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Voice from the Classrooms: The Technological Challenges Faced by Bachelor of Science in Development Communication Students

Jaime Boy Jr U. Ngag[1]
[1]LPT, PhD South Cotabato State College, 9512 Philippines
Corresponding author:
Jaime Boy Jr U. Ngag, PhD
Email ID : jaimeboyngag@gmail.com

ABSTRACT
Students of today`s generation are prompted with issues on the proper utilization of technology for learning especially in the developing and third world countries. Hence, this study aimed to explore the technological challenges encountered by the Bachelor of Science in Development Communication students of South Cotabato City in their radio-broadcasting class during the academic year 2023-2024. This study employed a qualitative research design, specifically a descriptive phenomenological method to explore the participants` encountered challenges. Participants were the selected first year and second year Bachelor of Science in Development Communication students who were chosen using a purposeful sampling technique with an inclusion criteria. Ethical considerations were also strictly observed by the researcher throughout the study. Thematic analysis was used in the analyzing and interpreting the collected data from the participants. Result shows that the unfamiliarity of functions technological equipment, lack of relevant equipment, poor computer literacy skills, and lack of knowledge on proper maneuver of the radio equipment were themes emerged related to the challenges encountered by the students. It was also concluded that the identified challenges hampered Bachelor of Science in Development Communicationstudents to use radio equipment during their radio-broadcasting class. This study is significant to school administrators, and to the programs heads to craft intervention programs to address the challenges faced by the students. This also serves as reference for budget officers to allocate funds for the technological equipment for the school. Future researchers can use this study as their guide in future technological research...
Keywords: Technology, Challenges, Development Communication, Radio-Broadcasting, Qualitative

1. INTRODUCTION:

Technology is still an issue in education even up to this day especially to the developing and third world countries. Considering the pivotal role that technology plays in the delivery of effective instructions, most schools are prompted with a challenge of providing relevant technological gadgets that help foster effective learning. Students as well are affected by this problem which hinder them to perform well in all their class activities and practicum that require technological integration.

In Arizona USA, Johnson et al (2016) revealed that despite the exciting features of technology in teaching, problems are still present to school districts, administrators, and teachers.He emphasized that there school administrators who also struggle with the use of technology in performinf their tasks. Teachers as well have limited access to enhance their computer literacy especially when it is used in their teaching. Students on the other hand are not using the technology properly, as they are focus on mobile games and other activities they enjoy online.

Similarly, in the Philippines, Balahadia (2021) identifies different challenges such as the unfamiliarity of the students on the use of high-technical technological equippment in education. Although majority of them use smartphones, ther are still gaps between their familiarity to maneuver smartphones and to manipulate technological equippment such as speech laboratiry apparatus and other high-end digital platforms in the classroom.

On the other hand, in South Central Mindanao, Ngag (2023) ascertained the efficacy of the Module, and other technology-integrated materials where all Teduray original folktales, folksongs, poems, riddles, and proverbs made a noticeable progress of students' learning in English and in their regional literature subjects. However, those students who have no access any of these learning innovations have shown to have low performance in their class.

Theoretical Framework

This study is consistent with John Bransford's (1992) Anchored Instruction Theory, which human experinecs and learning from a rea-world is influences by the pivotal contents of instructional media. This theory delves on the technology-based learning. This thery believes that most students rely on technology as part of their existemce in a real-world. In this study, the technological hurdles that students face prevent them from performing effectively in radio-broadcasting activities and practicums. Their

appreciation of the real-world experiences hindered by the technological issues and challenges they experienced.

Dual-Coding Theory is a learning theory proposed by psychologist Allan Urho Paivio. According to the dual-coding hypothesis, people's brains absorb information primarily through visual and auditory channels; knowledge is accumulated through the processing, organization, and utilization of visually coded information, as well as encoding spoken language (Ouyang & Stanley, 2014). In this study, the constraints of the students with the use of technology impede their active performance in their radio-broadcasting classes and practicum. Specificically, their lack of knowledge in computer literacy skills hindered them to do their assigned tasks with later affected their grades in their major courses.

