

Information And Communication Technology (ICT) Resources, Teachers' Effective Classroom Management and Content Delivery in Guimba East District

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Abstract —The study used the quantitative research method in determining the significant relationship of the availability of ICT resources in school to teachers' classroom management and content delivery of Guimba East District in the Division of Nueva Ecija for the school year 2023-2024.

The main data gathering instrument are the survey questionnaire and the ICT teachers in the public elementary schools of Guimba East District, Division of Nueva Ecija regardless of their length in service and subject taught were the participants of the study . Total enumeration was used.

Results have shown that: On adequacy of information and communication (ICT) resources, results have shown that it was Moderately Adequate at 3.14 means wherein 120 or 34.29% are video clips and 86 or 24.57% are laboratory manuals have been assessed to be Very Adequate (M=3.84, M=3.71 respectively) but the respondents found to lack the following ICT resources like records, laboratory consumables, tablets, and lapel speakers. On the classroom management practices and content delivery, teachers have shown to be Highly Effective with 3.39 means for they have gained respect from their learners (M=3.98) to easily involve them in the classroom discussion and activities (M=3.87) wherein learners were monitored well considering the pace of their own learning (M=3.77). Information and communication technology (ICT) resources were found Moderately Adequate, having 3.14 as average means while teachers were Highly Effective in terms of management practices and content delivery wherein it gained 3.39 means. At 0.05 level of significance, the adequate information and communication technology (ICT) resources and teacher's management practices and content delivery have significantly showed relationship as the p-value of 0.0286..

Based on the results, the following are recommended: develop procurement plan activities to prioritize ICT resources used in the classroom by the learners and the teachers. Capacitate teachers in the use of new technologies used in education and collaborate with colleagues on effective classroom management practices. School must create an efficient procurement committee to manage the effective purchase of learning resources based on the school procurement priorities.

Keywords — *information and communication technology resources (ICT), classroom management, content delivery*

I. Introduction

Education is vital in almost every part of the world. Though every country has its education system, most nations would have a similar concept or equivalent qualification. One of the fundamental components of the United Nations' sustainable development 2030 agenda is quality education. It aims to ensure inclusive and equitable quality education for all.

However, globalization of education facilitating quality education for all cannot be achieved if the schools are lacking resources particularly in the information and technology where this technological advancement made easier for the students to learn.

Technology makes the instruction more inspiring and meaningful. The utilization of projectors, computers, and other cutting-edge technical gear in the classroom may make studying fascinating and entertaining for students. Student learning can become more dynamic and engaging by establishing tasks in class that incorporate technology resources, oral presentations, and group participation. Participation can extend beyond verbal communication as well (Abid, H., Mohd, J., Mohd, A., Rajiv, S., (2022),

In addition, using computers and other devices in conjunction with digital tools allows students to play a more proactive role and be at the center of the process (Abid, H., Mohd, J., Mohd, A., Rajiv, S., (2022),

However, aside from the Information and Communication and Technology (ICT) resources, teachers classroom management and content delivery have effects on the academic performance and student engagement. Hanaysha, J,R., Shriedeh, F.B., In'airat, M,h (2022) in their study supported the notion that teacher competency and ICT resources have positive effects on both academic performance and student engagement. Furthermore, classroom environment and facilities were found as significant predictors of both academic performance and engagement. Finally, the results showed that student engagement mediates the relationship between the stated factors and academic performance.

In addition, Ibiene and Ugochukwu (2020) found that ICT skills needed by principals include among others: knowledge of operating ICT devices, good knowledge of using ICT devices in teaching, ability to use ICT devices to store and retrieve information. The study also revealed that ICT skills enhance efficient management of educational resources through enhancing proper keeping of records, effective communication and proper accountability of educational resources among others.

In the Philippines, the Department of Education – Computerization Program launched and aimed to intensify the public awareness on the DepEd Computerization Program (DCP) which is to provide public schools with appropriate information and communication technologies (ICT) that would improve the teaching and learning process. In addition, It is among DepEd's efforts to raise the ICT literacy to learners, teachers, and school heads by integrating ICT in the school

system by providing laboratory packages to secondary schools and electronic classrooms to elementary schools.

