SJIF Impact Factor 2022: 8.197| ISI I.F. Value:1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 7 | Issue: 5 | May 2022 - Peer Reviewed Journal

TECHNOLOGICAL BARRIERS IN ONLINE AND BLENDED CLASSROOM: BASIS FOR THE CONDUCT OF TECHNOLOGY-DRIVEN INSTRUCTION ENHANCEMENT PROGRAM IN PUBLIC SECONDARY SCHOOLS IN THE CITY DIVISION OF CABUYAO

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ABSTRACT

This study was conducted to assess the technological barrier in online and blended classroom as basis for the conduct of technology-driven instruction enhancement program in public secondary school in the City Division of Cabuyao, SY 2020-2021. A total of 332 teachers from public schools selected in a random manner served as respondents of the study. A researcher-made instrument was utilized to gather necessary data from the respondents. As to age, the result revealed that most of the respondents fell on the age bracket of 26-30 while 56-60 has the least percentage and most of the respondents were female. In terms of highest educational attainment, most of the respondents are those who are included in the group with no MA units and MA unit earners.

In terms of teaching position, most of the respondents are Teacher I. In terms of years in service, 100 out of 332 or 30% of the respondents fell on the bracket of 6-10 years. Generally, the demographic profile of the respondents has a significant relationship to most variables in the technological barriers in online and blended learning.

KEY WORDS:*online classroom, blended classroom, technology-driven instruction enhancement program*

Suggested Citation (APA Style 7th Edition):

[1] Garay, R. M. (2021). Technological Barriers in Online and Blended Classroom: Basis for the Conduct of Technology-driven Classroom Instruction Enhancement Program in Public Secondary Schools in the City Division of Cabuyao. International Research Journal of Science, Technology, Education and Management

INTRODUCTION

The COVID-19 pandemic has forced school closures all over the world. Many schools have been caught unawares and unprepared in this sort of worldwide health issues. The Department of Education (DepEd) is working to transition the modality of teaching from the conventional "face-to-face" learning to online & blended learning. This is a combination of online distance learning and in-person delivery of learning materials to the homes of the learners through the use of technology.

In this digital society, it is difficult to imaging the world without the use of ICT. All the technology equipment has had a major influence on the way individuals converse, gain knowledge and work. If the implementation process of technology integration in schools take place appropriately from the very beginning stage and the continuous maintenance are adequately provided, ICT integration will result in a huge success for both teachers and students.

The integration of ICT in classroom needs serious consideration in order to increase the competency of the country's education system. The government needs to improve and change the teachers' belief about the use of ICT in classroom. This will help in increasing the world ranking of the national education and produce a better future work force. (Ghavifekr & Rosdy, 2015)

The 21st century is highlighted more on the media development. Educator Development is playing an essential portion in all zones of instruction. There are four types of technological instructional materials: Projected materials, audio materials, film and video materials, and website/programs. People tend to take technology for granted because of its easy access to obtain new knowledge while before it was difficult to absorb it.

The number of journal articles that directly addressed online or blended learning in K-12 settings was astonishingly low. The Education Department attempted to conduct a meta-analysis of experimental or controlled quasi-experimental studies comparing f2f and online learning modalities published from 1996-2006 but found no such studies existed meeting criteria. General principles

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regarding best practice in online education and blended learning will be shared with cautions against broad generalizability, as many of the contexts differed from a traditional setting.

This study would provide results on how the agency helps the teachers in the public secondary schools in the City of Cabuyao in line with technology-driven in the new normal modalities. The Department of Education would be able to formulate such policy concerning their endeavors not only in the school but also in the society as well. For Educational Managers, this study will provide insights and analysis for the formulation of policies and programs in terms of technology-driven modalities during the new norm.

OBJECTIVES OF THE STUDY

The main objectives of this study were to assess the technological barrier in online and blended classroom as basis for the conduct of technology-driven instruction enhancement program in public secondary school in the City Division of Cabuyao, SY 2020-2021. Specifically, it sought answers the following sub-problems:

1. What is the demographic profile of the respondents?
2. What are the technological barriers in online and blended learning in terms of:
    2.1. Basic computer/digital skills.
    2.2. Connectivity.
    2.3. Poor motivation/Self-directedness.
    2.4. Gadgets' Quality.
    2.5. Gadgets' Availability; and
    2.6. Time management skills?
3. Is there a significant relationship between the demographic profile of the respondents and the technological barriers in online and blended learning?
4. What are the challenges faced or met by the respondents in the use of online and blended learning?
5. Based on the result of the study, what technology-driven instruction enhancement program may be proposed?

