

## **iTEACH (Integrating Technology in Teaching): Narratives of Teacher Educators**

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### **Abstract**

This qualitative study highlights the pedagogical practices of teacher educators in integrating technology in teaching. It also presents the dilemmas these educators encounter in technology integration. This study, which leaned on constructionism and symbolic interactionism as its epistemological and theoretical perspectives, respectively, focused on the experiences of teacher educators regarding technology integration in their teaching as revealed in their narratives and during the one-on-one in-depth interviews. In this regard, narrative inquiry as a research methodology was utilized. This study was comprised of two phases: The Data-Collection and Analysis phase and The Publication of Teachers' Narratives. Identified through purposive sampling, participants of this study were the ten (10) teacher educators of West Visayas State University-College of Education. They were chosen by virtue of their knowledge and skills in using technology in teaching acquired through trainings and seminars attended as well as in the practice of their teaching in the field. Furthermore, they were identified as participants mainly for the reason that they practice technology integration in their teaching. From the ten (10) teacher participants, six (6) main informants were selected to provide in-depth information about their teaching practices concerning technology integration through one-on-one in-depth interviews. Five themes emerged during the analysis of data using Braun and Clarke's model for thematic analysis: a) technological tools utilized; b) reasons for technology integration; c) perceived advantages of technology integration; d) pedagogical practices; and, e) dilemmas encountered. The teacher educators employed technological tools that they believe could aid them in delivering the goods most efficiently and effectively. In their practice of technology integration, they found convenience and ease, and confidence that their students could have rich learning experiences in their classes. As for the narratives of these teacher educators, a booklet entitled, "iT Stories and Confessions of Teacher

Educators, containing such stories was designed and developed and published for circulation. The interpretation was also presented to them for review and validation. The second phase of this project involved the publication of teacher educators' narratives on technology integration in their teaching.

*Keywords: iTeach, narratives, teacher educator*

It is always a challenge for teachers to deliver the goods well, to master their craft. Unlike other experts who can only focus on their field of knowledge, teachers are expected to master their field and to translate such mastery in ways that learners can easily understand and accommodate information. And this would often pose problems due to the multifarious tasks a teacher has to attend to.

In today's ultra modern world, managing technology is a literacy that is expected of teachers but integrating technology does not have to consume one's life as an educator. In fact, if a little time is spent on, Google Drive, for instance, teachers can eventually save time and paper, while collaborating more effectively with students. (Marcinek, 2014). It is unsurprising, therefore, that technology is playing an increasingly central role in the classroom - not just in ICT lessons (Curtis, 2014).

Undoubtedly, finding the time to integrate technology in teaching is an overpowering task for anyone. However, technology is already integrated in almost all we do and nearly every task our students will encounter. So how do teachers strike a balance for learning about and eventually integrating technology (Marcinek, 2014)?

This study, through the narratives of teacher educators who participated in this research, might be an avenue to hopefully encourage more teachers to venture into technology integration in teaching.

### **Statement of the Problem:**

This study aimed to document teacher narratives concerning their pedagogical practices of integrating technology in teaching.

Specifically, it sought answers to the following questions:

1. What do the narratives reveal about the pedagogical practices of teacher educators in technology integration?
2. What dilemmas do teacher educators encounter in integrating technology in their teaching?

### **Research Design**

This qualitative study was anchored on constructionism as its epistemological perspective. Constructionism according to Crotty (1998)

is the view that all knowledge is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context.

This study leaned on symbolic interactionism as its theoretical perspective.

Blumer (in Crotty, 1998) enumerated three basic interactionist assumptions:

1) that human beings act toward things on the basis of the meanings that these things have for them; 2) that the meaning of such things is derived from, and arises out of, the social interaction that one has with one's fellows; and 3) that these meanings are handled in and modified through an interpretive process used by the person in dealing with the things he or she encounters.

Further, this study was based on Koehler and Mishra's Technological Pedagogical

Content Knowledge framework (2009). The TPACK framework builds on Shulman's (1987, 1986) descriptions of Pedagogical Content Knowledge (PCK) to describe how teachers' understanding of educational technologies and PCK interact with one another to produce effective teaching with technology.

This study focused on the experiences of teacher educators regarding technology integration in their teaching as revealed in their narratives and during the one-on-one in-depth interviews. In this regard, narrative inquiry as a research methodology was utilized. Narrative inquiry, the study of experience as story, is a way of thinking about experience; a methodology which entails a view of the phenomenon (Clandinin, D. J., & Huber, J., n.d)

In this study, the narratives of teacher educators revolved around their realizations regarding the use of technology in teaching. Furthermore, their stories tackled their actual practices in integrating technology in teaching.

