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Learning from the problems and challenges in blended learning: Basis for faculty development and program enhancement

Abel V. Alvarez, Jr.

Abstract: Blended learning in the Philippines is still considered new and young. However, this growing demand for blended learning possesses problems and challenges that are noteworthy to investigate, specifically in emerging higher education institutions, which hinder effective and efficient delivery of teaching and learning. This paper reflects different lenses of experiences encountered by five purposively selected facilitators teaching National Service Training Program (NSTP) in a certain university in Manila, Philippines. A qualitative case study research method was employed to interview the participants. The data were collected using a semi-structured interview questionnaire, and analyze thematically. There were five themes or "roadblocks" reported in this study: technological, instructional, class size, technical support, and collaboration. Findings were also discussed in the lenses of various literatures, particularly in terms of design and development, implementation, and assessment and evaluation of blended learning. An overarching proposal, which is aligned to the results of this research study, was presented. Nevertheless, it aims to add to the pool of teachers' voices who are experiencing problems and challenges in the delivery of blended learning. The results of this study can serve as a basis for continuous faculty training and development, as well as for the improvement of the NSTP course, in general.

Keywords: Blended learning, Facilitator, National Service Training Program

Introduction

College graduates in the Philippines are required to undergo National Service Training Program (NSTP) regardless of their program of choice, as mandated by the Republic Act 9163 of 2001. NSTP is described as either a form of military services or non-military trainings, such as Literacy Training Services or Civic Welfare Training Services (Balmeo, Falinchao, Biay, Ebes, Eclarino, & Lao-ang, 2015). Teaching NSTP is usually undertaken in a traditional learning environment where interaction is solely face-to-face. However, in recent years, blended learning has experienced significant development due to its flexibility in delivering instruction. The rapid adoption of information and communication technologies (ICTs) in education is an indication that new forms or approaches of teaching and learning are possible (Jeffrey, Milne, Suddaby, & Higgins, 2014). Higher Education Institutions (HEIs) are now envisioning into the role of ICTs in teaching and learning environment. At the university level, Kuo, Belland, Schroder, and Walker (2014) emphasize the idea that blended learning has become one of the most popular teaching approaches.

In the Philippine context, the internet usage rose from 9% of the population in 1998 to 35% in 2014 (Labucay, 2014). Towards the end of the decade, with a population of about 106 million Filipinos in 2018, findings have revealed that a rise to 62-63% or about 67 million Filipinos have access to internet and thought of as internet users (Estella & Löffelholz, 2019; Khalid & Lavilles, 2019). This shows that ICT in the Philippine education context serves as a milestone which opens wide range of teaching and learning opportunities (Lorenzo, 2016). Studies have reported how blended-based approach slowly gain its importance in the field of education (Ma'arop & Embi, 2016; Matheos & Cleveland-Innes, 2018; Olelewe & Agomuo, 2016); hence, the adoption of blended learning is on rise, particularly in tertiary

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education (Forbes, 2016; Porter, Graham, Spring & Welch, 2014; Minty-Walker, Wilson, Ramjan, & Glew, 2017).

Meanwhile, the HEIs in the Philippines are considered to be products of conventional teaching and learning environment (de la Pena-Bandalaria, 2007), which can infer that blended learning is still young and new to tertiary education teachers. Ocak (2011) posits that gearing towards blended-based approach provides dynamics of teaching changes and the role of faculty can be altered. Stacey and Gerbic (2008) discuss that faculty's needs and concerns were not documented properly, specifically the hindrances they experienced using blended teaching approaches. Scholars believe that faculty's perceptions, particularly exploring their teaching and learning satisfaction, towards blended learning are crucial elements that must be explored (Martin & Nunes, 2016; Previtali & Scarozza, 2019; Selim, 2007).

Guided by Vgotsky's (1987) concept of constructivism which talks about the notion that the world has sense and meaning, this study investigates the problems and challenges experienced by National Service Training Program (NSTP) facilitators in the delivery of blended learning activities. Individuals actively create their own meanings through constructing their personal experiences and resolve the conflicts through experiencing the world (Doolitle, 2017; Duffy & Cunningham, 1996). Constructivism framework reflects open-ended questions that allow participants to share their experiences, particularly the challenges they encountered in the course of blended-based teaching. This also serves as basis for understanding the "what" of the research questions employed; specifically, it intends to answer: (1) what are the insights and responses of NSTP facilitators regarding the delivery of blended learning activities in NSTP course?; and (2) what are the barriers and challenges transpired while teaching blended-based activities in NSTP course? The results will serve as one of the basis for comprehensive faculty training and development, and blended-based instructional approach enhancement program. Likewise, this will facilitate institutional academic policy makers to craft concrete plans and policies for NSTP blended learning activities.

Literature

Teachers' perceptions on blended learning

Various literatures report that utilization of information and communication technologies (ICT) can bring beneficial effect in improving teaching and learning process (Ahmed, Arshad, & Tayyab, 2019; Baş, Kubiatko, & Sünbül, 2016; Bond, Marín, Dolch, Bedenlier, & Zawacki-Richter, 2018; Shamim & Raihan, 2016; Tømte, Fossland, Aamodt, & Degn, 2019; Willis, Lynch, Fradale, & Yeigh, 2019). For instance, Tshabalala, Ndeya-Ndereya and van der Merwe (2014) examine the blended learning perceptions of faculty members and identified different challenges experiencing on the use of blended-based approach. Findings showed that some respondents perceived that blended-based instruction has the potential to bring teaching and learning flexibility and promotes learning independence and opportunities for networked learning and accessibility to both teachers and students. However, they also demonstrated little or lack of understanding to blended learning concepts. Respondents also perceived blended learning as difficult to execute in classroom environment due to the absence of institutional policies on the use of blended learning, lack of ICT training/knowledge (e.g., technophobia), poor confidence to engage in blended learning approach, and limited access to computer laboratories. Hence, these were perceived to be hindrances in the implementation of blended learning.