However, one of the issues facing the implementation of the ICT is the lack of ICT resources, Buenaviaje (2015) states that lack of facility and equipment is also seen as one of the major obstacle in the full integration of ICT in education. Many schools still have a very limited number of computer- student ratios with as many as 45 students to one computer. Other issues include the maintenance of available ICT equipment, copyright of software, physical security and worse electricity and telephone lines.

The lack of resources and infrastructure in schools affects the quality of education that students receive. Without proper facilities, students may not be able to attend classes regularly, or they may be distracted by external factors, making it difficult for them to concentrate on their studies. The lack of textbooks and teaching materials also hinders the learning process, as students may not have access to the necessary information to understand the concepts taught in class.

To conclude, the lack of resources and infrastructure in schools is a significant challenge facing education in the Philippines, particularly in rural areas. While the government has implemented several initiatives to address this issue, there is still a need for greater investment in education to ensure that every child has access to quality education. Providing access to education is vital in ensuring that every Filipino has the opportunity to reach their full potential and contribute to the development of the country.

In the same line of view, district schools specifically also point out that the major challenges that public school system of education must put up with at all levels include insufficiency of infrastructure, equipment and lack of didactic materials. Different people including the Department of Education and teachers stress the scarcity of resources in education area in the country. Teachers on the other side link ineffective teaching and learning, ineffective classroom management and content delivery to this scarcity of resources. It is against this backdrop that this study which investigated the level of teaching and learning resource availability and their influence on teacher effective classroom management and content delivery in public schools was based.

Statement of the Problem

The validated theory to which the study was underpinned, test the hypothesis of no significant relationship between the available ICT resources in schools and their teachers' classroom management practices and content delivery, and to come up with a proposed procurement plan based on the findings of the study. The study treated responses from the ICT teachers of Guimba East District, Division of Nueva Ecija for the School Year 2023-2024.

Specifically, it focused on the following objectives:

1. How are the schools described in terms of the available information and communication technology (ICT) resources at Guimba East District, Division of Nueva Ecija, school year 2023-2024?
2. How are the teacher-respondents described in their classroom management practices and content delivery?
3. Is there a significant relationship between the adequacy of ICT resources and the classroom management practices and content delivery of the teacher-respondents?
4. What information and communication technology (ICT) resources can be suggested for the proposed school procurement plan?

Hypothesis

There was no significant relationship between the adequacy of information and communication technology (ICT) resources and teachers' classroom management practices and content delivery in Guimba East District, Division of Nueva Ecija for the School Year 2023-2024.

II. Methodology

The study made use of the quantitative research method in determining the significant relationship of the availability of ICT resources in school to teachers' classroom management and content delivery of Guimba East District in the Division of Nueva Ecija for the school year 2023-2024. The main sources of data were the ICT teachers in the public elementary schools of Guimba East District, Division of Nueva Ecija regardless of their length in service and subject taught. Total enumeration will be used. Purposive sampling was used in selecting the respondents of the study. The total number of participants was determined, and total enumeration was also used for the study.

The research instruments in this study were questionnaire to determine the level of teaching and learning resource adequacy (LTLRA) and a questionnaire to determine the level of teacher effective classroom management and content delivery (LTECMCD). The response for the questionnaire on the LTLRA and LTECMCD were the same in terms of scoring (4,3,2,1), response mode for the LTLRA (very many, enough, few, not available) and LTECMCD (strongly agree, agree, disagree and strongly disagree), description and interpretation for LTLRA responses was very satisfactory, satisfactory, insufficient and not available and very high, high, fair and poor for LTECMCD responses. Indeed, it is by deleting the neutral response from the traditional five-point classifications as done by some contemporary researchers (Sisson & Stocker, 1989). The questionnaire to measure the level of teaching and learning resource availability was administered to ICT teachers whereas students responded to the questionnaire that measured teacher effective management and content delivery. The mean and standard deviations were applied for the levels

of resource availability and teacher effective classroom management and content delivery. An item analysis illustrated the strengths and weaknesses based on the indicators in terms of mean and rank. From these strengths and weaknesses, the recommendations were derived.

For analysis of the data regarding the ICT resources availability, the Likert scale was used and Pearson Moment Correlation Coefficient was utilized to test the relationship between teaching and learning resource availability and teacher effective classroom management and content delivery.

Ethical Considerations

For ethical considerations, the identities of the respondents were treated confidential and so the evaluation results they made. Consent forms from the parents and assent forms to the parents of the respondents themselves were furnished. Furthermore, no school fund was used in the gathering of data nor should any fee was collected from the respondents.

