

# Performance Level of Grade Five Pupils in Information and Communication Technology

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**Abstract**— This study aimed to determine the performance level of grade five pupils in Information and Communication Technology (ICT) for the School Year 2021-2022. It used the descriptive-evaluative method since teacher-made test and questionnaire were devised for the gathering of the primary data as reflected in the problem. The respondents were the 65 Grade 5 pupils which were purposively chosen from the selected elementary schools. The statistical tools utilized were the frequency, percentage, and ranking. It was concluded that majority of the pupils have average mastery in ICT along safe and responsible use of ICT, searching and arranging information using ICT, analyzing information using ICT, communication and collaboration using ICT and creating knowledge products. The foremost strategies used by the teachers in teaching ICT are discussion and lecture methods. The lack of reading materials/learning resources in ICT and poor working conditions of computers are the critical problems encountered by the pupils in learning ICT.

**Keywords**— Performance level, ICT, Grade five, cluster schools, strategies.

## I. INTRODUCTION

The development of the nation largely depends on education. The quality of education can also be determined on the performances of teachers in the school. It is an essential reform to improve students' attainment and ensure that they receive a world class system of education (Australian Institute for Teaching and School Leadership, 2011).

Teaching is challenging to be able to develop the knowledge and skills of the learners. It greatly needs adequate competencies and skills in teaching them that are applicable in real-life situations. These educational ideals are parallel to the prime objective of Technology and Livelihood Education (TLE) in enhancing analytical thinking, self-reliance, independence, culture understanding and entrepreneurship in the learners. It is done by enriching their skills, talents and abilities on the different uses of technology and application of life skills (Ochada and Gempes, 2018).

The improvement of skills of learners is mandated under Republic Act 10533 otherwise known as the Enhanced Basic Education Act which stipulates that the program should meet the demand for quality teachers and school leaders. In response to this mandate, the curriculum for TLE in the elementary level was enhanced in terms of specific skills and knowledge that the learners must develop to meet the requirements for further learning. The subject being taught in grade 5 encompasses the field of ICT and Entrepreneurship, Agriculture, Home

Economics, and Industrial Arts. It is geared toward the development of technological proficiency and is anchored on knowledge and information, entrepreneurial concepts, process and delivery, work and values.

The 21st century skills needed by holistically developed Filipino under the K to 12 curricula are the information, Media, and Technology skills. Consequently, the utilization of ICT in educational learning has significant role in the development of these lifelong skills needed by the learners. Therefore, the effective incorporation of ICT is a general prerequisite and must be carefully undertaken by the teachers to guide the learners in achieving the aforementioned skills (Musico, 2018).

According to Balhag (2013), TLE equips learners with knowledge and information, skills and processes, right work values, and life skills in the field of Home Economics, Industrial Arts, Agri-Fishery Arts, Information Communication Technology and Entrepreneurship. In addition, it also aids in the development of work ethics, knowledge, skills, and values that are essential to economically productive endeavors.

Nowadays, the teaching of ICT skills is present in practically almost every aspect of education. Hence, the need to develop technologically competent learners. They must be competent to be able to actively participate in modern society (Ricks, 2020).

Likewise, as a valuable instrument for students, the computers play recognized critical role in improving the quality of education. This piece of advanced technology is particularly important in helping them perform more efficiently. To ensure the success of computer education, students should observe the key roles they need to play in the teaching-learning process. Therefore, students' competency in analyzing, designing, developing, educating, applying, evaluating and controlling ICT is highly significant in education (La Shun, 2017).

Nevertheless, no matter how good the education or curricular program is, the unemployment rate will tend to increase if there is a mismatch between the level of skills developed and the skill requirement of the job in the industry. The fact that about sixty percent (60%) or over one-half of the labor force in the country is unemployed is a glaring problem that needs to be addressed. One way to address this is to ensure that the gap between the skills developed in the classroom and the required skills by the industry is at least minimized if not eradicated. This can initially be done if students would take their TLE subjects seriously (Araiz, 2018).

Despite the efforts made by the Department of Education (DepEd), various challenges were encountered by students which led the researcher to conduct this study. Significant problems exist especially on the problematic access to equipment, the frequent technical problems, low internet access, insufficiency of computers and lack of skills in using computers which greatly affect students academically (Retome, Estrella, Garcia, Yaoyao, & Granada, 2013).