Interestingly, results of this study claimed that blended learning can mobilize the classroom environment due to its flexibility (e.g., Bhowmik, Meyer, & Phillips, 2019; Bouilheres, Le, McDonald, Nkhoma, & Jandug-Montera, 2020; Hietanen & Ruismäki, 2017), wide range of access (e.g., Bowyer & Chambers, 2017; Gronseth, 2018; Matheos & Cleveland-Innes, 2018), learners' autonomy (e.g., Chanthap & Wasanasomsithi, 2019; Emelyanova & Voronina, 2017; Kintu, Zhu, & Kagambe, 2017; Reid & Ewing,

2018), and networked learning process (e.g., Diep, Zhu, Cocquyt, De Greef, Vo, & Vanwing, 2019; Miquel, & Duran, 2017; Siemens, 2008; Siemens & Conole, 2011).

Further, the study of Qasem and Viswanathappa (2016) entail a positive perception of teachers with the notion of ICT integration using blended learning instruction. With the rapid development of technology-based teaching delivery, it can be argued that the findings of the study showed teachers' satisfaction in terms of experiencing professional development training through blended learning approach. In the context of virtual classroom, learners have the opportunity to access the learning materials regardless of time and space. Thus, the literature discusses that teachers and students are being mediated with ICT through the notion of blended-based instruction. This implies that teachers and students, in blended learning, are both part of the virtual classroom irrespective of geographical separation (Lalima & Dangwal, 2017) and face-to-face classroom meeting.

Similarly, a study conducted by Holmes and Prieto-Rodriguez (2018) where mix research method was employed to examine the perceptions of academic staff and students on various Learning Management System (LMS) in terms of effectiveness in teaching and learning, and the affordances it can bring, such as accessibility and interactivity. Findings revealed that the most effective element of LMS in course learning for teachers are: access to course materials; recorded face-to-face lectures; course blogs or wikis; and online discussion. These mean that the results for LMS effectives in terms of accessibility in teaching and learning revealed a statistically different response for academic staff and students. However, there is no significant difference in relation to LMS interactivity.

The results provide a significant understanding in terms of faculty and student perceptions towards blended learning. The use of mix methods in this study allows to integrate the data of inquiry in order to provide a visual picture both in quantitative and qualitative research method (Creswell, 2014). In fact, various literatures claim that blended learning can bring about flexibility and convenience to both teachers and students regardless of transactional distance exists because of its capability to provide teaching and learning outside of physical learning environment (e.g., Poon, 2013; Waha & Davis, 2014). Both teachers and students stressed that the use of LMS is significant as it promotes portability and access to information in mobile usability (Koole, 2009). This means that technological or authoring tools, such as Canvas, Moodle, or Blackboard, serve in bridging teaching and learning gap. The flexibility of the learning space allows for borderless classroom to be connected using a learning platform.

It was also emphasized that the use of e-quiz provides immediate assessment of their learning progression and gaps that needs to be enhanced. The use of online feedback increases the likelihood of instructional presence while decreases social distance (Costello & Crane, 2013). This claims that the use of ICT as a learning platform, in the context of blended learning, provides efficient teaching and learning support. Meanwhile, students tend not to participate in online discussion boards, specifically if it is not a requirement. This finding was also revealed by Jeffrey et al., (2014), where they emphasized social presence in virtual classroom as largely underdeveloped, thus, making it more difficult for teachers to encourage students' engagement in online participation. As such, it is suggested to get the mix right which describes by Anderson (2003) as valuing the essence of interaction through the process of teacher-student, student-content, and teacher-student interaction. Therefore, it is integral to have balance on-campus and online support (Welker & Berardino, 2005) to ensure effective teaching and learning experience and outcomes.

Benefits of blended learning

A study conducted in Saudi revealed that majority of the faculty members have understood their roles in blended-based environment (Aldosemani, Shepherd & Bolliger, 2018). it was found out that blended learning mitigates the delivery of teaching and learning access regardless of time and space (Aldosemani et al., 2018). Findings revealed a positive perception of academic staff towards the affordability that blended learning can bring in teaching and learning context. It emphasizes the view of

blended learning as it delivers access to course materials regardless of time and space. It indicates significant valuation of personal space and convenience in accessing learning resources.

Relating the abovementioned report of Aldosemani et al. (2018), it claims that ICT is not confined to its functions of delivering high quality data, but it also offers a platform for using variety of instructional tools that is significant for distance learning, such as in the case of blended-based approach (Rivera, 2017; Smith & Hill, 2018; Vaughan, Reali, Stenbom, Van Vuuren, & MacDonald, 2017). This also explains that the capability of blended-based instruction to access wide array of course materials contributes to increase learners' rates of information retention (Wang, Shen, Novak & Pan, 2009) beyond the four corners of classroom.