## **Sample**

The participants of this study were the 10 teacher educators identified through purposive sampling. These teacher educators were faculty members

of West Visayas State University-College of Education. They were chosen by virtue of their knowledge and skills in using technology in teaching acquired through trainings and seminars attended as well as in the practice of their teaching in the field. Furthermore, they were identified as participants mainly for the reason that they practice technology integration in their teaching. They were then presented with consent forms to formally initiate them into the study.

From the ten (10) teacher participants, six (6) main informants were selected to provide in-depth information about their teaching practices concerning technology integration. These informants were subjected to one-on-one in-depth interviews.

### **Research Procedure**

This study was comprised of two phases: The Data-Collection and Analysis phase and The Publication of Teachers' Narratives.

The Data-Collection and Analysis phase involved 5 stages. The first stage was the preparatory stage, where all pertinent materials and documents were prepared and organized such as the letters, interview protocol, interview schedules, consent form and other instruments for the study. Letters asking for permission to conduct the study were drafted and addressed to the informants and the dean of the College of Education. The interview protocol was patterned after the research questions while the interview schedule was based on the informants' availability of time for one-on-one in-depth interviews. The consent forms were also prepared to ensure ethics of research.

The second stage involved sampling of the participants based on their knowledge of and skill in integrating technology in their teaching. The probable informants should have attended trainings on technology integration and practice such integration in their teaching. They should be teacher educators handling pre-service teachers in the College of Education of West Visayas State University. For these requirements, the purposive sampling method was employed.

The third stage necessitated consultation with experts in qualitative research and information technology to review and refine the interview protocol in accordance to the research questions formulated as well as the research design.

In the fourth stage, the researchers distributed to the ten (10) chosen participants the consent forms in which they would signify their intention and willingness to participate in the research project. The researcher clarified with the informants the data collection procedure, their role or involvement, as well as their rights in the course of the study.

The fifth stage entailed the collection of data based on the research questions

drafted. Collection was done through one-on-one in-depth interviews with the six (6) main informants as well as through collection of their written narratives. According to Fraenkel and Wallen, (2012), interviewing, the careful asking of relevant questions, is an important way for a researcher to check the accuracy of—to verify or refute—the impressions he or she has gained through observation. In this study, the interview was done with the aid of an interview protocol prepared for this purpose.

Stage six involved data encoding and analysis. Interviews were transcribed for the purpose of ease and clarity in data analysis. The transcribed data were then analyzed using Braun and Clarke's (2006) method of thematic analysis which included familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

Stage seven entails data interpretation and discussion of results, peer review, revision, and editing. In the presentation of results the first names of the informants were used as per their consent. The interpretation was also presented to them for review and validation.

The second phase of this project involved the publication of teacher educators' narratives on technology integration in their teaching. Based on the rich narratives from the first phase of the study, the second phase dealt with the publication of these narratives by the teacher educators. Such publication was circulated among the faculty members of the College of Education and the other colleges in West Visayas State University as well as teacher educators in other teacher education institutions outside the University. The pre-service teachers of the College of Education were also the target population of this publication in the hope of inspiring them to explore technology integration and learn of the great benefits it affords one's teaching.

The second phase of the study involved three stages: 1) The Write Shop for Teacher Participants; 2) Design and Development; and 3) Production stages.

In the first stage, The Write Shop for Research Participants, a write shop session was provided for the participants of the study for them to have the proper venue and time to write their narratives, reflections, and realizations regarding technology integration. In the write shop, an invited speaker gave a lecture-workshop on how to write narratives. For those participants whose written narratives lacked essential elements, they were interviewed by the researchers to gather the missing data.

The second stage was the design and development of the booklet which included the narratives as well as the learning activities designed to fit the message of each narrative.

The third stage, Production stage, entailed the editing of the manuscript and the publication of the booklet of narratives.

## **Results and Discussion**

### **Informants' Profiles**

Six (6) main informants were chosen to provide in-depth information regarding teacher educators' pedagogical practices as well as dilemmas encountered in technology integration in teaching.

**Ma'am Theresa.** Ma'am Theresa has been in the teaching profession for almost 26 years. She taught for 24 years in a special education school teaching students with disabilities such as hearing impairment, hearing problems, or with hearing difficulties. She then transferred to West Visayas State University College of Education and has been teaching Bachelor of Special Needs Education or Bachelor in Special Education major in Hearing Impairment for more than a year handling subjects like Family System, Trends and Issues. She also teaches Preparation of Instructional Materials for SPED and Foundation of Special Education in the master's program. Having 2 blind students in her class in the master's, she decided to utilize some technological tools in teaching such as the Talk Back application and Talking Calculator

**Ma'am May.** Ma'am May has been with West Visayas State University College of Education for over a year now (at the time the study was conducted) after having served the Department of Education for 6 years teaching in the kindergarten. She presently teaches subjects like Family System, Trends and Issues among Bachelor of Special Needs Education students. Being a millennial herself, she is inclined to teach using technology. Ever since teaching in the kindergarten, she had already integrated technology in teaching by using the LCD projector, laptop computer, and the interactive board which was being provided by the DepEd. When she transferred to West Visayas State University, she continues to integrates technology in her teaching. Aside from using, projectors, laptop, computer, and speakers, she also utilizes other technological applications or programs such as the PowerPoint Presentation, QR Code, and Zipgrade.

