**

The online lectures were conducted through Microsoft Teams, as the student numbers exceeded 100 participants in each class. My university's organizational Google account has its 100-pax limitations in Google Meet. As such, I had to create two separate Google Meet rooms, with a tenure of 6 months in the Google Calendar so that students do not need to get a new link of access each time. Each time during class, I had to share screen for both rooms, together with the microphone muted, so that students could all attend the same single lectures from two separate rooms. Nevertheless, the only weakness is that I had approve the joining for the students manually each time in the class. Only when Microsoft Teams was introduced in the second semester, I shifted all my students to the platform as it can accommodate above 100 students in one platform, and there is no need for me to accept the students to join the class. Once the communication platform problem is settled, the next problem lies in deciding the right use of educational technology for the course, and nature and readiness of the students.

I do have to admit that picking up new educational technologies is a continuous learning. This is to improve both personal effectiveness and efficiency, mainly in time management, task accomplishments and maximize students’ learning outcome. There are many types of educational technological apps proposed by my university such as Kahoot!, Mentimeter, Socrative etc. In order the course to be treated as Blended Learning, my university requires the course to have at least eight resources (files, URLs, videos, ebooks, etc.), three feedbacks (forums, wikis, etc.) and two assessments (assignments, quizzes, etc.). Due to the Covid-19 pandemic, continuous assessments are preferred over summative assessments to mitigate the complications, and also to prevent cheating from students communicating with each other. It was only in the end of the semester that the university subscribed to the Respondus, a lock down browser software that requires students to reveal their faces during exam sittings and prohibits students to refer elsewhere during online tests. We were also not ready to use it as training was carried out in batches and as a result, I had only learnt how to use it lately in preparation for the future semesters.

From my experience of teaching this course, it does not have final exams but only quiz. More weightage was placed on students’ project such as their marketing portfolio/business plans and their business pitching presentations. For marketing portfolio/business plans, the assessment was
carried out through submission of their soft copies, while for business pitching presentations, the assessment was done through a live recorded session in Microsoft Team in front of me and other students. Ultimately, I would be evaluating their quality of their business according to the course rubric.

**Content Knowledge Approach**

From my observations in the previous two semesters, most students in my class could explain and develop the business plan framework, but the process of assessing creativity and innovation is quite subjective as these elements are also dependent and limited to my own levels of skills and knowledge. In saying this, I admit facing the challenge in the second course learning outcome (producing creative and innovative entrepreneurial ideas) because this takes on nature as procedural knowledge more than explicit knowledge. As such, it is not as transferable as compared to the first to third course learning outcome. Scholars have indicated that there are no definite ways to teach how creativity and innovation because it happens while students learning consciously and unconsciously at the same time. However, I understood that if I organized problem-based learning for the students, this could stimulate and promote their cognitive ability, and subsequently apply them in completing their tasks and assignments. As such, the lessons for the 2-hour EE course was limited to 30 to 40 minutes lecture, while the balance was left for the students to divide into their break-out rooms to discuss on their best ideas and ways to achieve their business plan framework. Besides online lectures and PBL, I also used other forms strategies for learning, mainly creating group online forums so that different topics pertaining to branding, digital marketing, sales techniques etc. are discussed among the students.

With the knowledge gained from this participatory action research, I am glad that I have understood my students more than before. These students have highlighted their learning gaps, their personal obstacles, and challenges within each stage of business that enlightened me to improve my next course of decisions and actions for the coming semesters. I acknowledge that these obstacles must be solved in stages and not instantly because of my own limitations and resources. Certainly, there is a lot of room to improve in these aspects resulting from this research. I regard teaching large group of students as an advantage for me because I could collect more data to understand the diverse views and circumstances of my students. The more data I have, the more I could reflect and relate to my approaches as an educator. In other words, I view my professional development as a continuous process from my understanding on these data.

**Conclusions**

As a conclusion, this participatory action research carried out among 240 students attending the EE course is life changing. In terms of contextual novelty, there is a lot a mismatch between their learning gaps when describing their perspectives and relating it with mine. In terms of practical novelty, it is apparent that the EE course learning outcomes could not actually address their personal obstacles and business management skills. It is important for me to act on the things I can change, especially in the pedagogical and technological approach. In terms of theoretical novelty, it is apparent that some challenges associated with online learning are prevalent and like other findings around the world, and there is a strong call for educators to improve on their strategies to deliver their courses more effectively especially for a course like entrepreneurship. However, there is a limitation in this research. While waiting for the next round of course accreditation, the existing course learning outcomes cannot be changed but to only improve in its methods of delivery and topics for assessments. As such, changes may not be in the structure of the course but could only be in aspects of pedagogical, technological forms. There is also the factor of generalizability at this research juncture (Maxwell, 2021) For suggestions of future research, it is recommended that my next cycles of participatory action research be carried out as additional data for future decision-making in the course improvement exercise. It is reckoned that PAR be repeated for the coming semesters to improve the rigor of my research procedures (Thomas & Magilvy, 2011). Looking forward, it is important to apply the few new strategies that I have written down in my personal memo. In the next round of participatory action research, I will do my best to assess the learner, the learning process, and my teaching process as an iterative and reflective process of continual improvements so that students will maximize their learning experience and opportunity in this course.

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