Moreover, the use of blended-based instruction allows more engagement, and it increases students' participation (Baragash & Al-Samarraie, 2018; Bowyer & Chambers, 2017; Morton, Saleh, Smith, Hemani, Ameen, Bennie, & Toro-Troconis, 2016; Palmer, Lomer, & Bashliyska, 2017). In a case study presented by Benson, Anderson and Ooms (2011), it was revealed that majority of the participants had reported an appreciation to the utilization of ICT-based instruction using blended learning approach. Arguably, despite some degree of concerns on the use of web-based instruction, such as time-consuming, more rigorous in teaching-learning preparations, and not all faculty members are inclined towards blended-based instruction, most of the academic staff have acknowledged its positive benefits in integrating with physical teaching approach. Gedik, Kiraz and Ozden (2013) discuss that the use of blended-based instruction allows more engagement, and it increases students' participation. Relating this to the study conducted by Benson et al. (2011), it suggests effectiveness using a combination of face-to-face and online teaching approach. As such, it provides sense of flexibility for better classroom participation. However, I would like to stress the idea of replicating the study to other higher educational institutions since it was concentrated to a specific institution where convenience of the three researchers took into consideration.

Additionally, the concept of blended learning has been described as hybrid instructional approach that delivers positive opportunities for students' learning (Jokinen & Mikkonen, 2013). Results pointed out that collaborative planning, as described by most teachers, provide opportunities to enhance and to develop teachers' instruction in a blended learning environment. This helps teachers to ensure alignment of learning objectives with learning contents and activities; hence, it tends to be more holistic by integrating the instructional activities into wider teaching approach than of several smaller learning tasks. This explains that in the context of blended-based teaching, both components are intertwined. It differentiates and provides personalization towards attaining intended learning outcome (Arnesen, Graham, Short, & Archibald, 2019; Challob, Bakar, & Latif, 2016; Ward, 2016).

Challenges of blended learning

In terms of the challenges on the use of blended learning (Albiladi & Alshareef, 2019; Bataineh & Mayyas, 2017; Crawford & Jenkins, 2017; Medina, 2018; Shand & Farrelly, 2018), studies have shown that not all faculty members are inclined towards blended-based instruction (Benson et al., 2011). Some still considered the use of ICT as "time-consuming" (Benson et al., 2011, p.148). For example, it was revealed that preparations for lecture or teaching materials design and development on web-based platform require more time than face-to-face interaction. Some believe that the use of hybrid approach is more rigorous when it comes to teaching and learning preparations. This explains the idea presented by Ma'arop and Embi (2016) where they described blended learning as a burden, both physically and cognitively. Meaning, educators see the need to spend more time like designing the course platform, uploading of instructional materials, answering queries and evaluating students' online outputs. Thus, it increases their workload, such as the time required (Alebaikan & Troudi, 2010).

This posits that in blended learning environment, teachers should have at least the required knowledge and skills to mix the right blending in teaching and learning process. As such, the use of technology

tools should best meet the needs of the learners while ensuring the appropriateness of right blended learning nature of the course (e.g., Bralić & Divjak, 2018; Chaeruman, Wibawa, & Syahrial, 2018; Greller, Santally, Boojhawon, Rajabalee & Kevin, 2017; Lee, Lim, & Kim, 2017). However, these lack of technological capabilities of some faculty members (e.g., Bowyer & Chambers, 2017; Krasnova & Shurygin, 2019; Ma'arop & Embi, 2016) affect students' way of discovering learning. Hence, it also results to some academicians having adverse attitude towards blended-based approach.

For Aldosemani et al. (2018), the lack of faculty training and support, language barriers, poor promotion incentives for blended learning initiation are some of the challenges that teachers are experiencing on the use of blended learning. It was mentioned, for instance, that the use of language texts in LMS in Saudi context is presented using English language, thus, the faculty members are having difficulty to academically communicate with their students and colleagues, considering English language is not their primary or secondary language. It was also revealed that technological infrastructures, such as lack of computers, internet connection, and LMS instability, prohibit blended learning in the country.

These challenges presented by Aldosemani et al. (2018) are also observable in developing countries like the Philippines. Dotong, De Castro, Dolot and Prenda (2016) illustrated some limitations of ICT integration like shortage of ICT facilities, poor maintenance of available or existing ICT resources, lack of ICT budget (e.g., Lorenzo, 2016; Tomaro, 2018; Vergel de Dios, 2016). In fact, there are still areas in the Philippines, particularly in rural areas, where reliable supply of electricity and internet are miles away to achieve. Thus, it inhibits and affects the capability of teachers to become skillful on the use of ICT in blending with teaching and learning.

There is a contradicting idea when Jokinen and Mikkonen (2013) demonstrated that collaborative planning provides positive opportunities for instruction where it was also reflected in the study that joint planning is time-consuming and laborious. As such, this concept could somehow relate to the study of Benson et al. (2011) where they emphasized that in blended learning environment, it entails lots of time for instructional preparations such as course design and development. Remarkably, it was stressed that prior experiences play an essential role for teachers to engage in collaborative planning. Another challenge that was also presented is the appropriateness of instructional materials differentiation. It was reiterated, for instance, the importance of having variety of learning activities, and not limited face-to-face instruction. Primarily, this points the notion that the use of blended learning environment must not be confined to submission bins of assignments or file uploads, rather teaching and learning discussions (e.g., either synchronous and/or asynchronous) can be integrated as physical classroom extension. Despite these challenges of blended learning environment, the benefits that it can bring about to teaching and learning environment are essential to consider as various studies show that it provides flexibility, enhances learning autonomy, and accessibility; thus, it lessens the teaching and learning gap exists between teachers and students.