MATERIALS AND METHODS

This study utilized the quantitative descriptive correlative type of research. It is a study in which the researcher is primarily interested in describing relationships among variables, without seeking to establish a causal connection. The focus is not on ferreting out cause-and-effect relationship but rather on describing the variables that exist in each situation and describing the relationships that exist among those variables.

The respondents of this study were gathered from the total population of the public secondary school teachers in the Division of Cabuyao City. To get the number of respondents, Slovin's formula was applied with a marginal error of 5%. For the selection of the respondents, random sampling was used. This includes the Three (3) districts of the City Schools division of Cabuyo City, total number of teachers in online and blended modality, specific number of teachers teaching online modality only and blended mode only, sample sizes for each modality. The subject respondents are the 332 out of 579 of those who are currently teaching in the current school year 2020-2021.

Table 1: Distribution of the Respondents (Online Delivery Modality)

District	Number of Teachers	Sample Size
1 (a & b)	136	87
4 (a & b)	21	13
5 (a & b)	68	44
Total	225	144

The study adopted an instrument from the different sources with modifications which anchored to the purpose and objectives of this study. On the level of assessment in the technological barriers in online and blended learning classroom, it is taken from Fingal (2020), Strategies for Online Learning during a Corona Virus outbreak; while in the problems/constraints you encountered relative to the use of online and blended learning, it is taken from the idea of Dotong et al.

Since the instrument is adopted with some modifications, it was subjected for validation. The validity of the questionnaires was established «using content validation». To ensure the validity of the questionnaire used in this study, the researcher's adviser reviewed the questionnaire for correction and for further suggestions and corrections. This is also presented to the experts related to the study for validation.

The final draft of the questionnaire was used for the dry-run and conducted in the other division like the Division of Santa Rosa City which is not included in the parameter of the study. The modification done in the questionnaire includes the addition of criteria in Gadgets Availability.

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The researcher prepared letters to the Schools Division Superintendents for permission to conduct the study and for the questionnaire distribution. Upon the approval of the request and endorsement letters from the Schools Division Superintendents, the researcher forwarded the endorsement letter together with the survey questionnaires to the target respondents of this study.

Weighted Mean is used to determine the average of the responses of the respondents on their assessment of the respondents to the technological barriers in online and blended classroom as basis for the conduct of technology-driven instruction enhancement program in public secondary schools in the City Division of Cabuyao. Pearson r- is used to determine the significant relationship between the demographic profile of the respondents to the technological barriers in online and blended learning.

RESULTS AND DISCUSSION

Most of the respondents fell on the age bracket 26-30 years old with the highest percentage of 23.19% while those who are 56-60 years old have the least with a percentage of 1.20%. Most of the female respondents were female with 78.01% while there were only 21.99% male. 34.64% have just finished their bachelor's degree in education while respondents who have Doctoral units has the least. In terms of poor motivation/self-directedness, two of the criteria the respondents assessed as Evident are: There is a need to improve teaching outcomes in online and blended learning with weighted mean of 3.71 and standard deviation of 0.94 (rank 1) In terms of gadget's quality, four of the five criteria are assessed as Evident, and these are: Teacher cannot afford high quality gadgets exclusive for online and blending learning and not for all family members use. Teachers lack compatible gadget for online platform used in teaching online and blend classes. Poor gadgets are being used resulting to poor performance of the students. Students are not aware of the schedule during online and blends.

In terms of challenges being faced or met by the respondents in the use of online and blended learning, Lack of electricity, computers, Internet access has the most responses with 83.13% while Language barrier has the least with 22.59%. Age, highest educational attainment, and years of service have a significant relationship to the technological barriers with.05 significant level. However, sex and teaching position in the demographic profile of the respondents have no significant relationship.