Finally, this study is also anchored on Cognitive Flexibility Theory proposed and advocated by Rand Spiro and others. This theory is derived from cognitive theory by Jean Piaget (1898-1980), Jerome Seymour Bruner (1915-) and David P. Ausulbel (1918-2008). According to this theory, learning occurs in complex and ill-structured domains, and it requires a specific environment as well as information.In this study, the integration of the technology in learning could be of great help for the students to ace their major courses in radio-broadcasting, however, the technological challenges like unfamiliarity of the gadgets blocked the purpose of making use of the technology to enrich their academic performance.

Research Questions

Generally, this study explored the technological challenges encountered by the Bachelor of Science in Development Communication students of South Cotabato City in their radion-broadcasting class during the academic year 2023-2024.

Specifically, this explored the following questions:

What are the technological challenges encounted by the Bachelor of Science in Development Communication students during their radio-broadcasting class?

What are the effects of technological challenges on the performance of students in their radio-broadcasting classes and practicum?

2. LITERATURE REVIEW

Technology is one of the best commodities in today`s era. Numerous schools in the world are extending support for the realization of digital classrooms with available tablets and computers for learning. Teachers tend to integrate technology in their teaching knowing its pivotal function in facilitating effective and holistic learning. Also, curriculum planners tend to incorporate technology-based instruction in the curriculum (Johnson et al., 2016).

However, there are challenges that arise in the integration of the technology in the classroom. Warschauer, Zheng, Niiya, Cotton, & Farkas, (2014), revealed that due to limited time given to the teachers, they tend not to integrate technology in their lesson plans and syllabus which brought domino effects to the information communication and technology skills of the students. This limited time given to the teachers in their classes, they missed teaching their students basic computer skills. Hence, to enhance the technological skills of the students, schools must provide a network infrastructure with computers and other devices for learning that can accommodate a number of students. This mechanism would give access to students to cultivate their skills in computer and other electronic learning devices (Afreen, 2014)

Another challenge in the integration of technology in the classroom is the availability of funds to purchase computers and tablets. As a mechanism, Althoff and Leskovec (2015) reported that to address issues on the availability of the computer sets to foster productivity for students` training in Utopia, teachers used crowdfunding sites to gather funds for the purchase of computers and other learning technological gadgets. They also emphasized that this technique helped them gather funds not only for the purchase of the technology (computer and tablets), but also supported teachers` professional and continuous development.

Also, Digital technologies brought numerous modifications in distance education and this issue has triggered many debates regarding the effectiveness of such technologies in educational environments and their possible barriers. Hood, Littlejohn, and Milligan (2015) stressed that the contextualization of Open E-Learning Resource has been an issue. The adaptation of open E-Learning systems for local contexts do not suffice the needs of the students from different localities. Digital learning is suggested to be contextualized to the needs and demographics of the target users and beneficiaries (Ngag, 2023).

Likewise, Greene, Oswald, & Pomerantz (2015) identified three major blocks of conducting E-Learning systems. The first one was the lack of technological facilities to realize the program. The second one that can be considered as a cornerstone is the lack of finances to purchase computers and other gadgets to be used in the classroom. These researchers pointed out that a lack of budget can hinder the project. The third challenge, according to the researchers, is the lack of time since both teachers and students are having extra-curricular activities which impede them to participate actively. Probably, this is the most significant issue among perennialist teachers and Imlawi, Gregg, and Karimi (2015) believed that this issue is still existing despite the efforts of the government in digitalizing education. But Kent, Laslo, and Rafaeli (2016) believed that the main challenge is the political or managerial coordination on a policy level. This problem acknowledges the insufficiency of regulatory frameworks for collaboration with other organizations and also the lack of communication.

On the other hand, in the study of Balahadia (2021), he found out that students in the selected universities and colleges in the Philippines, specifically students taking Bachelor of Science in Information Technology (BSIT) , encountered issues in doing tasks related to their program due to lack of computer literacy skills. Some of these students obtained a failing grade in their major courses. This finding underscores the overwhelming effects of

technological challenges faced by the students on their academic standing. Hence, there is a need to enhance the curriculum and enhance teachers skills in integrating technology inthe classroom. In another study of Hu & Garimella, (2014), they reported that teachers' professional development is a must to effectively integrate technology into their teaching. They also stressed that teachers` proficiency in the use of technological gadgets would bring great impact on the academic performance of their students.