**Ma'am Myra.** Ma'am Myra has been into teaching for almost 16 years now at West Visayas State University. She started teaching in the Laboratory School teaching science subjects; and currently, she is teaching full time in College. She has been integrating technology since she was teaching in the Laboratory School. Way back then, she only used the television, overhead projector, and VHS (Video Home System). This time, she integrates high technology in her teaching such as PowerPoint presentation, Excel, Movie Maker, and films being shown to class using the LCD projector and the computer.

**Ma'am Sherbeth.** Ma'am Sherbeth has been teaching for almost 23 years. She taught for 12 years with DepEd and 11 years at West Visayas State University. She started integrating technology in teaching when she transferred to West in the year 2007. In her classes, she uses the laptop computer, LCD projector, video clips, and PowerPoint presentations for her lectures. In addition, she uses Edmodo, an online website in posting and checking assignments, quizzes or take home exams, as well as when disseminating important announcements. Currently, she is an online flexible tutor or Flexible Learning Tutor (FLT) for an ongoing program of the Early Childhood Care and Development (ECCD).

**Sir Agustin.** Sir Agustin started teaching in 2009. He has been teaching at West Visayas State University for eight years. He is handling the TLE (Technology and Livelihood Education) subject in the Elementary and High School. In college, he teaches Educational Technology and EDUC courses, Literatures of the World, and Children's Literature. He has already



been into technology ever since but more for his personal use. When the K-12 curriculum started, he began integrating technology in his teaching. He uses the camera, LCD projector, and his own tablet. He has also been using all of Google's software such as Google Drive, Google Document, Google Spread, Excel, and Slide. In addition, he also uses other programs or applications such as PowerPoint and videos, Prezi, SlideShare, and other websites.

**Ma'am Ditas.** Ma'am Ditas has been in the teaching profession since 1993. She taught preschool children for 11 years and 9 years at West Visayas State University where she teaches English, Observational Studies in SPED, and Psychology of Children with Special Needs for ECE and SPED. Moreover, she taught online classes in the University Distance Education Program. In her teaching, she employed technology such as the computer, LCD projector, and the sound box. Also, she uses other programs such as the PowerPoint Presentation, Make Beliefs Comics, Powtoon, the e-mail, and other websites. She also teaches her students how to report by integrating technologies.

### **Thematic analysis**

Five themes emerged during the analysis of data using Braun and Clarke's model for thematic analysis: a) technological tools utilized; b) reasons for technology integration; c) perceived advantages of technology integration; d) pedagogical practices; and e) dilemmas encountered.

Technological tools utilized. In this era of great technological advancement, it is imperative that teachers be equipped with the right technological tools to keep their pedagogical practices relevant with the students' needs. The Generation Z, according to WhatIsTechTarget.com, is comfortable with technologies that are fairly recent for older generations, and they have grown up in the current environment of ubiquitous mobile communications. Teaching this kind of students definitely means utilizing technologies that can keep up with their interests and abilities or they would easily drift away in boredom.

The informants in this study are among those teachers in the College who are avid users of technology in their teaching. Aside from the usual technological equipment they commonly use in class such as laptop, speakers, and LCD projector, they utilize varied technologies—software programs, the

internet, and applications, etc that aid them in the delivery of their lessons, in giving assignments, and even in assessing student learning. In the same manner, in the study of Harvey-Woodall (2009), findings revealed that technology use among faculty ranges from using devices such as email, the internet, and online library catalogs to software programs.

In the analysis of the themes, it was found out that the teachers' choice of technology depends on certain factors such as the students they are handling—their needs, interests, skills, and intellectual capacities, as well as the teachers' own convenience and capacity to use them as instructional aids.