Table 3. Technological Barriers in Online and Blended Learning in terms of Basic Computer/Digital Skills

Indicative Statement	Mean	SD	Descriptive Interpretation
1. Inability to understand the advantages on the use of technology/ies.	2.79	1.36	ME
2. Lack of teachers' ability to integrate ICT-related skills	2.76	1.12	ME
3. Teachers are well-trained in basic computer skills.	3.92	0.94	E
4. Teachers need further training in the advance computer applications.	3.58	1.18	E
5. There is insufficient of teachers' knowledge and professional development in digital skills.	3.04	1.11	ME
Overall	3.22	0.77	ME

Legend: 4.50 – 5.00 = Highly Evident;3.50 – 4.49 = Evident; 2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident;1.00 – 1.49 = Not Evident

Table 3 shows the technological barriers in online and blended learning in terms of basic computer/digital skills. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of basic computer/digital skills, gained an overall weighted mean value of 3.22 and standard deviation of 0.77 and interpreted as Moderately Evident. The digital skills that teachers need have long moved on from just being able to use word processing and spreadsheets software. Digital skills that 21st Century teachers should have included cloud storage and sharing solutions, social media, web editing, image editing, presentation software, and general multimedia.

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Table 4. Technological Barriers in Online and Blended Learning in Terms of Connectivity

Indicative Statement	Mean	SD	Descriptive Interpretation
1. There is a limited access to and awareness of ICT	3.30	1.05	ME
2. There is a weak telecommunications policies and infrastructure,	3.37	1.12	ME
3. There is an insufficient bandwidth	3.44	1.07	ME
4. There is a problem with unsecured networks.	3.53	1.07	E
5. There is a problem with obsolete software/ firmware	3.37	1.17	ME
Overall	3.40	0.96	ME

Legend: 4.50 – 5.00 = Highly Evident; 3.50 – 4.49 = Evident ;2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident; 1.00 – 1.49 = Not Evident

Table 4 shows the technological barriers in online and blended learning in terms of connectivity. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of connectivity, gained an overall weighted mean value of 3.40 and standard deviation of 0.96 and interpreted as Moderately Evident.

Table 5. Technological barriers in Online and Blended Learning in Terms of Poor Motivation/Self Directedness.

Indicative Statement	Mean	SD	Descriptive Interpretation
1. Ensure digital equity is not evident in the students.	3.35	1.02	ME
2. There is a need to improve teaching outcomes in online and blended learning.	3.71	0.94	E
3. Teachers misused technology for online and blended learning.	2.92	1.13	ME
4. Students are not aware of the schedule during online and blended learning.	2.69	1.34	ME
5. There is a lack of parental support for online and blended learning.	3.50	1.01	E
Overall	3.24	0.86	ME

Legend: 4.50 – 5.00 = Highly Evident; 3.50 – 4.49 = Evident; 2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident;
1.00 – 1.49 = Not Evident

Table 5 shows the technological barriers in online and blended learning in terms of poor motivation/self-directedness. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of poor motivation/self-directedness, gained an overall weighted mean value of 3.24 and standard deviation of 0.86 and interpreted as Moderately Evident. Decades of research have shown that children do better in online classroom settings when parents or guardians are involved in their education

Table 6. Technological barriers in online and blended learning in terms of gadget's quality

Indicative Statement	Mean	SD	Descriptive Interpretation
1. There is a highly cost of new technology.	4.08	0.87	E
2. Teachers are lack of state-of-the-art learning facilities for online classes and blended learning.	3.33	1.08	ME
3. There is a poor quality of gadgets being used by the students and teachers as well.	3.82	0.93	E
4. Teachers cannot afford high quality gadgets for online and blended learning.	3.83	1.08	E

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5. Poor gadgets are being used in the online and blended learning resulting to poor performance of the students.	3.77	1.01	E
Overall	3.77	0.78	E

Legend: 4.50 – 5.00 = Highly Evident; 3.50 – 4.49 = Evident; 2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident;
1.00 – 1.49 = Not Evident

Table 6 shows the technological barriers in online and blended learning in terms of gadget's quality. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of gadget's quality, gained an overall weighted mean value of 3.77 and standard deviation of 0.78 and interpreted as Evident. Based on the current salary of teachers with reference to the salary standardization law, most of them cannot afford to buy high specifications computers to be used in online teaching. Another factor preventing teachers to avail these high specification devices is the high cost.

