

INTERACTION BETWEEN THE KNOWLEDGE AND SKILLS OF THE PUPILS IN INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) WHEN TAUGHT BY A GENERALIST AND SPECIALIST

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Abstract: The study aimed to determine the interaction between the performance of the teachers and pupils in Information and Communication Technology (ICT) of Matnog District for school year 2019-2020. It used the experimental method of research since to groups of pupils will undergo a lecture of ICT from two different teachers then a teacher-made test on knowledge and skills was administered to them. The participants were the 2 sections of Grade 6 from Pawa Elementary School in which 20 pupils from each section were chosen purposively. The statistical tools utilized were frequency, percentage, t-test for independent samples, and Two-way ANOVA with replication.

The data revealed that the overall performance level of the pupils in knowledge and skills is fairly satisfactory when taught by a generalist teacher in ICT. The pupils performed satisfactorily in knowledge and skills when handled by a specialist teacher in ICT. Also, the pupils performed better in ICT when taught by a specialist teacher than a generalist teacher. The pupils' performance in ICT remains the same regardless of their teacher and the pupils' performance in ICT is not affected by the type of teacher handling the subject. A training design for generalist teacher who will handle ICT was proposed to strengthen their instructional competence.

It was recommended that the generalist teacher may be provided with the appropriate training on crafting assessment, acquiring mastery of the subject matter and using the various teaching strategies in the delivery of instruction. The specialist teacher may be given the opportunity to address the difficulty with management of classroom relationships and difficulty taking into account the children's cognitive development and attainment in other aspects of the curriculum. Also, the teachers may be encouraged to attend various professional development activities that will improve their teaching competence so as the disparity between generalist and specialist may be treated equitably. The school administrators may conduct student development activities that will provide equal opportunities for them to excel and participate in various activities involving them. The teachers may be provided with training on improving the teaching competence and assessing of student's learning.

Keywords: Information and Communication Technology, Generalist, Specialist, Teaching Competence, Delivery of Instruction, Matnog District.

1. INTRODUCTION

The advent of Information Communication Technology (ICT) has highlighted the positive and creative improvement in the quality of education and services being offered to pupils and to school communities all around the globe. It is considered as a significant mechanism at the school education level that could provide a way to rethink and redesign the educational systems and processes, thus leading to quality education for all (UNESCO 2003).

Developing countries such as the Philippines are committed to infusing schools with ICT. There is great faith that these technologies will improve teaching and learning, and consequently afford these countries a greater stake in today's knowledge society. Consequently, the Philippine government and the private sector have initiated programs to provide schools with computer hardware and software, Internet connectivity, and teacher training.

Republic Act No. 10844, otherwise known as the Department of Information And Communications Technology Act of 2015, outlined the importance of ICT enhancing the key public services, such as education, public health and safety, revenue generation, and socio-civic purposes, and promoted digital literacy, ICT expertise, and knowledge-building among citizens to enable them to participate and compete in an evolving ICT age.

Similarly, the Department of Education (DepEd) has initiated the Basic Education Sector Reform Agenda (BESRA) to deliver quality education that is accessible to all through the use of IT and other innovative technologies (BESRA, 2005). The Medium Term Philippine Development Plan (MTPDP), the Basic Education Curriculum (BEC), Schools First Initiative (SFI), and the National Plan to Achieve Education for All (EFA) have also stressed the importance of ICT in improving education in the country. These have resulted in increased adoption of ICT across the education system.

The DepEd has implemented an ICT plan for basic education to provide the physical infrastructure and necessary technical support to make ICT accessible and useful to students, teachers, administrators and school support staff, develop teacher competence in the use of ICT and in the design, production and use of ICT-based instructional materials, ensure access to the latest developments in ICT and to support research and development, undertake a curriculum improvement that would integrate technology with the different learning areas, and promote the use of appropriate and innovative technologies in education and training.

However, the implementation of ICT in Philippine Education suffers from a number of shortcomings. Among them are the absence of documentation, lack of coordination between public and private sector efforts, and insufficient teacher training (Rodrigo, 2001). Likewise, the key problem areas for implementing ICT in basic education are: 1) Teachers' fear of the technology; 2) School principals' closed mindset to and non-appreciation of the value of ICT to transform and improve education; 3) Constraints of the annual Education Budget; 4) Maintenance of ICT resources and lack of technical staff; 5) Sustainability; and 6) Limited availability of education software and courseware (unesco.org).