Ma'am Sherbeth uses Edmodo, an educational social media site in her classes in the master's level. She finds it convenient for her and her students to conduct class-related concerns through Edmodo. The study of Callender-Sampson (2014), revealed that social media is a primary tool for both students and teachers. Students use it to communicate with friends while teachers use it for networking with colleagues. In the present study, Ma'am Sherbeth related her utilization of Edmodo as a social media site for instructional purposes. She shared:

*I use Edmodo in my class especially for master's (students) who are outside of the city. There are times that I cannot come to our school so they just pass their assignments to Edmodo. I also use Edmodo for quizzes and some important announcements. If we have take-home test, they just have to join the group and pass their take-home test to the Edmodo site.*

Ma'am Myra, on the other hand, started with low technology in her earlier years in the University as a teacher in the elementary grades in the laboratory school and later shifted to high technology when she transferred to College. She narrated,

*I've been integrating technology since I was teaching in the Lab School. Before, it was more on the use of television, film showing, and we don't have LCD projector and laptop. But, I've been using overhead projector already. In fact, I even brought my own VHS (Video Home System) before and would usually use it with the TV that we have. But, we don't use VHS anymore unlike before. I started using high technologies when I'm already teaching College level. I'm using PowerPoint presentation, movie maker, and then film showing using the LCD projector and computer.*

Just like Ma'am Myra, Ma'am Ditas also employs technology integration in her classroom and utilizes technological tools such as the computer, PowerPoint presentation, movies, application software such as Make Beliefs Comics, the email, and some websites. She related:

*In my 9 years in teaching college students, I have employed the use of technology in my classroom. I've been using the computer, PowerPoint presentation and movies to drive my point. I taught them how to make Make Beliefs Comics. So, when they report, they use it. In terms of passing their assignments, we use the E-mail. I tried to use Google Classroom but for me this (email) is more functional. In my online class, I would use some other websites. They go to this website and then they read or watch a video and then make their reflection after like, I give them let's say 1 hour or 30 minutes. And then we conveyed and talked about it and then they write their reflection and then pass it to the forum.*

In the case of Sir Agustin and Ma'am May, they use a wide array of technological tools in their teaching. They find relief and satisfaction in utilizing different software and applications that ease their job as teachers. Sir Agustin particularly says he loves technology. He shared,

*I really love technology and in my first time teaching, I am using technology already however it's not really for teaching. It's more on personal use. I have my tablet. Amo ni akon nga [this is my] favorite partner in integrating technology. I started using it in teaching, I think daw pag start sang K-12 [when K to 12 started]. I've been using also software of Google, all of the Google nga mga applications, mga Google Drive, Google Document, Google Spread, ang Excel, and Slide. Complete package na sa. So for example in my Literatures in the World class, If we are going to have a review of the literary work or piece, they submitted their work via Google style and then I need to check it in my tablet. I also use Prezi and SlideShare for my preparation. Sometimes I use them as references. I also download videos.*

Ma'am May, who considers herself knowledgeable about technology described the varied technological tools she is using in teaching. Many of these applications were not yet explored by the other participants such as the QR Code and Zipgrade. She related,

*I think I am a little bit knowledgeable about how to use technology. I'm integrating technology such as the use of laptop, projector, and speakers. I'm using PowerPoint. I am also using videos in YouTube as motivational videos or clips before we indulge with the topic or the lesson. In terms of checking students' paper, I use the QR Code. Zipgrade is very nice too. It is easy for me to check the tests of my students using Zipgrade. I apply it in terms of multiple choice tests, true or false, or the long exams such as the midterm and the final exam. I find it very easy because the result is already there. You don't have to check each item individually or by traditional way of checking.*

Ma'am Theresa, who teaches Bachelor of Special Needs Students, talked about using the TalkBack application as well as other technology in teaching such as the talking calculator, the audiometer, and other assistive devices. She explained,

*I have two blind students in my graduate school, in the subject Foundation of Special Education. I introduced to them how to use the TalkBack application to send messages through cell phone specifically text messages. When they take the test, I just type in the Microsoft Word and give my test to them, where they will answer through their laptops because there is this text-to-speech application. Through their laptops because there is this text-to-speech application. Different technologies were also introduced to them such as talking calculator for the blind. I also teach my students how to test the hearing of a person using the audiometer, which I borrowed from SPED, to test the hearing loss or the hearing level of the child. In addition, I introduce some technology like hearing aids. They are called assistive devices.*

The study of Thieman (2008) showed that pre-service teachers used a variety of technologies such as presentation and graphic organizer software, LCD projectors, streaming video and web quests for instructional purposes. This result support the present investigation on the integration of technology in teaching among teacher educators in terms of the various technology tools they utilize.