Table 7. Technological barriers in online and blended learning in terms of gadget's availability

Indicative Statement	Mean	SD	Descriptive Interpretation
1. There is no high specifications gadget for teaching.	3.63	1.03	E
2. Gadget is not readily available whenever teaching online or blended class.	3.28	1.19	ME
3. Teachers lack gadget that fits the performance on the online platform used.	3.48	1.14	ME
4. Teacher cannot afford high quality gadgets exclusive for online and blended learning and not for all family members use.	3.80	1.13	E
5. Teachers lack compatible gadget for online platform used in teaching online and blended classes.	3.64	1.17	E
Overall	3.56	1.02	E

Legend: 4.50 – 5.00 = Highly Evident; 3.50 – 4.49 = Evident; 2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident;
1.00 – 1.49 = Not Evident

Table 7 shows the technological barriers in online and blended learning in terms of gadget's availability. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of gadget's availability, gained an overall weighted mean value of 3.56 and standard deviation of 1.03 and interpreted as Evident. Even since March, when the shift to online learning first started, the flaws in the Philippines' ICT infrastructure were already thrown wide open. Teachers all over the country struggled to stay connected even then, with poor internet connection, low specification gadgets used in teaching prevents them from performing their jobs.

Table 8. Technological barriers in online and blended learning in terms of time management.

Indicative Statement	Mean	SD	Descriptive Interpretation
1. Lack of established daily classroom routines online.	2.87	1.16	ME
2. There is insufficient time to plan the online and blended learning.	2.87	1.28	ME
3. Awareness on the time schedule is at risk.	2.97	1.20	ME
4. Students are lack of managing time schedule.	3.65	1.05	E
5. Students cannot submit tasks on time.	3.93	1.07	E
Overall	3.40	0.96	ME

Legend: 4.50 – 5.00 = Highly Evident; 3.50 – 4.49 = Evident; 2.50 – 3.49 = Moderately Evident; 1.50 – 2.49 = Slightly Evident;
1.00 – 1.49 = Not Evident

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Table 8 shows the technological barriers in online and blended learning in terms of time management. The general average of assessment of the respondents on the technological barriers in online and blended learning in terms of time management, gained an overall weighted mean value of 3.40 and standard deviation of 0.96 and interpreted as Moderately Evident. With the current set up in online and blended classes, most students were not able to manage their schedule especially during asynchronous session, the reason why they set aside the priority to accomplish the assigned tasks.

Table 9. Challenges being faced or met by the respondents in the use of online and blended learning.

Challenges	f*	%
1. Do not have sufficient number of teachers to balance out the increasing school-age population.	141	42.47
2. There is hardware incompatibility.	186	56.02
3. Language barriers.	75	22.59
4. Lack of electricity, computers, Internet access.	276	83.13
5. Inability to understand the advantages of the new technologies.	165	49.70
6. Lack of Filipino language software for use in educational applications.	99	29.82
7. Limited ICT facilities that do exist have not been effectively used in general teaching, training and educational management.	219	65.96
8. Limited access to Internet for education due to high cost of access.	255	76.81
9. Lack of qualified personnel, including trained teachers.	84	25.30
10. Lack of financial resources for ICT education.	225	67.77
11. Limited access to and awareness of ICT.	183	55.12
12. Lack of basic education infrastructure.	93	28.01
13. Computers are not well integrated into classroom learning.	132	39.76
14. Lack of adequate maintenance of the available/existing ICT resources.	198	59.64
Total		

**Multiple Responses*

Table 9 shows the challenges being faced or met by the respondents in the use of online and blended learning. As presented in the data, these are the problems encountered by the respondents in the use of online and blended learning: Lack of electricity, computers, Internet access (f=276) with the percentage of 83. 13 (rank 1); Limited access to Internet for education due to high cost of access (f=255) with the percentage of 76. 11 (rank 2); Lack of financial resources for ICT education (f=225) with the percentage of 67.

In 1999, the barriers to the use of computer and the Internet for instruction most frequently reported by public school teachers were insufficient numbers of computers, lack of release time for teachers to learn how to use computers or the Internet. (National Center for Education Statistics)

Table 10. Test of significant relationship between the demographic profile of the respondents to the technological barriers in online and blended learning.