Given this notion, one of the factors that hinder blended learning developments is faculty skepticism and confusions (Jobst, 2016; Ooms, Burke, Linsey, & Heaton-Shrestha, 2008; Wingo, Ivankova & Moss, 2017). It was also argued the idea that not all faculty members adopt blended-based instruction when introduced by their respective universities because of their negative perceptions like lack of knowledge and training on ICT integration, and poor infrastructure (Aldosemani et al., 2018; Benson et al., 2011; Tshabalala et al., 2014).

Methodology

Research design

The method of research used was qualitative, specifically case study methodology, to examine the blended learning problems and challenges of NSTP facilitators. Creswell (2014) described case studies as "a design of inquiry" (p.43) or evaluation of a particular program. In addition, Yin (2014) pointed out

the nature of inquiry in case study qualitative design as empirical; thus, it focuses on what is being studied, such as the context of the case (Merriam, 2009; Stake, 1995; Yin, 2014).

As such, the used of qualitative case study research design in this study serves an inquiry towards developing an in-depth analysis of a case of a particular educational institution in the Philippines who had implemented blended learning activities since academic year 2017-2018.

Participants and locale

The chosen case study locale lies in the heart of Manila, Philippines. It is considered as one of the top tier universities in the country, and it enjoys the status of autonomous, as conferred by the Philippine Commission on Higher Education. This privilege allows the said higher education institution to redefine its own academic aspiration beyond the minimum standards, which leads to a paradigm shift from instructional to learning model. Hence, this aspect includes technology integration thinking towards facilitating a student-centered teaching and learning environment.

Table 1. Demographic profile of participants

Participant	Age	Teaching experience (number of semester)	Academic Area	Undergone LMS training?
1	26	3	Academic Affairs	✓
2	42	4	Academic Affairs	✓
3	40	4	Academic Services	✓
4	25	3	Academic Development	✓
5	30	3	Academic Services	✓

During the conduct of this study, there were 40 facilitators handling both NSTP 1 and 2 courses. From eight participants endorsed by the NSTP office to be interviewed individually, only five participants agreed and participated because majority of the facilitators are external and not tenured in the institution, had conflict with their schedule, and others refused to participate verbally. Hence, they were purposively selected: full-time or part-time NSTP facilitators, either male or female, currently handling NSTP course for the past three semesters (starting academic year 2017-2018), and willingness to participate and share their blended teaching problems and challenges.

The NSTP office reported that all of the facilitators are considered to be products of traditional face-to-face education, which can also suggest the characteristics of my participants, as seen in table 1, where their mean age is 33 – which is considered by various scholars as digital immigrants (Colbert, Yee, & George, 2016; Kesharwani, 2019; Nelissen & Bulck, 2017). In fact, while the institution struggles to transition from traditional instruction of NSTP course offering, the term teaching experience describes the number of semesters engage by participants in teaching NSTP in the context of blended-based instruction, since from the time it was launched in academic year 2017-2018. Modules or lectures of the NSTP via face-to-face and blended learning are all structural from the NSTP office; thus, the role of the participants are focused on how are they going to implement the modules in blended-based teaching.
Aside from handling NSTP course, the participants are also full-time in different academic areas of the university. This means that they are also doing other academic tasks beyond teaching NSTP. Two of my participants are full-time in the area of academic services focusing on student support programs, such as handling student affairs and development activities of the university. While the other two participants are full-time in academic affairs as techinical assistants in university planning and policies. The last participant is engaged in academic development which is tasked to academic assessment and evaluation of university programs.

Furthermore, they all shared that the NSTP office sent them to 16-24 hours of LMS training, spearheaded by the university's educational technology department, as part of the requirement for blended-based teaching. Though sequence of their training were not further discussed, all of the

participants agreed that they actively participated in the LMS training, prior to their first semester of teaching, to ensure they were equipped with the concepts and usage of LMS platform.

Data sources

A semi-structured interview questionnaire was used to elicit the problems and challenges encountered by NSTP facilitators in the course of implementing blended-based approach. The questionnaire consists of two open-ended questions, with sub-questions for number one, focusing on the problems in the areas of design and development, implementation, and assessment and evaluation of NSTP blended learning activities. For example, I asked participant 1, "what are the common problems that you encountered during the course of implementing blended learning activities, specifically in terms of designing and developing blended learning or online engagement activities?". While the question for number two identified the overarching challenges that they perceived to be addressed.

To ensure consistency of the questionnaire, I conducted an interrater validation procedure through inviting experts in the field, such as practicing academician in the field and someone who is not included in my study to check its reliability. A draft of my instrument was piloted to two participants who were not included in my data and revised accordingly to improve my questions in relation to my study.

Data procedure and ethical considerations

Prior to data collection, I ensured that all necessary permissions and approval from the university are in place. I obtained verbal permission and approval from the institution's NSTP department in conducting a research study. We agreed that the results of this study will be used as one of the parameters for continuous training and development of NSTP facilitators. Likewise, I sought for assistance for possible participants to be interviewed. I informed them that their participation was voluntary, and they could back-out anytime. Erstwhile to one-on-one interview, three out of eight participant candidates verbally informed me that they would no longer participate because of personal issues, such as time constraint and other engagements. Thus, only five participants agreed to share their experiences relative to my study.

Since the focus of my study is towards qualitative case research design, I conducted an individual interview, which involves a semi-structured interview questionnaire, to elicit necessary information, views, and insights from the participants (Creswell, 2014; Moser & Korstjens, 2018). The used of interview provided me the opportunity to collect data and focus for an in-depth understanding (Sonesson, Boffard, Lundberg, Rydmark & Karlgren, 2018) of the problems and challenges that NSTP facilitators' experiencing. I chose an individual interview, instead of focus group discussion because of limited number of participants agreed to participate (Greenbaum, 2003; Kaplowitz & Hoehn, 2001). Secondly, individual interviews allowed them to share their personal experiences that hindered their instructional approaches using blended learning. Lastly, it supported the idea of giving them enough time to reconstruct their thoughts and insights to share in answering the questions.