Moreover, schools in Asia designate master teachers and other senior professors to implement educational technologies training to support teachers in the integration of technology in their teaching (Vu, McIntyre, & Cepero, 2014). Research shows that there are also stakeholders who help in the implementation of technology-driven classrooms. In fact, there are also private companies like Apple that donates gadgets like iPads to support teachers` technology-based teaching. However, despite the external support given to them, challenges also arise as teachers` training in teaching computer subjects is lacking. This issue also prompted educators to take necessary actions.

The second core domain of technological learning challenge delves with the technical dimension. Numerous researchers concentrated on this area and exhibited the challenges that they had in their school. For instance, Watson, Kim, and Watson (2016) pointed out that the lack of technological platforms impede the goal of everybody in promoting a technology-based environment. To Wiebe, Thompson, and Behrend (2015), the poor internet connection can really hinder students and teachers to employ technological facilities in the classroom. In line with this, students cannot perform well in their courses that require technology (Margaryan et al., 2015). Luaces et al., (2015) mentioned that there are various barriers that hinder the implementation of a technology-based instruction.(Phan et al., (2016) also mentioned the lack of relevant beginner equipment for the students. With this, students may encounter issues as they soon be exposed to higher tasks that require high technological skills.

However, Zhang (2016) expressed that despite the implementation of technology-based instructions, challenges also arise, such as the students' lack of training in the use of technology in the classroom. Nevertheless, in some developing countries issues like lack of teachers training on the use of technology and other technological gadgets that can be used in the classroom (Hsu and Wang, 2014). They also stressed that these countries are most likely the ones that produce graduates which turned out to be low performing in information technology that also impact their future employment.

Barak et al. (2016) asserted that lack of resources including furniture, classrooms, competent teachers and technological learning materials are the major obstacles in the delivery of open and distance learning. According to Loizzo and Ertmer (2016), some challenges include the limited access for the students to practice themselves in the use of technological gadgets. This gives the students the avenue to prosper and learn important skills related to computers and other technology. Littlejohn, Hood, Milligan, and Mustain (2016) mentioned as well that a common problem that hinders students' enrichment in the use of technology is the lack of support from parents. There are parents who do not support the technological needs of their children because they believe that will only harm them. Kent et al. (2016) also pointed out that schools with not enough equipment and facilities hinder students' chance to develop and flourish their skills in computer and information communication technology (ICT).

3. METHODOLOGY

This study employed a qualitative research design, specifically a descriptive phenomenological method to explore the particpants` encountered challenges in the use of technology in their radio-broadcasting classes. Participants were the selected first year and second year Bachelor of Science in Development Communication students who were chosen using a purposeful sampling technique with an inclusion criteria. Ethical considerations were also observed by the researcher throughout the study. Thematic analysis of Braun & Clarke (2006) was also used in analyzing and interpreting the collected data from the participants.

The said study was conducted at South Cotabato State College, Dajay, Surallah, South Cotabato, Philippines during the school year 2023-2024. Instruments used in this study were the semi-structured questionnaire duly validated by five (5) experts in the field of qualitative-phenomenological research. The researcher employed In-Depth Interview (IDI) to gauge significant statements or responses from the participants. Focus Group Discussion (FGD) was also employed to extract the common answers from the participants. Moreover, Interview and FGD Protocols were also followed by the researcher to have smooth and ethical data gathering procedures.

In the data analysis, the researcher first transcribed all the responses of the participants. Second, the researcher identified the most significant statements from them during the Focus Group Discussion with all the participants. Third, the researcher identified the theme from the significant statements with the assistance of the hired analyst and debriefer who is expert in analyzing qualitative data. Finally, themes and significant statements were given relevant descriptions that lead the researcher to a scholarly interpretation and discussion of the results.