Technological Barrier	Demographic Profile				
	Age	Sex	Highest Educational Attainment	Teaching Position	Years in Service
Basic Computer/ Digital Skills	117.117** (df = 28)	5.844 (df = 4)	55.072** (df = 28)	16.279 (df = 12)	117.469** (df = 28)
Connectivity	77.578** (df = 28)	2.688 (df = 4)	83.864** (df = 28)	24.406* (df = 12)	103.401** (df = 28)
Poor Motivation/ Self-directedness	227.057** (df = 28)	27.387** (df = 4)	61.907** (df = 28)	25.195* (df = 12)	91.190** (df = 28)
Gadget's Quality	47.806** (df = 21)	1.046 (df = 3)	65.679** (df = 21)	18.513* (df = 9)	48.391** (df = 21)

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Gadget's Availability	71.324** (df = 28)	7.144 (df = 4)	85.490** (df = 28)	31.824** (df = 12)	88.163** (df = 28)
Time Management	67.578** (df = 28)	3.608 (df = 4)	80.864** (df = 28)	23.006* (df = 12)	103.401** (df = 28)

***Significant at .01 level Test Statistic: Chi-square (χ^2) Test*
** Significant at .05 level*

Table 10 shows the significant relationship between the demographic profile of the respondents to the technological barriers in online and blended learning. It is gleaned in the table that age, highest educational attainment, and years of service have a significant relationship to the basic computer/digital skills of the respondents with . 05 significant level. However, sex and teaching position in the demographic profile of the respondents have no significant relationship.

Personal characteristics such as educational level, age, gender, educational experience, experience with the computer for educational purpose and attitude towards computers can influence the adoption of a technology, Schiller (2003). Teachers are implored to adopt and integrate ICT into teaching and learning activities, but teachers' preparedness to integrate ICT into teaching determines the effectiveness of the technology and not by its sheer existence in the classroom (Jones, 2001).

Table 11. Technology-Driven Instruction Enhancement Program.

QUALITY Goal: Improve teaching learning delivery towards achieving quality learning outcomes through the utilization of technology-driven instruction enhancement program.					
Objective/s: -Propose a support system for the Cabuyeno teachers to increase the training opportunities for them and for adapting the new teaching-learning process in the new normal across the board.					
Activities	**Persons Involved**	**Time Frame**	**Resources Needed**	**Budget Requirements**	**Success Indicators/MOVs**
A. Pre-Activities (Planning Stage) -Consultative Meeting with LGU and NGOs -Orientation on the proposed technology-driven instruction enhancement program. -Preparation for the implementation of the program	Division Personnel School Heads Guidance Counselors Teachers Local Government NGOs	Sep-Jun	Checklists Invitations	MOOE Local Government Fund	Checklist and Concrete reports
B. During (Implementation Stage) - Conduct basic computer/digital skills for teachers.	Division Personnel School Heads Guidance Counselors Teachers	Sep-Jun	Materials Needed for the seminars Invitation	MOOE Local Government Fund	Monitoring Tools Evaluation Forms
-Connectivity	Division Personnel School Heads LGU Selected Internet Server Personnel	Sep-Jun	Internet Connection/Broadband	MOOE Local Government Fund	Monitoring Tools Evaluation Forms Feedback
- Gadgets' Quality	Division Personnel School Heads Teachers IT Experts	Sep-Jun	Invitation Letter Division Memorandum	MOOE Local Government Fund	Monitoring Tools Evaluation Forms Feedback

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- Time Management Skills Virtual Seminar	Division Personnel School Heads Teachers	Sep-Jun	Invitation Letter Division Memorandum	MOOE Local Government Fund	Monitoring Tools Evaluation Forms Feedback
-Distribution of laptops and other gadgets for online learning.	Division Personnel School Heads Teachers LGU Students Parents	Sep-Jun	Invitation Letter Division Memorandum MOA	MOOE Local Government Fund	Monitoring Tools Evaluation Forms Feedback
C. Post-Activities Monitoring, Evaluation and Validation Stage	Division Personnel School Heads Guidance Counselors Teachers Local Government NGOs	Sepr-Jun	Division Memorandum	MOOE Local Government Fund	100% Participation Monitoring Tools Validated Reports Evaluation Forms Feedbacking

CONCLUSION AND RECOMMENDATION

Based on the data presented, analyzed, and interpreted, the study yielded the following salient findings: Most of the respondents are on the age bracket 26-30 years old with the highest percentage of 23. 19 percent, female with a percentage of 78. 01, have just finished their Bachelor's degree in education with 34. 6 percent, Teacher I with the percentage of 73.19 and have rendered 6-10 years in service with a percentage of 30. 12. In the area of seminars/trainings attended related to ICT, leading is the training on MS Word with 90. 96 percent while trainings on other applications has the least with 29.82%. Technological Barriers in Online and Blended Learning in terms of Basic Computer/Digital Skills have the overall mean of 3. 22 and has the standard deviation of 0. 77.