During the data collection, I discussed the overview of my study, its purpose and rationale of exploring the problems and challenges, which will serve as one of the basis for continuous improvement of teaching and learning, experienced by NSTP facilitator. The content of the informed consent was explained to the respondent for ethical and data privacy considerations. I allotted time for the respondent to read and to make clarifications pertaining to my study, such as informing and asking for permission for audio recorded interview to ensure proper and accurate transcription of data. The interviews were audiotaped and lasted between 10-20 minutes until data saturation was achieved (Creswell, 2014; Tran, Porcher, Tran & Ravaud, 2017). Collected data were transcribed verbatim by research assistant, then saved in a password protected database. The collected information was stored using an encrypted or password protected account or folder to ensure the confidentiality of the data. We also agreed that the protection of his or her identity will be strictly observed. Anonymity of the participants was reflected as

"participant 1" instead of emphasizing his or her name. Audiotaped file was later deleted after it was transcribed, as agreed with the participants, to ensure their protection and confidentiality. There were also follow-up clarifications to some participants, but they were not audiotaped or recorded.

Data Analysis

The gathered data were coded manually (Basit, 2003) and inductively analyzed using Braun and Clarke's (2013) thematic analysis. Codes were organized, and themes were produced. From the results, I've read and re-read the transcriptions to familiarize the entire collected data to employ initial assessment and evaluation with regard to the relevance of the responses. Using a microsoft excel spreadsheet, it helped me to abstraction, polarisation, and contradiction of the data; thus, chunk of codes were generated and initial coding were employed (table 2). The transcripts and emerging codes were discussed to the participants for validation and ensuring the credibility of the results (O'Brien, Harris, Beckman, Reed, & Cook, 2014; Santiago-Delefosse, Gavin, Bruchez, Roux, & Stephen, 2016).

Table 2. Sample initial coding

Transcript	Initial codes
P4: …for almost three to four semester that I am engaging and facilitating National Service Training Program, I always encountered some certain of confusion with regards to CANVAS	Technological confusion Unfamiliarity on the use of ICT features
Moderator: Would you mind to elaborate, ma'am, the things that confuses you using blended learning activities?	
P4: …confusion makes me hesitant, sometimes, to use. I remember, I have a friend who I consult to whenever I want to put a resource material in blended learning activities to double check whether I'm doing the right way	Little knowledge on the use of ICT infrastructure
Moderator: Do you have any problems in terms of assessing and evaluating blended learning activities?	
P4: … The department is simply giving us the materials to use, without considering the needs of the students, which for some students, makes it difficult for them to internalize the topics because, again, number 1 it is limited to one or two forms of instructional materials, for instance in the form of video materials	Highly structured instructional materials Inadequate forms of assessment tools

The next step of Braun and Clarke's (2013) data analysis focused on searching for themes by examining the initial coding process, and fitting the coded data together, hence, constructing an organized theme that is coherent and relevant to the study. The final refinement of themes, such as defining and naming themes, were developed (table 3). Hence, these were discussed to external peers or colleagues, such as my adviser, and publicly presented in fora (Elliott, Fischer, & Rennie, 1999) to increase the trustworthiness of the research processes and findings of my study (Nowell, Norris, White, & Moules, 2017). Likewise, the findings were checked to existing related literatures for discussion and relevance of the study.

Table 3. Summary of codes and themes

Codes/Subthemes	Theme
Unfamiliarity on the use of ICT features Little knowledge on the use of ICT infrastructure Poor in utilization of Canvas tools	Technological roadblock
Lack of learners' blended learning needs assessment Highly structured instructional materials Inadequate forms of assessment tools Lack of guiding policies for blended learning implementation Little engagement in instructional design and development	Instructional roadblock
Class design distribution Large class size Limited teacher handling NSTP	Class size roadblock
Technological confusion System and technical glitches Technical difficulty with minimal support	Technical support roadblock
Limited form of interaction	

Technological barrier for communication Poor feedback and utilization of Canvas communication tools	Collaboration roadblock

Findings

There were five themes emerged from the transcribed data in exploring the problems that NSTP facilitator's experienced in using blended-based approaches for instructional implementation. These were: technological roadblock; instructional roadblock, teacher-student ratio roadblock, technical support roadblock, and collaboration roadblock.

Technological roadblock was perceived to be a challenge for some participants. This posits the notion that the use of technology in teaching and learning becomes a hindrance or a barrier for the teachers to deliver their instruction, considering the need to use a LMS. In fact, this becomes problematic, and it is seen to be technical; thus, it results to difficulty and confusion on instructional design and development. For instance, both participant 1 (P1) and participant 5 (P5) expressed their disappointment of being unfamiliar on the use of LMS features. P1 shared that teaching and learning were, sometimes, sacrificed because of little ICT knowledge. In the case of P5, he thinks that having so many available icons to choose confuses him to navigate the platform; hence, orientation is necessary to familiarize the navigation tools.