4. RESULTS AND DISCUSSIONS

Table 1

Thematic Analysis on Technological challenges encounted by the Bachelor of Science in Development Communication students during their radio-broadcasting class

Themes	Significant Statements	Description
Unfamiliarity of Functions	*"We are hesitant to try to manipulate the radio apparatus*	The students unfamiliarity of the equipment made them

	because we are not familiar with the specific functions of each equipment in the station. "	hesistant to perform the expected activity
Lack of relevant equipment	*"Considering that our school is a newly recognized state college in the region, our radio station still lacks on relevant for beginners."*	There is no enough equipment for the beginners.
Poor computer literacy skills	*"Most of us were from public schools which do not have enough computer sets, therefore we considered ourselves as poor in computer literacy skills which hinder us to use other equipment."*	Students` poor computer literacy skills hinder them to perform radio-broadcasting tasks.
Lack of knowledge on proper maneuver of the radio equipment	*"Due to multiple activities given to us, there is no enough relevant training teaching us on how to maneuver high-end radio equipment."*	Due numerous activities, students have no enough training to maneuver equipment.

Table 1 shows the thematic analysis on technological challenges encountered by the Bachelor of Science in Development Communication students during their radio-broadcasting class. The themes emerged were: 1.) Unfamiliarity of Functions, 2.) Lack of relevant equipment, 3.) Poor computer literacy skills, and 4.) Lack of knowledge on proper maneuver of the radio equipment.

As mentioned by participant 2, *"We are hesitant to try to manipulate the radio apparatus because we are not familiar with the specific functions of each equipment in the station. "*This indicates that the students unfamiliarity of the equipment made them hesitant to perform the expected activity. This statement was also supported by other participants, and they stressed that their unfamiliarity of the equipment affects their performance as the practicum is being graded by their professor.

Further, the statement, *"considering that our school is a newly recognized state college in the region, our radio station still lacks relevance for beginners' ',* entails that there is not enough equipment for the beginners. Other participants during their Focus Group Discussion (FGD), also agreed that the insufficiency of the relevant equipment constrained them to learn basic skills in manipulating radio-broadcasting equipment that somehow affect their grades in their practicum.

Furthermore, participant 4 emphasized that: *"Most of us were from public schools which do not have enough computer sets, therefore we considered ourselves as poor in computer literacy skills which hinder us to use other equipment."* This statement indicates that Students` poor computer literacy skills hinder them to perform radio-broadcasting tasks.

Finally, participant 5 mentioned: *"Due to multiple activities given to us, there is not enough relevant training teaching us on how to maneuver high-end radio equipment." This statement tells that* due to numerous activities, students have not enough training to maneuver equipment. Other participants vouched for this statement and stressed that because of the bombarded activities being conducted in their school, they have no time to practice, especially to learn steps on how to maneuver the specific equipment in their course.

Generally, the performance of the Bachelor of Science in Development Communication in radio-broadcasting activities and practicum was being affected by the technological challenges they encountered, such as unfamiliarity of functions, Lack of relevant equipment, poor computer literacy skills, and lack of knowledge on proper maneuver of the radio equipment.

The above results complement with the study of Warschauer, Zheng, Niiya, Cotton, & Farkas, (2014), which they revealed that due to limited time given to the teachers, they tend not to integrate technology in their lesson plans and syllabus which brought domino effects to the information communication and technology skills of the students. This limited time given to the teachers in their classes, they missed teaching their students basic computer skills.

Additionally, Afreen, (2014) stressed that to enhance the technological skills of the students, schools must provide a network infrastructure with computers and other devices for learning that can accommodate a number of students. This mechanism would give access to students to cultivate their skills in computers and other electronic learning devices.

Table 2

Thematic Analysis on effects of technological challenges on the performance of students in their radio-broadcasting classes and practicum

Themes	Significant Statements	Description
Hesitance	*"Due to technological challenges we encountered, we*	Students are hesitant to use the equipment due to

	are hesitatnt to use the equipement because these might be broken."	technological gaps.
Practicum Failure	*"Because we do not know how to manipulate the equipments, sometimes we failed our practicum that might cause failure to our course."*	Students fail to perform well in their practicum due to poor manipulative skills.
Loss of Confidence	*"We do not have the confidence to participate well in the practicum because of lack of knowledege on the functions of every equipment in the station."*	Students lose their confidence to participate in their class due to technological gaps.
Unproductivity	*" We become unproductive in our course because of the technological gaps. We cannot perform the expected activities beacuse of these challenges."*	Students are not productive due to technological gaps.