**Reasons for technology integration.** Various reasons were cited by the informants why they integrate technology in their teaching. Ma'am Myra integrates technology because for her it makes preparation of instructional materials easy and it is time efficient for both teachers and students. She

further emphasized that technology integration for her yields positive effects such as getting learners to be more interested and making teaching more realistic. She explained,

*The reason why I use technology is because of the changes in the society as well as the changes in the field of education. Because of the new advances in education in integrating technology it becomes easier for the teachers and the students to prepare materials. Also, it would not be time consuming for both the teacher and the students too. When I am using technologies in film showing or projected images or illustrations, learners get more interested. It's like you bring the reality in the classroom, which makes learning more interesting and real.*

In like manner, Ma'am Mae sees technology integration as a way to ease the work of teachers. She said,

*Integrating technology in teaching will make your life easier, it will make everything accessible.*

As for Ma'am Theresa, having some learners with special needs motivated her to utilize appropriate technology in teaching. She narrated:

*I have two blind students in my graduate school, in the subject Foundation of Special Education here at West and they are mainstreamed in the regular class. I introduced to them how to use the TalkBack application to send messages through cell phone specifically text messages. When they take the test, I just type in the Microsoft Word and give my test to them, where they will answer through their laptops because there is this text-to-speech application. That application will read the test orally for the blind students. So when they type, there is speech coming out of the pattern or keys. It's just the input which they will hear using their earphones so they can monitor whether they're typing right.*

Similarly, Ma'am Sherbeth who also had blind students in her class accommodated them by allowing them to use the speech to text application when she gave tests. She related,

*In my class, I have students with the visual impairments wherein they use laptop to answer the exams. When I give them the test, I would save it in the USB, then they will transfer it in their laptop, and read my test items*

*through their laptop because of the software that they have and then they answer it and after that, they will also save it in my USB. Then, I will print their answers.*

Sir Agustin integrates technology in all his classes. He considers the practical benefits of utilizing such technologies in his teaching such as saving time and resources. In the study of Gorder (2008) on the perceptions of teachers of instructional technology integration in the classroom, findings indicated that teachers use technology for professional productivity and to facilitate and deliver instruction. As for Sir Agustin, he uses technology to facilitate instruction and assessment such as collecting outputs through online submission. He narrated:

*I integrate technology sa tanan nga ni nga [in all of these] subjects. So example, if we have practical work like cooking, before we are going to work on the practical itself, I let my students watch the video, specifically, probably sa Youtube, to save time, to save resources at the same time, to be informed of the safety. So in the video, they could really see paano obrahon [how to carry out]. I have also created a website for all subjects nga to, to submit their works instead of paper. Kung kis-a [Sometimes], if they are going to submit a paperwork, mga project nila [their projects], I let them submit mga reactions nila so dira sila sa online sa practical na siya ya, kung baga daw augmentation [I let them submit their reactions there online which is practical. It serves as an augmentation.]*

Ma'am Ditas explained how her utilization of technology in instruction helps her to effectively teach her Bachelor of Special Needs students. She narrated:

*I let them watch using the computer, the LCD projector and the sound box. And they watch a movie about a gifted and talented individual. And then, they will take note of what specific behavior this individual has that makes him different from others. I think this strategy is effective because, they get to appreciate a gifted person in a holistic manner, like it becomes three-dimensional, it's not just flat. And they get to have the emotional awakening of what it means for somebody who's gifted and talented. And they get a whole picture. And because this is observational study, they can use this in writing a reflection about their observations from the movie. And then, they would use some verbs and adjectives. It helps them also.*

**Perceived advantages.** The teacher informants cited a number of benefits for integrating technology in their teaching. They perceived technology integration as advantageous for student learning aside from the efficiency and effectivity it affords to teaching.

Harvey-Woodall's (2009) study on the impact of technology integration in the classroom revealed that the impact of technology proves most powerful when focused on specific, measurable educational objectives such as improved literacy. Furthermore, students demonstrate higher levels of motivation and engagement when using technology, which also contributes to improved achievement.

Ma'am Myra assures effective learning among her students when she integrates technology in teaching. She credits technology for its accessibility and easiness. She further explained the roles of technology in facilitating the teaching and learning process. She stated,

*My assessment with regards to the effect of technology integration to the learning of my students is effective. I'm sure of it because, the videos I usually use really helped them in understanding the concept. The use of technology is very helpful to both teachers and students. It's an effective way in teaching and learning process because, all you have to do is to download in just one click. This is because of the modernization that we have right now, it's very accessible and easy to use except for some schools that don't have any access to these types of technology. Technology can have a dual role. It could be a teacher that facilitates learning and then it could also be a co-learner. In SPED, we call them assistive devices. They are assistive technologies, helping students learn.*

Just like Ma'am Myra, Ma'am May, Ma'am Theresa, and Ma'am Sherbeth also stated that technology makes one's life easier and more convenient. They were also one in saying that technology is accessible for teachers in carrying out their tasks. Ma'am May simply stated,

*Integrating technology in teaching will make your life easier, it will make everything accessible.*

Ma'am Theresa further elaborated,



*Using technology will make your life easier and faster. For example when using the PowerPoint, you can just easily present everything, with better presentation, of course. Unlike in our time before that we need to write which will take time.*