III. Results and Discussion

1. Availability of Information and Communication Technology (ICT) Resources

Table 1 Adequacy of Information and Communication Technology (ICT) Resources

Information and Communication Technology (ICT) Resource Indicators	f	%	Means	Descriptive Equivalent
Flexible Board (Black/White)	3	0.86	2.95	Moderately Adequate
Radios	2	0.57	2.67	Moderately Adequate
Projectors	8	2.29	3.62	Moderately Adequate
Projector Screens	8	2.29	3.80	Moderately Adequate
Records	0	0.00	0.00	Not Available
Film Clips	15	4.29	3.96	Very Adequate
Video Clips	120	34.29	3.84	Very Adequate
Video Lessons	50	14.29	3.78	Very Adequate
TV Broadcasts (LED/Smart)	14	4.00	3.93	Very Adequate
Laboratory Apparatuses	26	7.43	3.15	Moderately Adequate
Laboratory Consumables	0	0.00	0.00	Not Available
Laboratory Manual	86	24.57	3.71	Very Adequate
Desktop Computers	10	2.86	3.45	Moderately Adequate
Laptops	4	1.14	3.62	Moderately Adequate
Tablets	0	0.00	0.00	Not Available
Lapel Speakers	0	0.00	0.00	Not Available
Internet Routers	4	1.14	3.86	Very Adequate

Results have shown that information and communication technology (ICT) resources of the respondents is Moderately Adequate at 3.14 means wherein 120 or 34.29% are video clips and

86 or 24.57% are laboratory manuals have been assessed to be Very Adequate (M=3.84, M=3.71 respectively). The respondents also have 10 or 2.86% of the ICT resources were Very Adequate (M=3.45) to support the learners and teachers in the delivery of the lessons.

2. Classroom Management Practices and Content Delivery of Teacher-Respondents

Table 2 Classroom Management Practices and Content Delivery of Teacher-Respondents

Management and Content Delivery Indicators	Means	Description
Teachers in my school use class time appropriately.	3.22	Moderately Effective
Teachers make a great effort to prepare their lessons.	3.45	Highly Effective
I appreciate what teachers do for me.	3.65	Highly Effective
Teachers monitor students' discipline in the classrooms.	3.44	Highly Effective
Teachers use momentum lesson pacing.	2.87	Moderately Effective
Teachers use a variety of methods while teaching.	3.22	Moderately Effective
Teachers make effort to help students with special needs.	3.43	Highly Effective
I appreciate teachers' clarity.	2.93	Moderately Effective
I have more respect and consideration for teachers.	3.98	Highly Effective
Teachers monitor students' progress constantly and adjust pace accordingly.	3.77	Highly Effective
Teachers sustain students' attention and respond with activities	3.55	Highly Effective
Teachers inspire students to seek more knowledge on the subjects.	3.36	Highly Effective
Teachers involve students in class discussion	3.87	Highly Effective
Teachers timely give feedback to the students	3.22	Moderately Effective
Teachers show a high enthusiasm for teaching	3.08	Moderately Effective
Teachers use a lot of group tasks	3.16	Moderately Effective
Teachers arrange student sittings in a way that promotes interaction.	3.76	Highly Effective
Teaching aids that are brought to the classroom by teachers consider the class size.	3.32	Highly Effective
Teachers produce their own resources where industrial ones are lacking.	3.18	Moderately Effective
Average Means	3.39	Highly Effective

Regarding the practices of teachers in the classroom and their content delivery, results have shown to have evaluated Highly Effective with 3.39 means. Specifically, teachers have gained respect from their learners (M=3.98) to easily involve them in the classroom discussion and activities (M=3.87) wherein learners were monitored well considering the pace of their own learning (M=3.77).

3. Significant Relationship between the Adequacy of ICT Resources and the Classroom Management Practices and Content Delivery

Table 3 Test of Significant Relationship between the Adequacy of ICT Resources and the Classroom Management Practices and Content Delivery

Information and Communication Technology (ICT) Resources	<i>r</i> value	3.14
	α -value	0.0372
Management Practices and Content Delivery of Teachers	<i>r</i> value	3.39
	α -value	0.1086
Test of Significance	Degrees of Freedom	10
	<i>r</i>	3.7564
	α -value	0.0286
	Interpretation	Significant

Table 6 shows the treatment in testing the significant relationship of the adequacy of ICT resources and the classroom management practices and content delivery among teacher-respondents. Information and communication technology (ICT) resources were found Moderately Adequate, having 3.14 as r-value while teachers were Highly Effective in terms of management practices and content delivery wherein it gained 3.39 r-value.