Table 2 displays the Thematic Analysis on the effects of technological challenges on the performance of students in their radio-broadcasting classes and practicum in which four (4) themes have emerged: 1.) Hesitance, 2.) Practicum Failure, 3.) Loss of Confidence, and 4.) Unproductivity.

One of the participants mentioned: *"Due to technological challenges we encountered, we are hesitant to use the equipment because these might be broken."*

This statement implies that students are hesitant to use the equipment due to technological gaps. This statement was supported by participants: " Our unfamiliarity with different equipment made us hesitant to participate in our practicum in our radio-broadcasting activities.

Also, *"Because we do not know how to manipulate the equipment, sometimes we failed our practicum that might cause failure to our course." Participant 3 uttered which indicates that s*tudents fail to perform well in their practicum due to poor manipulative skills. Participant 4 added: *" Every time our professor would call us to manipulate a certain piece of equipment, everyone is hesitant considering the limited knowledge we had. "* Participant 4 also stressed that: "Sometimes we missed activities related to radio-broadcasting because we tend not to participate because we might be embarassed". The above-mentioned statement showcases how the technological challenges influenced the academic status of the students,whether to get a higher grades or not.

Moreover, one participant also mentioned: *"We do not have the confidence to participate well in the practicum because of lack of knowledge on the functions of every equipment in the station."* This indicates that students lost their confidence to participate in their radio-broadcasting class due to technological gaps. This statement was also supported by other participants during the conducted Focus Group Discussion (FGD). Everybody agreed that lack of knowledge on the proper manipulation of the radio equipment turned into the loss of self-confidence to participate in the practicum.

Finally, participant 5 stressed that: "*We become unproductive in our course because of the technological gaps. We cannot perform the expected activities because of these challenges."* This statement indicates that Students are not productive due to technological gaps. According to participant 1, they had to spend hours beyond their scheduled hour just to learn how to manipulate the equipment. Other participants also mentioned that they are afraid to try the equipment because they may pay if there are damages.

Generally, the identified technological challenges mentioned by the participants made them hesitant to use the equipment, fail to perform well in their practicum due to poor manipulative skills, lose their confidence to participate in their class, and made them unproductive which significantly hindered them to perform well in their radio-broadcasting activities and practicum.

In the study of Balahadia (2021), he found out that students in the selected universities and colleges in the Philippines, specifically students taking Bachelor of Science in Information Technology (BSIT) , encountered issues in doing tasks related to their program due to lack of computer literacy skills. Some of these students obtained a failing grade in their major courses. This finding underscores the overwhelming effects of technological challenges faced by the students on their academic standing.

In Utopia, Althoff and Leskovec (2015) reported that to address issues on the availability of the computer sets to foster productivity for students` training, teachers used crowdfunding sites to gather funds for the purchase of computers and other learning technological gadgets.

Conclusion and Recommendations

In the revealed results of this study,the following conclusions were drawn:

First, the performance of the Bachelor of Science in Development Communication in radio-broadcasting activities and practicum was being affected by the technological challenges they encountered, such as unfamiliarity of functions, Lack of relevant

equipment, poor computer literacy skills, and lack of knowledge on proper maneuver of the radio equipment.

Finally, the identified technological challenges mentioned by the participants made them hesitant to use the equipment, fail to perform well in their practicum due to poor manipulative skills, lose their confidence to participate in their class, and made them unproductive which significantly hindered them to perform well in their radio-broadcasting activities and practicum.

In the light of the findings of this study, the following were recommended by the researcher:

First, the South Cotabato State College may allocate funds for the purchase of computers and other learning devices intended for students` learning. Second, the head of the Bachelor of Science in Development Communication may provide access for the students to maneuver radio-broadcasting equipment and to enhance their computer literacy skills. Third, a training-workshop may be initiated for the students to enlighten them on the proper manipulation of high-technical equipment to be used in the radio-broadcasting. Finally, future researchers may conduct a mixed-method research design to deeply understand the impact of technology to the performance of the students.

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