Ma'am Sherbeth shared the same views:

*Nowadays, with computers and printers, visual aids preparation is no sweat at all. All you have to do is to surf the net and print the needed pictures that would support the lessons.*

She further explicated the accessibility of technology in terms of finding the right instructional materials such as books as well as in aiding the teacher in her task of computing students' grades through the use of Microsoft Excel. She said,

*Books and information can be accessed for a very short time. There is no need to buy books and go to the library just to look for a topic that you want to know. Grades can be computed easily with the use of excel as long as your data are available whereas before, you have to burn your midnight candle to beat the deadline of passing the grades because it takes a very long time to compute the grades manually.*

Moreover, the use of technology is seen as a sign of keeping up with the times. In the study of Harvey-Woodall (2009), he concluded that teachers should be thoroughly familiar with the latest trends in technology in order to make learning as relevant as possible. Ma'am Theresa expressed her thoughts about Millennials being adept with technology and that teachers must also keep themselves abreast with technology. She shared,

*Every teacher must equip themselves with the knowledge about technology because the Millennials nowadays are very adapted to technology. You will be left behind, you will look boring in your class and they will not like you if you don't equip yourself in using technology.*

Pedagogical strategies and techniques. Learning is dependent on the pedagogical approaches teachers use in the classroom. The best teachers believe in the capacity of students to learn and appropriately utilize an array of pedagogical approaches to ensure such learning occurs (learningportal.iiep.unesco.org).



The teacher participants in this study revealed varied pedagogical practices they implement in their classes specifically on the integration of technology in the teaching and learning process. They narrate the teaching methods and techniques they employ in their respective classrooms. In the study of Miller (2006), on the impact of technology on learner interactions, He found that there is a definitive connection between the teachers' guiding philosophy and beliefs and the pedagogical tools they employ in the delivery of instruction to their students.

Ma'am Ditas relates in detail how she conducts her classes. As a professor handling online classes for the University Distance Education Program (UDEP) of WVSU, she holds online classes via the UDEP web portal. She related,

*In my online class, I would use some other websites, but sometimes it's multiple. They can send through that website for my online students. On top of everything, they really do pass through the website.*

Ma'am Ditas described the preliminary activities she facilitates as she begins each online session:

*Well, it's like face-to-face but, unlike the face-to-face thing, we have the computer as your interface. Instead of face-to-face type, we chat during our discussion. So what I do is the usual thing like greetings, community prayer, I usually do that because it helps them. I teach them and through that I explain to them why we do this. So for our routine, we greet, we pray, and then we start the lesson.*

In conducting her class, Ma'am Ditas relates her teaching strategies. Her motivation would usually be in a form of a question. For class discussion, she also utilizes the question and answer technique in the form of typing. She also facilitates class reporting by the students. She explained:

*I would usually start with a question because, it's online and they already know what the subject is all about. They've read about it then we can discuss about it and relay the info. And, that's our recitation. In our recitation they write about, their answers for the question that I have for them. Sometimes we have our reporting. So, the reporting is like this; one person gets the topic and then researches about it and then sends the PowerPoint to his classmates' e-mails and then passes it to me and also*

*to the website that we have for the online class. Well, of course because we're having a class online, I get to be more intolerant of spelling errors because it's a skill. And then, I think it's about the same or I would say that it seems more personalized, having online classes. Because, the class size is smaller. Usually, maybe 1 is to 10. I haven't handled 25 students.*

Miller (2006) found that the purposeful integration of educational technology provides a source of interest and motivation for students that can result in deeper engagement in the learning process and significant interactions of classroom inhabitants. To assess learning, Ma'am Ditas implements a number of assessment strategies. They are examinations, learning activities, assignments or reflection writing. They make use of the forum in submitting the outputs. The forum is a feature of the UDEP web portal wherein students post their answers or written work, and to which the course facilitator can give feedback as well as mark or grade. The classmates are also able to comment or react to the posted work. Ma'am Ditas related:

*I give exams to my students online. Sometimes, I'd give them a link. Let's say in YouTube, I give them the link and they can listen to the lectures so that they can have an activity. Because unlike face-to-face classes you can't give them activities. So for our activities we can do that. And I actually give them assignments within the sessions. They go to this website and then they read or watch a video and then make their reflection after like, I give them let's say 1 hour or 30 minutes. And then we conveyed and talked about it and then they write their reflection and then pass it to the forum.*

Sir Agustin and Ma'am Sherbeth narrated their teaching strategies and techniques as regards their practices in integrating technology in instruction and assessment in their regular classes.

Sir Agustin and Ma'am Sherbeth utilize online classrooms to supplement their regular classes. They use these online class sites to provide their students access to information and materials that facilitate their learning activities. Such interface enhances the quality of teaching and learning.