At 0.05 level of significance, the adequate information and communication technology (ICT) resources and teacher's management practices and content delivery have significantly showed relationship as the alpha-value of 0.0286 is less than the test of level of significance.

Discussion

Availability of Information and Communication Technology (ICT) Resources

On adequacy of information and communication (ICT) resources, results have shown that it was Moderately Adequate at 3.14 means wherein 120 or 34.29% are video clips and 86 or 24.57% are laboratory manuals have been assessed to be Very Adequate (M=3.84, M=3.71 respectively) but the respondents found to lack the following ICT resources like records, laboratory consumables, tablets, and lapel speakers.

Information and communication technology (ICT) resources were found Moderately Adequate, having 3.14 as r-value while teachers were Highly Effective in terms of management practices and content delivery wherein it gained 3.39 value.

On the other hand, the respondents found to lack the following ICT resources like records, laboratory consumables, tablets, and lapel speakers. It can be gleaned from the data above that, the ICT resources are available but not enough to support all the teachers and learners because these are not distributed well to the number of learners in a certain class or school.

Classroom Management Practices and Content Delivery of Teacher-Respondents

On the classroom management practices and content delivery, teachers have shown to be Highly Effective with 3.39 means for they have gained respect from their learners (M=3.98) to easily involve them in the classroom discussion and activities (M=3.87) wherein learners were monitored well considering the pace of their own learning (M=3.77).

Even in the most advanced school, very few teachers typically have comprehensive knowledge of the wide range of ICT tools and resources. The use of technology in everyday teaching and learning activities appears to be more important than specific instruction in technical classes. While the development of technology skills is seen to have a role in the teaching and learning process, it is more important as an enabler of other teaching and learning practices, and not too important in and of itself. Schools that report the highest levels of student ICT-related skills and experience are often not those with heavy computer course requirements, but rather ones that made use of ICTs on a routine basis throughout the teacher professional development, and the teaching and learning process.

Significant Relationship between the Adequacy of ICT Resources and the Classroom Management Practices and Content Delivery

At 0.05 level of significance, the adequate information and communication technology (ICT) resources and teacher's management practices and content delivery have significantly showed relationship as the alpha-value of 0.0286.

Teachers more knowledgeable in ICT use utilize computer assisted instruction less than other teachers who use ICT but utilize ICT more overall. Hence, this study mainly focused on determining the significant relationship between the adequacy of ICT resources and classroom management practices and content delivery among the teachers. Simply put - teaching with ICT resources may often be an important factor inhibiting the effectiveness of ICT use in classroom by the students and teachers as well.

IV. Conclusion

Based on the results, the following conclusions were deduced:

1. The ICT resources were Moderately Adequate at 3.14 means wherein 120 or 34.29% are video clips and 86 or 24.57% are laboratory manuals have been assessed to be Very Adequate (M=3.84, M=3.71 respectively) but the respondents found to lack the following ICT resources like records, laboratory consumables, tablets, and lapel speakers.
2. Teachers have shown to be Highly Effective with 3.39 means for they have gained respect from their learners (M=3.98) to easily involve them in the classroom discussion and

activities (M=3.87) wherein learners were monitored well considering the pace of their own learning (M=3.77).

3. Information and communication technology (ICT) resources were found Moderately Adequate, having 3.14 as average r-value while teachers were Highly Effective in terms of management practices and content delivery wherein it gained 3.39 r-value.
4. Information and communication technology (ICT) resources have significantly shown relationship with teacher's management practices and content delivery at 0.05 level of significance.

V. Recommendations

Based on the conclusions, the following are recommended:

1. Develop procurement plan activities to prioritize ICT resources used in the classroom by the learners and the teachers.
2. Capacitate teachers in the use of new technologies used in education and collaborate with colleagues on effective classroom management practices.
3. School must create an efficient procurement committee to manage the effective purchase of learning resources based on the school procurement priorities.

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