Garcia (2006) stressed that the teachers' qualities and credentials are of great importance in educating the students. They are mandated to develop their students' potentials to the fullest, for them to live productive lives.

On the contrary, generalist teachers, with their knowledge of the individual needs of their students and the security and psychological support that they provide in the early childhood and primary classroom, are ideal candidates for providing developmentally appropriate, best-practice instruction in a subject (Callcott, Miller and Wilson-Gahan, 2012). They, who are viewed as those teaching all subjects or any subject regardless of one's ability, are expected to deliver a broad and diverse range of subject matter and curriculum to their students, (Ardzejwska, McMaugh and Coutts, 2010).

Hansen (2008) opined that generalist teacher lacks the attitudinal disposition and confidence in teaching a subject beyond their capacity and skill. Morgan and Hansen (2008) further indicated that generalist teachers do not feel confident, competent enough or capable enough to take discuss those which they do not have the skills.

1.1 Statement of the Problem

The study determined the interaction between the performance of the teachers and the pupils in ICT of Matnog District for school year 2019-2020.

Specifically, it sought answers to the following problems:

1. What is the level of performance of the pupils in ICT when taught by generalist teacher along:
 - a. Knowledge; and
 - b. Skills?

2. What is the level of performance of the pupils in ICT when taught by specialist teacher along the identified variables?
3. Is there a significant difference between the level of performance of the pupils in ICT when taught by a generalist and specialist teacher along the identified variables?
4. Is there a significant difference between the knowledge and skills of the pupils when taught by a: a) generalist teacher, b) specialist teacher?
5. Is there a significant interaction between the knowledge and skills of the pupils in ICT when taught by a generalist and specialist?
6. What could be proposed based on the results of the study?

1.2 Purpose of the study

Most of the Teacher Education Institutions in Bicol region do not offer specialization in the elementary program; however, graduates of elementary education program are allowed to teach any subject provided they have the motivation, knowledge and skills or when they are asked by their school principals to teach. This may be connected with the data of the Division of Sorsogon which reveals that the profile of teachers handling ICT in elementary level are primarily composed of generalist teachers and only few are specialists.

Nevertheless, majority of the teachers in Matnog district are composed of generalist teachers with some specialist teachers in ICT. Moreover, the performance level of the pupils in ICT for the past years are below standard rating. In conjunction with this, the scenario has given the researcher the idea to determine whether a specialist teacher perform better than the generalist teachers in teaching ICT.

2. RESEARCH METHODOLOGY

This study aimed to determine the interaction between the performance of the teachers and the pupils in Information and Communication Technology (ICT) of Matnog District for school year 2019-2020. It utilized the experimental method of research since it involved two groups of pupils who were taught by two different teachers that were identified as generalist and specialist. The instrument was a teacher-made test which was used in measuring the performance level of the pupils in ICT.

Similarly, the participants were the 40 pupils of Pawa Elementary School which were split into two groups composed of 20 pupils each. Then, the statistical tools used were the frequency, percentage, t-test for independent sample, and Two-way ANOVA with replication.

The study used the experimental method of research since to groups of pupils will undergo a lecture of ICT from two different teachers then a standardized test on knowledge and skills was administered to them. The participants were the 2 sections of Grade 6 from Pawa Elementary School in which 20 pupils from each section were chosen purposively. The statistical tools utilized were frequency, percentage, t-test for independent samples, and Two-way ANOVA with replication.

3. RESEARCH FINDINGS AND DISCUSSIONS

Based on the data collected, the following are the findings of the study:

1. When pupils were taught by a generalist teacher, 1 (5%) has outstanding performance with 90-100 rating in knowledge while 3 (15%) pupils have very satisfactory performance in knowledge and 2 (10%) pupils have very satisfactory performance in skills with rating 85-89. Meanwhile, there were 2 (10%) pupils and 4 (20%) pupils performed satisfactorily in knowledge and skills, respectively, with rating 80-84. Also, 3 (15%) pupils performed fairly satisfactory in knowledge and 5 (25%) pupils performed fairly satisfactory in skills with rating 75-79. However, 11 (55%) pupils and 9 (45%) pupils have rating 75 and below which did not meet the expectations.
2. Relative to knowledge, 3 (15%) pupils have outstanding performance with 90-100 rating while 6 (30%) pupils performed very satisfactorily with rating of 85-89. Then, 5 (25%) pupils have satisfactory performance having rating 80-84 whereas 4 (20%) pupils achieved fairly satisfactorily with rating of 75-79. On the other hand, there were 2 (10%) pupils who did not meet the expectations since their rating is 75 and below.