In terms of connectivity, the overall mean is 3. 40 and a standard deviation of 0. 96 where Problem with unsecured networks ranked 1 in with 3.

Based on the findings, the researcher arrived at the following conclusions: The hypothesis stating that there is no significant relationship between the age, highest educational attainment, length of service of the respondents with the technological barrier is not accepted since most of the computed value are higher than the level of significance set at .05 and .01 level.

RECOMMENDATION

1. It is recommended that the DepEd and School Administrators provide more seminars and trainings to teachers to better equip them with needed knowledge and competencies in the use of technology in the online classes.
2. Policy makers may come up with clear-cut directives as to the extent of use of technology in the classroom.
3. The Department of Education may continue to implement the program of giving opportunity to Teachers not only for their professional development but also upgrading their status in terms of teaching position to keep pace with their salary with the high need to have online teaching equipment.
4. In-service training seems essential in the adoption of e-Learning, the study further recommends education stakeholders to strengthen collaborative factors which will lead to positive attitude and further improve on factors which may lead to negative attitudes. As an illustration, trainings can be meaningless if teachers are not equipped with tools and resources such as computers and other e-learning materials. This way, they can practice and apply theories that they have acquired in the training.
5. Government agencies connected to the Department of Education may continue to offer low interest gadget loans for teachers to acquire high specifications device to be used in online teaching.
6. The City Schools Division of Cabuyao may organize a core group of competent trainers to address the problem related to ICT integration in all subject area.
7. Future researchers may look into other factors aside from the one used by the researcher like the quick transition from face-to-face to online teaching as a problem that hinders teachers from effectively performing their jobs.

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APPENDIX

Republic of the Philippines
Department of Education
REGION IV-A CALABARZON
CITY SCHOOLS DIVISION OF CABUYAO

DIVISION LETTER

To : **ALL PUBLIC SECONDARY SCHOOL HEADS**
City Schools Division of Cabuyao

From : SCHOOLS DIVISION SUPERINTENDENT

Date : April 21, 2021

Attached herewith is a letter request from **RANDY M. GARAY,** Master's Degree in Education Major in THE student of Laguna Polytechnic University-Los Baños Campus, to conduct online survey among selected secondary schools teachers, relative to his research entitled ***"Technological Barriers in Online and Blended Classroom: Basis for the Conduct of Technology-Driven Instruction Enhancement Program in Public Secondary School in the City Division of Cabuyao"***.

Permission is hereby granted provided that it adheres with the following conditions:

1. strict observance of DepEd Time-on-Task Policy;
2. it must be in accordance with the Republic Act No. 10173 – Data Privacy Act of 2012;
3. participation of respondents must be via online and voluntary; and
4. the results of the study must be treated with utmost confidentiality and that this Office will be provided a copy/result of the research.

For your information.

HEREBERTO JOSE D. MIRANDA, CESO VI
Schools Division Superintendent

2021-0421-10 OSDS-AAT

Address: Osmeña Street, Poblacion II, City of Cabuyao, Laguna
Telephone No.: (049) 545 4597 / (049) 545 4878
Email Address: division.cabuyao@deped.gov.ph
Website: depedcabuyao.ph

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April 16, 2021

CITY SCHOOLS DIVISION OF CABUYA
RECORDS UNIT
RECEIVED
Control No: 2021-0421-10
Date: Apr 21,2021 By: GTF

To: **HEREBERTO JOSE D. MIRANDA, CESO VI**
Schools Division Superintendent
City Schools Division of Cabuyao
Cabuyao City, Laguna

Thru: Records Unit
City Schools Division of Cabuyao

Sir:

The undersigned student is currently conducting a study, **"Technological Barriers in Online and Blended Classroom: Basis for the Conduct of Technology-Driven Instruction Enhancement Program in Public Secondary Schools in the City Division of Cabuyao"** as partial requirement in the degree of Master of Arts in Education, Major in Technology and Home Economics (MAEd-T.H.E) College of Teacher Education, LSPU-Los Banos.

In this regard,he respectfully asks permission from your good office to allow the undersigned researcher to administer and retrieve the questionnaires from the respondents in the selected public schools in the Division of Cabuyao City.

Your invaluable support to this study is highly appreciated.