Needless to say, pupils from cluster schools in Bulusan District have encountered different serious problems in ICT. As observed, pupil computer-ratio is 1:4 and in addition, the internet connectivity is slow because the school is situated in a far-flung area. It could result to the lack of confidence and competence in ICT of pupils. These scenarios largely affect pupils' performance in Technology and livelihood Education.

As stressed by Bently (2021) the barriers related to technology learning such as insufficiency of computers, and lack of teachers' capability in using computer largely affects the learning process. Therefore, school must carry out remedies to improve the performance level of pupils. Thus, this research was undertaken.

Lastly, the evidences that show the prevalence of the quality problems in education are the results of learning assessment. The annual accomplishment report reveals that over the past years, the Bulusan district's performance in the examination specifically in ICT is consistently below the passing cut-off score of 75% as set by Department of Education.

During the school year 2018-2019, the mean percentage score in the test was 60.79%. In school year 2019-2020, the mean score was 65.77 and 65.90% for the school year 2020-2021. During the first and second quarter of this school year 2021-2022, pupils got a mean percentage in ICT of 70.45% and 70.78% respectively. Thus, result poses a serious implication to the quality of education in Sorsogon (Gregorio, 2016).

Based on the premise mentioned above, necessary actions should be made in the resolution on the widespread problem, thus, the researcher came up with the idea of conducting a study on the performance level of grade five pupils in Information and Communication Technology (ICT). Moreover, since learners are experiencing problems along ICT, the researcher developed an action plan to resolve the concerns and issues of the grade five pupils which aimed to improve their level of performance.

This study aimed to determine the performance level in Information and Communication Technology (ICT) of grade five pupils in cluster schools of Bulusan district for the school year 2021-2022. Specifically, it sought answer the following questions:

1. What is the performance level of grade five pupils in Information and Communication Technology (ICT) along the following:
  - a. safe and responsible use of ICT,
  - b. searching and arranging information using ICT,
  - c. analyzing information using ICT,
  - d. communication and collaboration using ICT and,
  - e. creating knowledge products?
2. What are the strategies used by the teachers in Teaching ICT?
3. What are the problems encountered by the pupils in learning ICT?
4. What action plan could be proposed based on the result of the study?

## II. MATERIALS AND METHODS

### Research Design

This study aimed to determine the performance level of grade five pupils in Information and Communication Technology (ICT) in elementary cluster schools of Bulusan District, for the school year 2021-2022. It also determined the strategies used by teachers in teaching ICT and the problems encountered by pupils in learning ICT.

The descriptive research design was employed in this study. The descriptive method is the most appropriate to use since it is concerned with the level of performance of the respondents. A descriptive study is a research method in which information is collected without changing the environment. A validated teacher-made test was utilized as the instrument in this study. The Grade five pupils in ICT and five teachers in elementary schools of Bulusan District served as respondents in this investigation. Meanwhile, appropriate statistical tools were used such as mean, frequency, and percentage to determine the performance level, strategies used by teachers and the problems met by pupils in learning ICT.

### The Sample

Table 1 presents the distribution of respondents by frequency and percentage where 100% of whom are the pupil- respondents of five elementary schools in Bulusan District. The respondents of this study were the 65 grade five pupils who were enrolled during the school year 2021-2022.

Since this study focused on the level of performance of pupils in ICT, they were selected through purposive sampling. According to Etikan, Musa & Alkassim (2016), purposive sampling technique, also called judgment sampling, is the deliberate choice of a participant due to the qualities of the participants. It is a nonrandom technique that does not need underlying theories or a set number of participants. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience. This involves identification and selection of individuals or groups of individuals who are proficient and well-informed with a phenomenon of interest.

*Table 1. The Respondents*

Respondents	f	%
Pupils	65	93
Teachers	5	7
Total	70	100

As shown in table 1, 65 or 93% of the respondents are pupils from five cluster schools of Bulusan District. They include San Antonio Elementary School, Lalud Elementary School, Cogon Elementary School, Tinampo Elementary School pupils, and San Bernardo Elementary School. Meanwhile, five or 7% of the respondents are teachers from each of the mentioned schools.