> "In terms of designing and developing an activity through Canvas, I think we are not familiar with its features. Everytime I posted an assignment in LMS, it is confined in texts or just copied and paste the video links from other sources." (P1)

> "Well for me the common problem that I encountered with this blended learning activities or what we called online engagement is the unfamiliarity and the added information or added design in system… so I don't know how to navigate it without the orientation from the developer. I think as what I have said, there's additional button that need to be studied first before you can use the system." (P5)

This was also experienced by participant 4 (P4) where she urged her belief that NSTP is a course component that should be delivered in a traditional face-to-face setting. Despite considering herself as a millennial, she shared that the use of LMS is something that makes her confuse because of different icons available, which she described as a "complex" matter:

> "There were times that I forgot to publish my announcements, homework, introductions and the likes. Honestly speaking, I am a millennial, but I still see blended learning, specifically on the use of Canvas as something complex. And this confusion makes me hesitant, sometimes, to use. I remember, I have a friend who I consult to whenever I want to put a resource material in blended learning activities to double check whether I'm doing the right way." (P4)

The theme of *instructional roadblock* implies poor instructional policies and assessment guidelines that barricade NSTP facilitators to engage in designing, implementing, and assessing blended learning activities. For instance, participant 3 (P3) pointed out that the department is lacking with instructional needs assessment plan which limits students' needs and confined in one-size-fits-all form of teaching resources.

> "Are the instructions I made accompanied by the chosen blended learning activities? Is it clear enough for the students to understand…their attitude towards these learning activities? With so many available resources in the library, mainstream media, not to mention the bulk resources you will get to social media, these will test the ability of the

> facilitators to choose which among these resources would be better…the question is how effective these materials in relation to students' needs?" (P3)

In the same manner, both P1 and P2 shared that, since the time blended learning activities were launched, the materials were highly structured. To some extent, some facilitators felt that their main role was limited to checking reflection papers and assignments, which they do not have the freedom to reconstruct and modify resources based on the needs of their students. It was posited that the creation of committees for blended learning modules could be an alternative form for instructional design and development.

> "I believe more heads are better than one. Why don't we create a committee? At least from the core of facilitators, like what we did during our orientation. There will be more ideas to generate since there will be exchange of different perspectives and insights." (P2)

The absence of assessment guidelines for blended learning activities made it also difficult to assess the outputs submitted by the students. P2 pointed out that having a common or standardized rubric will ensure fair assessment criteria for NSTP students. Both P2 and P5 shared that some facilitators assessed students' output subjectively, without having performance rubrics, while some devised their own assessment tool to be guided in their checking of outputs.

> "I best stick with the idea to craft for a grading or rubric system. This will help NSTP facilitators to be properly guided; thus, we will be having a common parameters in grading the students. At least, it will be standardized, and grading policies are clear for everybody." (P2)

> "Yeah, for the evaluation, it is hard for the facilitators to evaluate the assignment of students because we don't have guidelines on how we will grade the students. We don't have the rubrics on how to grade the assignment of the students. That's one of the problems in online engagement. I just grade based on 'what I say' in the assignment or activity of the student." (P5)

The third theme that emerged focuses on *class size roadblock* which talks about disparity of teacher and student ratio or class size distribution. To illustrate, P2 and P4 shared that each facilitator handles around 80 students per class. Considering this situation, they expressed that having large class hindered them to read thoroughly the submissions of their students' outputs. In fact, they both emphasized that all of students' outputs were individualized which added difficulty in providing personalized feedback.

> "We have bulk of students. Not to mention, I'm checking 80 students per section. So if I'm handling two sections that would roughly 160 students. I have to read their submissions…especially this is an online engagement which requires online and individual submission." (P2)

> "Another thing that I want also want to emphasize is the fact that we're handling large number of students. Take note each facilitators is handling about 150-170 students, which is considered by the university as large class classification. This makes me difficult to provide comments and feedback for every output of students. It takes a number of days or weeks before I can reply on their assignment." (P4)

Towards the end of the interview, both P2 and P4 claimed to revisit the program by incorporating collaborative outputs. Since the university mandates NSTP to be classified under large class to lessen the burden in checking individualized outputs, this will also enhance student-student interaction, creativity, and teamwork.

> "Lastly, since blended learning class is usually composed of many students, like in my case, around 160 students…so there's really a tendency that feedback will be lacking. So I guess, the challenge here is for the department to consider as well the inclusion of collaboration in blended learning. For instance, like having a group task or outputs as part of their final requirement to streamline the learning outcomes." (P4)

The fourth theme is concerned on *technical support roadblock* which expresses the idea of having institutional team support in extending technical assistance, regardless of time and distance. This has been perceived to be a problem of some facilitators, as they implemented their activities online. Some experienced having delayed or non-appearance of their post on LMS which resulted to non-compliance of their students. There were also instances that software incompatibility impeded their teaching and learning delivery. Android users, for instance, were having difficulty accessing iPhone Operating system (IOS) files. P2 emphasized the idea of "delayed feedback" to students' output; hence, it became time-consuming because of the need to convert the files and seek for technical support assistance.

> "Sometimes they don't see what's posted or uploaded in the Canvas. The data that they uploaded are sometimes too big or corrupted. The compatibility of the files is also a problem in checking their outputs. Some students use IOS or Apple that is not compatible in Android, which I am using. I cannot even read nor even if I downloaded the file, still I couldn't see or view. I have to search for files conversion before I can read and check the student's output." (P2)

The last theme is *collaboration roadblock*. This theme is described as limited to lack of interaction between teacher-student and student-student due to poor utilization of technology-enabled communication tools. For example, P5 outlined teacher and student interaction as limited in time of exchanging information. He believed that virtual world has boundaries or limitations that must be addressed, since the discussions of blended-based activities are through online.