Very truly yours,

Randy M. Garay
MAEd-T.H.E. Student

Noted by:

ERICA B. TABUAC, RND, Ph.D.
Thesis Adviser

Approved by:

HEREBERTO JOSE D. MIRANDA, CESO VI
Schools Division Superintendent
City Schools Division of Cabuyao

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THE QUESTIONNAIRE

Title: **Technological Barriers in Online and Blended Classroom: Basis for the Conduct of Technology-Driven Instruction Enhancement Program in Public Secondary School in the City Division of Cabuyao**

Proponent: **Randy M. Garay**

Survey Questionnaire

Dear Respondents:

This survey questionnaire is designed to gather data and information in the **Technological Barriers in Online and Blended Classroom: Basis for the Conduct of Technology-Driven Instruction Enhancement Program in Public Secondary School in the City Schools Division of Cabuyao.** The researcher appreciates very much for your cooperation in thoroughly accomplishing this survey questionnaire.

Please fill in the needed information or check the column provided for. All the information gathered will be treated highly confidential and will be used solely for the purpose of this study.

The Researcher

Name:(optional) _____

Part I: Demographic Profile

Directions: Kindly check the appropriate item that fits you or describes you and your ability:

1. **Gender**
   - ____ Male
   - ____ Female
2. **Age**
   - ____ 21 – 25 years old
   - ____ 26 – 30 years old
   - ____ 31 – 35 years old
   - ____ 36 – 40 years old
   - ____ 41 – 45 years old
   - ____ 46 – 50 years old
   - ____ 51 – 55 years old
   - ____ 56 – 60 years old
   - ____ 61 – 65 years old
3. **Highest Educational Attainment**
   - ____ BEED
   - ____ BSED
   - ____ Other Baccalaureate Degree _____
   - ____ Earning Units in Education Units Earned _____
   - ____ MA Unit ____ Units Earned
   - ____ MA Graduate Specialization: _____
   - ____ Doctoral Units ____ Units Earned

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____ Doctoral Graduate Specialization: _____

4. **Position**
   - ____ Teacher I
   - ____ Teacher II
   - ____ Teacher III
   - ____ Master Teacher I
   - ____ Master Teacher II
   - ____ Master Teacher III
   - ____ Master Teacher IV
5. **Number of Years in Teaching**
   - ____ 1 to 3 Years
   - ____ 4 to 5 Years
   - ____ 6 to 10 Years
   - ____ 11 to 15 Years
   - ____ 16 to 20 Years
   - ____ 21 to 25 Years
   - ____ 25 to 30 Years
   - ____ 31 to 35 Years
   - ____ 36 Years and above
6. **Seminars/Trainings Attended related to ICT**:
   Office Applications:
   - ____ MS Word
   - ____ Excel
   - ____ Powerpoint

   Other Applications (Specify please): _____
7. **Access to the Internet**:
   - ____ email
   - ____ social media
   - ____ entertainment
   - ____ online streaming

   Others (specify please) _____
8. **Technology Resources**:
   - ____ Interactive White Boards
   - ____ Google Classroom
   - ____ Online Games
   - ____ Digital Camera
   - ____ Scanner
   - ____ Laptop
   - ____ Cellphone

Part II. Level of Assessment in the Technological Barriers in Online and Blended Learning Classroom

Directions: Kindly rate each of the statement below based on the following scale provided in terms of the level of assessment in the technological barriers in online and blended learning classroom in public secondary schools in the Division of Cabuyao City.

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Numerical Rating	Description	Scale
5	Highly Evident (HE)	4.20-5.00
4	Moderately Evident (ME)	3.40-4.19
3	Slightly Evident (SE)	2.60-3.39
2	Evident (E)	1.80-2.59
1	Not Evident (NE)	1.00-1.79

1. Basic Computer/Digital Skills

Criteria	5	4	3	2	1
1. Inability to understand the advantages on the use of technology/s.					
2. Lack of teachers' ability to integrate ICT-related skills					
3. Teachers are well-trained in basic computer skills.					
4. Teachers need further training in the advance computer applications.					
5. There is insufficient of teachers' knowledge and professional development in digital skills.					