Puentedura's SAMR model presents four different degrees of classroom technology integration, namely, substitution, augmentation, modification, and redefinition (Schrock, 2018). Sir Agustin makes use of technology to augment instruction. Instructional materials are made available through his Google

Classrooms. He shared his pedagogical practices concerning technology integration:

*My practice is, before I go to or at the start of the class, I give my student a course outline and in the course outline it says that one of the requirements, they need to have Google account, Gmail and then I'm going to gather that because I have to register it in my class site. So, every time I have a class, I have separate class sites. After sina, I register them or ini tawag namon enroll [After that, I register them or we call it enroll], in my class site and all the materials about class like, example bi may lecture note, ara na da [for example if there are lecture notes then they are available there]. After ko lecture, pagka next day ang lecture note uploaded na sa site and they're going to download it [After I do the lecture in class, the following day, the lecture notes are already uploaded in the site for students to download]. If they need to read ahead, I upload it earlier.*

Ma'am Sherbeth utilizes Edmodo as her online classroom. It is her way of accommodating her students' learning needs as well as provide a means of extending instruction and assessment when physical classroom meetings are not sufficient. She sees it as a convenient way of monitoring her students' outputs. She related:

*I use Edmodo in my class especially for master's who are outside of the city. There are times that I cannot come to our school so they just pass their assignments to Edmodo. If I give an assignment, I check the site every day. I find it convenient because you can just check it during your vacant time, especially at night before I sleep. I check if there are submissions. I also use Edmodo for quizzes and some important announcements. If we have take-home test, they just have to join the group and pass their take-home test to the Edmodo site.*

Dilemmas encountered. While integrating technology in teaching could be rewarding in terms of teaching efficiency and effectiveness, it is undeniable that teachers spend an immense amount of time and effort into the preparation of such as an instructional aid. Further, certain problems happen along the way causing some disruption or trouble that could be challenging to fix. The participants shared their stories about the dilemmas they encountered in their utilization of technology in teaching.

They were all one in saying that technology affords convenience and ease in preparing instructional materials, as well as aids in the efficient delivery of the lesson. And they also unanimously said that while technology is beneficial in many ways, teachers have to be wary of circumstances when such technology may fail or malfunction.

Ma'am Theresa recounted one unforgettable event regarding utilizing technology in her lesson. It gave her a big scare and a great lesson to learn. She narrated:

*There is a memorable incident where technology didn't work well. It was during the accreditation. I was the one who was being observed by the accreditors, and my topic was the use of technology, however it was brown-out. So what I did was I used group dynamics. I grouped the students and had activities, and ask them "what's the use of technology?" They have the brainstorming since we cannot have the presentation in front. It did not kill me but made me sweat a lot. After the accreditation I was powerless and feel battery-empty. I could effectively deliver the subject matter even without the use of technology. It ran smoothly because the idea came to my mind to just group them and let them have their brainstorming instead of having the presentation. However I could have had a better presentation if we had the use of technology.*

Ma'am May shared a harrowing experience with utilizing technology which she could never forget:

*My laptop, which is only two years old, bagged down and I forgot to save one of my outputs. That is already eleven in the evening. I called my friend for help. He said, "Okay, do not touch anything Ma'am. Okay, just do what I say. Do this, do that, troubleshoot." I now know how to troubleshoot my laptop because of what happened. He told me that I have to look for backup and save that in my e-mail. That was the most terrifying experience I ever had because I made the digital story for almost one month. I learned my lesson that in everything that you do, you really need to have a backup or save that file in the Google Form, Google Drives, Google site or in the E-mail. So what happens today is that, I'm doing those back-ups.*

Ma'am Sherbeth shared the challenges she encountered with technology integration:

*In terms of establishing a model on how to present the lesson, it's our practice that, during the first days of the class, we are the ones who prepared the PowerPoint. Of course, there some difficulties encountered during the preparation of these technologies; It takes time to prepare the PowerPoint especially, the videos because, there are some software that you have to install, just like VLC, and I don't know how to do it. That will take a long time. But, with the help of the experts, my son, I was able to surpass. And you should have Wi-Fi. The dilemma sometimes is you want to have video clips but then if you have no Wi-Fi then, you cannot do it. Of course, I do have Wi-Fi it's on the technicality of the procedure which I find it difficult. Technology has its drawbacks, you really need to have internet connection, laptop and electricity to make your work fast and you have to spend money to enjoy the comfort of technology.*

As related by Ma'am Sherbeth, she met some difficulties in the preparation of multimedia presentations such as those concerning time and expertise. In the study on the use of technology in the public school classroom, Young (2008) found that teachers who received more training and had more time to work on lesson designs and skills, felt more comfortable with the technology tools and did a better job using them in the classroom. The study further verified that professional development is needed throughout the school year to maintain focus and effort when dealing with technology.