> "There's a limited time of exchanging of information from the student and to facilitator…because it is blended learning activities, so there's a limited sharing of the knowledge and opinions." (P5)

This argument was also raised by some participants when they shared their experiences over little to lack interaction among teacher-students, and students-students' collaboration. It was stated that the instructional resources and strategies played an important role in mobilizing interaction. However, the department of NSTP instructed their teachers to deliver online activities in a manner that students will watch a video link and make a reflection paper as their output.

> "For the problems in implementing blended learning activities, I guess is the lack or limited teacher-student and student to student interaction. The blended learning activities that are being implemented are too confined to submission of compliance. Other features of blended learning platform are not being utilized properly because the department sees the module of NSTP topics as something that students must watch a video or look into some readings then write a reflection paper". (P4)

Discussion

The outcomes of my study contribute to an understanding of the problems and challenges experienced by facilitators in the delivery of blended learning activities in NSTP. Even though most of the participants reported that they were exposed to LMS orientation, some found it to be challenging when translated into actual use of cloud-based platform. They emphasized navigation tools and other features of LMS as a complex matter which results to confusion on its usage or functions.

This implies significance to assess the needs and concerns of NSTP facilitators focusing on technological aspects, which leads to the discussion of *technological roadblock* that emerged in the findings of my study. Looking at the lenses of participants' experience, for instance, in the design and development of blended learning activities, there where NSTP facilitators who find LMS tools in a "know-how situation". This results to consultation with their peers to assist them double checking the appropriateness if their instructional design for students' viewing. Some scholars indicated that despite being knowledgeable on the use of computers, faculty members were still hesitant to engage in blended-based instruction activities because of lack of adequate knowledge and training (Aldosemani et al., 2018; Benson et al., 2011; Cheok, Wong, Ayub & Mahmud, 2017; Khalil, Abdel Meguid, & Elkhider, 2018; Lotrecchiano, McDonald, Lyons, Long, & Zajicek-Farber, 2013; Qasem & Viswanathappa, 2016) in translating towards blended-based approach.

In developing countries, like the Philippines, which situates the locale of my study, reflects the youngness of the institution in blended learning environment. This posits the need for continuous human resource investment in terms of technology-enabled workshops and orientation, training and development, and assessment on blended learning classroom integration (Khalil et al., 2018; Ma'arop & Embi, 2016; Medina, 2018; Tshabalala et al., 2014; Vaughan et al., 2017). For instance, Kenney and Newcombe (2011) emphasize that "online learning is best understood when instructors have a chance to engage in the experience themselves through online workshops conducted by qualified trainers" (p. 54). This provisions of having facilitators training program ensures efficiency of teaching and learning from orientation proper to implementation and continuous training and development program concerning blended learning approach (Ramos, Taju, & Canuto, 2011).

Similarly, the *instructional roadblock* reveals as an impediment for NSTP facilitators' instructional design and development, implementation, and assessment and evaluation of blended learning activities. While some reports highly structural materials, such as limited to texts or video links, which they found it as nonessential in the course of students' learning needs and characteristics, they also claim for the need to have concrete assessment guidelines, like grading rubrics, in order to have basis or parameters for checking students' submitted outputs and to prevent from subjective or biased assessment.

These instances result to the lack or absence of blended learning protocols for instructional delivery; thus, hearing the voices of NSTP facilitators entail the need to craft for clear and relevant course policies and guidelines towards having effective delivery of blended-based activities. Various scholars echo the importance of careful planning which helps to facilitate course objectives, learning resources and activities, and delivery of assessment practices (Aldosemani et al., 2018; Alghamdi, 2016; Danker, 2015; Glocowska, Young, Lockyer & Moule, 2011; Khalil et al., 2018; Medina, 2018). This means that institutional support provides integral element for a successful implementation of blended-based instruction (Kenney & Newcombe, 2011) which requires senior management support, recognition of the resources, training, and technology infrastructures (Smith, 2012). It signifies, therefore, for the institution to craft instructional plans towards having concrete basis of policies and guidelines of blended teaching and learning delivery.

The NSTP facilitators also experienced *class size roadblock* which barricades the effectiveness and efficiency of implementing blended-based activities. To illustrate, there were cases of delayed feedback with regard to students' concerns and performances due to large class size handled by NSTP facilitator (e.g., Tshabalala et. al, 2014). In a case conducted by Previtali and Scarozza (2019), for example, they revealed that large class size in blended-based classroom inhibits timely feedback; hence, the need for instructional assistance may help to facilitate students' concerns. This reflects the physical distance that exists in blended learning environment widens because learning needs of the students were not immediately addressed. These experiences shared by participants were evident that class size affects the way teachers' perceived teaching in blended learning (Jokinen & Mikonen, 2013; Tshabalala et al.,

2014; Sitthiworachart, 2018), specifically findings have shown that each facilitator were handling 80 students per section.

This only shows that even in a blended learning environment, class size plays an important role for teaching and learning delivery because it affects the way teachers teach and manage the learning environment. While there were literatures discussing the consequences and effects of large class size in blended learning context, my study provides contextual evidences to revisit and identify the right blended learning model to address the circumstances and contexts of the institution, students, and faculty (Korr, Derwin, Greene & Sokoloff, 2012) to minimize the challenges of handling large class size.

Furthermore, the *technical support roadblock* encompasses the notion of system and technical glitches. It was reported that some participants were having troubled when it comes to software compatibility, thus, results to technical malfunctions and time-consuming processes of file or outputs conversions. As discussed previously, the institution is still struggling to adapt with blended learning environment; hence, strong support from the institution (Heaney & Walker, 2012; Lotrecchiano et al., 2013) to find the right blend of teaching is important for the delivery of blended learning activities.