2. Connectivity

Criteria	5	4	3	2	1
1. There is a limited access to and awareness of ICT					
2. There is a weak telecommunications policies and infrastructure,					
3. There is an insufficient bandwidth					
4. There is a problem with unsecured networks.					
5. There is a problem with obsolete software/ firmware					

3. Poor motivation/Self-directedness

Criteria	5	4	3	2	1
1. Ensure digital equity is not evident in the students.					
2. There is a need to improve teaching outcomes in online and blended learning.					
3. Teachers misused technology for online and blended learning.					
4. Students are not aware of the schedule during online and blended learning.					
5. There is a lack of parental support for online and blended learning.					

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4. Gadgets' Quality

Criteria	5	4	3	2	1
1. There is a highly cost of new technology.					
2. Teachers are lack of state-of-the-art learning facilities for online classes and blended learning.					
3. There is a poor quality of gadgets being used by the students and teachers as well.					
4. Teachers cannot afford high quality gadgets for online and blended learning.					
5. Poor gadgets are being used in the online and blended learning resulting to poor performance of the students.					

5. Gadgets' Availability

Criteria	5	4	3	2	1
1. There is no high specifications gadget for teaching.					
2. Gadget is not readily available whenever teaching online or blended class.					
3. Teachers lack gadget that fits the performance on the online platform used.					
4. Teacher cannot afford high quality gadgets exclusive for online and blended learning and not for all family members use.					
5. Teachers lack compatible gadget for online platform used in teaching online and blended classes.					

6. Time Management Skills

Criteria	5	4	3	2	1
1. Lack of established daily classroom routines online.					
2. There is insufficient time to plan the online and blended learning.					
3. Awareness on the time schedule is at risk.					
4. Students are lack of managing time schedule.					
5. Students cannot submit tasks on time.					

Part III: Challenges Being Faced or Met by the Respondents in the Use of Online and Blended Learning

Directions: Please check as many problems/constraints you encountered relative to the use of online and blended learning.

___ 1. Do not have sufficient number of teachers to balance out the increasing school-age population.

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___ 2. Do not have sufficient number of teachers to balance out the increasing school-age population.
___ 3. There is hardware incompatibility.
___ 4. Language barriers.
___ 5. Lack of electricity, computers, Internet access.
___ 6. Inability to understand the advantages of the new technologies.
___ 7. Lack of Filipino language software for use in educational applications.
___ 8. Limited ICT facilities that do exist have not been effectively used in general teaching, training and educational management.

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____ 9. Limited access to Internet for education due to high cost of access.
____ 10. Lack of qualified personnel, including trained teachers.
____ 11. Lack of financial resources for ICT education.
____ 12. Limited access to and awareness of ICT.
____ 13. Lack of basic education infrastructure.
____ 14. Computers are not well integrated into classroom learning.
____ 15. Lack of adequate maintenance of the available/existing ICT resources.

Please write here other barriers that you may be encounter.

_____
_____
_____
_____

Prepared by:

RANDY M. GARAY
Researcher

Validated by:

ARNOLD S. LABIOS
Master Teacher I-TLE
Pulo NHS

ALVIN L. ESPINAS, Ed.D.
Master Teacher I-Mathematics
Pulo NHS

Noted:

ERICA B. TABUAC, RND, Ph.D.
Thesis Adviser

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RANDY M. GARAY

B8 L43 Centennial Townhomes II, Pulo,
Cabuyao City, Laguna
0968-499-2530

EDUCATIONAL BACKGROUND

Elementary:	Burabod Elementary School – Libon, Albay 1987-1988
Secondary:	Bicol University College of Agriculture & Forestry-AELD Guinobatan, Albay 1991-1992
Tertiary:	Bicol University College of Agriculture & Forestry Guinobatan, Albay 2002-2003
Graduate Studies:	Laguna State Polytechnic University-Los Baños Campus 2020-2021
Degree:	Master of Arts in Education major in T.H.E.

SKILLS

Computer Hardware Servicing
Computer Systems Servicing
Nearpod Certified Educator
Microsoft Innovative Education Ambassador

WORKING EXPERIENCE

June 2006 – June 2011	Santiago National High School-Gen. Trias, Cavite
June 2011 – Present	Pulo National High School-Cabuyao City, Laguna

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PERSONAL DATA

Birthdate:	January 28, 1975
Birthplace:	Libon, Albay
Religion:	Roman Catholic
Citizenship:	Filipino
Status:	Married
Fathers' Name:	Orlando R. Garay Sr.
Occupation:	Farmer
Mother's Name:	Mila M. Garay (Deceased)