Moreover, in the study of Kopcha (2012), on teachers' perceptions of the barriers to technology integration, results revealed that teachers identified time as their biggest challenge when using technology in their classroom, specifically in planning and implementing lessons.

Ma'am Myra also shared her thoughts regarding technology integration in teaching:

*I remember some experiences in the use of technology in the classroom like loopholes that, you're excited to start your lesson and then there are interruptions just like compatibility of the LCD, some files that you can't open as well as power interruption which are some of the problems we usually encounter when using technology.*

Ma'am Ditas revealed the downside of using technology in teaching, particularly referring to online teaching. She enumerated some scenarios depicting the limitation of technology integration:

*I do enjoy online classes but there are some limitations. One limitation is that, when they answer, you don't really know if their answers are downloaded or it's from their own. Especially, when having an exam, if it's downloaded or if their reflection is from their own words. But, on the other hand when we have online exams and the recitation is being tied where I could really see that it's their own words and it's coming from their own perspectives like. I could really see, feel, and read that it's coming from their experience. Except for some where exams exhibit, not their own words especially if they're tech-savvy, they could immediately download an answer right and just paste it. And when you get logged out all of a sudden. You're typing and then, you have already typed two to three sentences and then it becomes nothing, zero. And that is so annoying. But on the other hand, that's how it is sometimes, that's how technology sometimes, so you just go over there. As I've said always it's like life. Like breathing, sometimes you breathe fast sometimes it's slow, sometimes you're breathing in a relax way. That's how it is.*

Referring to her regular classes, Ma'am Ditas also shared some mishaps in her use of technology in teaching. She further offered helpful advice when such events happen:

*Because we have these built-in LCD projectors in QH (Quezon Hall) right now, I only bring my computer. But then my computer is not compatible. So, it was like "Oh, okay! Plan B? Plan C?". Of course we go back to the blackboard. Because my computer works with most of the LCD so I wasn't prepared for that. If I would run back to my office and then have another computer that would take a lot of time. Therefore, plan B was also the chalk and talk method. You can check it out first if it's compatible or ask your students. The students might have other computer that is compatible but then, I'm afraid of virus. Because I usually use my personal computer, I'm kind of protective of it. Although when it failed me, I thought of using someone else's laptop but, I'm more concerned of the impact of having a virus on my computer, so I have to protect the data that I have. Even if I have this anti-virus thing, you never know. My advice of course is to be always prepared, plan A and Plan B, um if not Plan A, B, C, D, E, F, G. And then um, just keep your cool, don't shred it out. Although you will get embarrassed you can always just say "Oh, I'm getting embarrassed about this" you can make a joke about it. But, it's always better if you're honest in front of your students. And, it didn't stop me from integrating technology in my class. I'm still using it actually.*



In the study of Keane (2015) entitled *Reflecting on Technology Integration in Teacher Education Programs*, findings indicated that one way of further raising the standard of the teacher education is to focus on improving the technology-related professional development of currently practicing teachers.

### **Insights gained**

Teacher educators in the COE, WVSU are employing technological tools that they believe could aid them in delivering the goods most efficiently and effectively. In their practice of technology integration, they find convenience and ease and confidence that their students could have rich learning experiences in their classes. As 21st century educators, they attest to the great help these technological tools could offer. It is just a matter of tapping and maximizing the use of such tools and properly integrating them into the teaching of content. As molders of future teachers, these teacher educators have the power to influence prospective teachers to be aware of such teaching aids and eventually lead them to commit to technology integration in their own teaching in the future.

### **Recommendations**

Based on the findings of the study, the following recommendations are forwarded:

1. As revealed in the narratives of the informants, among the pressing dilemma they encountered in technology integration in teaching was being confronted with incompatibility issues in terms of the equipment or gadgets they use and the lack of knowledge in installing certain appropriate tools and applications for teaching as well as trouble shooting when the need arises. In this regard, We recommend that capacity building programs be conducted among all teacher educators to equip them with technical skills in navigating or utilizing high technology tools such as how to use Turnitin and interpret the generated results to detect plagiarism in students' written outputs, among others. These capacity building programs may also expose them to a wider array of educational technology tools that could facilitate a more efficient teaching and learning process.
2. Installing Wi-Fi connections in the classrooms is also necessary to enable the use of online programs and applications as instructional materials in class.

With this, research work may also be easily facilitated. Furthermore, both teachers and students will greatly benefit from a stable internet connection in the classrooms since most professors use online educational websites as supplementary classrooms where they conduct assessment and even extended instruction.



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