The necessity to ensure for technical support to address technology-enabled difficulties, such as in the case of NSTP facilitators, will be vital for efficient blended learning delivery and assessment (Futch, deNoyelles, Thompson, & Howard, 2016; Medina, 2018; Porter & Graham, 2016). Thus, establishment of collaborative support or "technical support team", as described by Ramos et al. (2011), could also be an alternative for tech-savvy and knowledgeable facilitators in extending assistance.

The facilitators also observed that the use of LMS, as an online teaching platform, was limited to submission requirements of students. Some participants described their experiences as bounded with limitations for interaction. With highly structured module design that limits to submission, *collaboration roadblock* reveals to be a problem which hinders teaching and learning discussion and communication. McDonald (2014) posits that having little to lack of interaction may increase transactional distance (Moore, 1973). In fact, some scholars reiterate that lack of feedback (Best & Conceição, 2017; Dzakiria, Wahab, Rahman, & Rahman, 2012; Van Popta, Kral, Camp, Martens, & Simons, 2017) and/or absence of learner interactions may result to learning failure and class withdrawal (Kintu et al., 2017; Willging & Johnson, 2009; Shrain, 2012). This implies the notion of teacher-learner connectedness through providing timely feedback on students' performances and concerns which plays an important role for students to stay on class track.

Therefore, it is noteworthy to explore the features of the institution's cloud-based platform towards meeting the 4'Cs of today's 21st century – critical thinking, creativity, collaboration and communication. Garner and Rouser (2016) claim that collaboration and social presence are key ingredients in blended-based instruction. Computer mediated communication facilitates collaborative learning (Goodyear, 2005) where both teachers and students can discuss and share information asynchronous or synchronous. Hence, it allows interaction anytime, anywhere (Lalima & Dangwal, 2017) regardless of physical separation of teacher and students.

Conclusion and Suggestions

The experiences shared by selected participants of NSTP facilitators signifies the need to understand and listen to their voices in developing and implementing blended-based approaches. Considering that the use of LMS platform continuously changes and upgrades overtime, it is essential for NSTP department to engage NSTP facilitators in workshops or trainings that addresses their needs and concerns. Specifically, from a qualitative perspective, findings suggest different layers of problems and challenges encountered in the areas of design and development, implementation, and assessment and evaluation of blended learning activities.

My study also adds to the pool of teachers' voices who are products of conventional teaching and learning environment, and are being exposed and/or immersed in today's 21st century ICT integration in education. Moreover, these experiences shared by participants implies opportunities and ways of addressing the problems and challenges who, for instance, are struggling in implementing blended-based approaches.

Meanwhile, since my study is geared towards providing basis for faculty development and program enhancement, the following are my salient points of proposal which are aligned with the findings of my study:

- Before the start of NSTP class, the NSTP office should initiate conducting proper orientation, especially for NSTP facilitators, to prepare and assess their readiness on the use of LMS platform in teaching and learning;
- It is suggested to group the NSTP facilitators based on their readiness and training needs assessment. For instance, some will be sent to design and development of teaching resources or instructional materials; while others will be exposed to the use of ICT features, specifically LMS, for effective implementation of blended learning activities;
- The need for careful planning and crafting of NSTP guidelines and policies pertaining to blended learning processes, requirements, and grading system are necessary for NSTP facilitators to have basis of standards. Likewise, they should be involved in the planning because they are the ones immersed in classroom, and they know and understand what the learning needs of the students are;
- Collaborative planning is integral to ensure effective classroom management and teaching strategies for large class size. For example, NSTP facilitators can work hand-in-hand with the students, such as providing them group activities and tasks, to leverage teamwork, increase collaborative and active learning, minimize downtime, and reduce faculty stress;
- Likewise, the NSTP facilitators should have core group, such as technical and team support programs, to understand the basics of addressing system and technical glitches encountered; and
- Maximizing the use of LMS features by giving NSTP facilitators the freedom to utilize the resources towards enhancing learning interactions. For instance, they can provide additional learning resources and/or activities beyond the minimum standards for instruction and assessment purposes.

Though my study is limited and broad, it will be a good measure to facilitate comprehensive discussion and institutional intervention to address the problems and challenges encountered by NSTP facilitators. In fact, it can also serve to mobilize for more potential intervention programs in future blended-based teaching and learning approaches. Hence, it would be integral if my study will be replicated in other context or use in support of quantitative measurement or mix methods to have different point of lenses and basis for faculty training and program development.

Limitations of the study

One of the limitations is the number of participants agreed to participate. Though the purpose of this qualitative study is not to generalize in answering the research questions; however, it is also essential to look the lenses and hear the voices of other NSTP facilitators experiencing hindrances in implementing blended learning activities. Additionally, since I am working in this environment, this can bring both advantages and disadvantages in conceptualizing the study (Bonner and Tohurst, 2002). Familiarity, rapport, and cooperation, which serve as an advantage for data collection, of other participants were already established. While the notion of threat or personal biases may possess because of being an "insider" in the institution; however, through peer advising, such as discussing with my adviser and through engaging in public presentation, it ensures objectivity of the processes and findings of my study. Further, since I am the only one worked for the coding process of my study,

discussing the initial results with the participants, and final themes with my adviser and colleagues in the field ensures credibility and trustworthiness of the results.

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About the Author

- Abel V. Alvarez, Jr.; aalvarez@feu.edu.ph; Far Eastern University, Manila, Philippines; ORCID: 0000-0002-2319-6881

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