In relation to skills, 4 (20%) pupils have outstanding performance with rating of 90-100 while 7 (35%) pupils attained very satisfactorily with rating of 85-89. Similarly, 4 (20%) pupils obtained satisfactory performance with rating of 80-85 whereas 2 (10%) pupils have fairly satisfactory performance since the rating is 75-79. However, there were 3 (15%) pupils who failed to meet the expectations because their rating is below 75.

3. As to the difference between the pupils' performance level in ICT when taught by generalist and specialist teachers, the t computed value of 5.359 is greater than the t critical value of 2.024 at 0.05 level of significance with degrees of freedom of 38. Hence, the null hypothesis is rejected which means that there is a significant difference between the pupils' performance in knowledge when taught by generalist and specialist teachers.

In addition, the t computed value of 3.265 exceeds the t critical value of 2.024 ($df=38, \alpha=0.05$) which implies that the hypothesis that is stated in null form is rejected. This indicates that there is a significant difference between the performance level of pupils in ICT when handled by two different teachers along skills.

4. Relative to the difference between the knowledge and skills of the pupils when taught by a generalist teacher and specialist teacher, the t computed value of 0.349 is less than the t critical value of 2.024 at 0.05 level of significant with degrees of freedom of 38. Therefore, the null hypothesis is not rejected which means that there is no significant difference between the knowledge and skills of the pupils in ICT when taught by a generalist teacher.

Moreover, the t computed value of 1.625 does not exceed the t critical value of 2.024 ($df=38, \alpha=0.05$) which implies that the hypothesis stated in null form is rejected. Hence, there is no significant difference between the pupils' performance level in knowledge and skills when handled by a specialist teacher.

5. There is no significant interaction between the knowledge and skills of the pupils in ICT when taught by a generalist and specialist because the F computed value of 0.967 is less than the F critical value of 3.967 ($df=1,76; \alpha=0.05$). This means that the difference lies within the variables and not the interface between them. It was noted in the previous tables that the performance of the pupils significantly differs when taught by different teachers but the performances of the pupils in knowledge and skills do not differ. It would imply that the performance of the pupils is affected by the teachers handling them.

A training design may be designed for generalist teacher who will teach ICT.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, the researcher arrived at the following conclusions:

1. The overall performance level of the pupils in knowledge and skills is fairly satisfactory when taught by a generalist teacher in ICT.
2. The pupils performed satisfactorily in knowledge and skills when handled by a specialist teacher in ICT.
3. The pupils performed better in ICT when taught by a specialist teacher than a generalist teacher.
4. The pupils' performance in ICT remains the same regardless of their teacher.
5. The pupils' performance in ICT is not affected by the type of teacher handling the subject.
6. A training design for generalist teacher who will handle ICT was proposed to strengthen their instructional competence.

5. RECOMMENDATIONS

In the light of foregoing conclusions, the following recommendations were offered:

1. The generalist teacher may be provided with the appropriate training on crafting assessment, acquiring mastery of the subject matter and using the various teaching strategies in the delivery of instruction.
2. The specialist teacher may be given the opportunity to address the difficulty with management of classroom relationships and difficulty taking into account the children's cognitive development and attainment in other aspects of the curriculum.
3. The teachers may be encouraged to attend various professional development activities that will improve their teaching competence so as the disparity between generalist and specialist may be treated equitably.

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4. The school administrators may conduct student development activities that will provide equal opportunities for them to excel and participate in various activities involving them.
5. The teachers may be provided with training on improving the teaching competence and assessing of student's learning.
6. The training design may be submitted to the Division Office for possible implementation and adoption, if found feasible.
7. Further studies may be conducted that involve other variables not included in the study and wider in scope.

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