### The Instrument

A validated teacher-made test was utilized as the instrument in this study to determine the level of performance of grade five pupils. This test underwent validation on April 19-20, 2022 from three master teachers during the conduct of dry-run at Dancalan Elementary School on the same date. It consisted of 40 multiple-type question. Number of items in the test questions was divided equally along the identified variables. Eight items delved on responsible use of ICT, eight items focused on communication and collaboration using ICT, eight items were on searching

and arranging information using ICT, another eight items dealt on analyzing information using ICT, and eight questions dealt on creating knowledge products. The respondents were given an hour to answer the assessment test. Moreover, after taking the test, the result collected for tabulation of scores using appropriate statistical data.

As seen in Table of Specification, the seven topics with their corresponding specific competencies shows the number of hours and the placement of items in the test were equally divided. Moreover, the level of knowledge of the test was based on the Cognitive Process Dimensions adapted from Anderson and Krathwohl (2001) which were arranged sequentially from basic to complex, as follows: Remembering, Understanding, Applying, Analyzing, Evaluating and Creating.

Moreover, on the survey questionnaire used in the study, Part I delved on the problems encountered by pupils in learning ICT concepts and skills. They were allowed to

check the different problems they encountered. In part II of the questionnaire given to teachers, they were instructed to check the different strategies employed in teaching ICT. Several strategies were stated in the form. They were also allowed to add some methodologies they used in teaching-learning process if not found in the given choices. Submit your manuscript electronically for review. prepare it in two-column format, including figures and tables (until it don't fit properly and data is not visible).

#### **Data Collection Procedures**

In order to collect the most accurate data, the researcher sought the approval of the Public Schools District Supervisor of Bulusan District. Likewise, permissions were requested from the parents of the grade five pupils through a letter of intent. This is imperative for a researcher as an ethical consideration in conducting research.

After the approval, the researcher underwent several stages on the process of undertaking the study. First, the teacher-made test was evaluated master teachers of Bulusan District. They were asked to critique and comment on the form as well as the alternative responses. Second, in order to assure its correctness and suitability, the revised tool underwent dry run in Dancalan Elementary School on July 19-20, 2022 using the approved letter request signed by the Public Schools District Supervisor. Third, corrections based from the dry run were incorporated as preparation for the final copies of research tool. Lastly, the validated test was administered to the chosen respondents from April 25 to 29, 2022.

Meanwhile, in order to determine the strategies and used by teachers and the problems encountered by pupils in teaching ICT, the researchers asked the adviser and panels to evaluate the survey questionnaire. Revisions were made based on the given suggestions made by the experts. A final copy of survey-questionnaire was made

and administered to the grade five pupils of selected five elementary school in Bulusan District on April 25-29, 2022. One hundred percent of the respondents participated in the conduct of test and retrieval of questionnaires. Tallying of responses were done and the researcher submitted them to the statistician for the statistical treatment

#### **Data Analysis Procedures**

To interpret the data gathered in the study, they were first summarized and organized. After which, they were subjected to appropriate statistical treatment.

To determine the performance level of the respondents in the test, the mean, and the scale below were used (DepEd Order No. 74,s. 2012). After determining the performance level of the respondents in the test, the following descriptions were utilized (DepEd Order No. 73,s. 2012). Advanced (90% and above); Proficient (85%-89%); Approaching Proficiency (80%-94%); Developing (75%-79%); Beginning (74% and below). To determine the strategies used by teachers and the problems met by pupils in learning ICT, the waited mean, frequency, and percentage

### **III. RESULTS AND DISCUSSION**

#### **1. Performance level of pupils in Information and Communication Technology (ICT)**

This section discusses the performance level of grade five pupils in Information and Communication Technology (ICT) along safe and responsible use of ICT, searching and arranging information using ICT, analyzing information using ICT, communication and collaboration using ICT and creating knowledge products. The frequency and percentage are used in the data analysis.

Safe and responsible use of ICT. Table 2A consists of the frequency and percentage of the performance level of grade five pupils in ICT along its safe and responsible use.

*Table 2A. Performance level of pupils along Safe and responsible use of ICT*

<b>Performance Level</b>	<b>f (n=65)</b>	<b>%</b>
<b>96-100 (Mastered)</b>	3	5
<b>86-95 (Nearly Mastered)</b>	5	8
<b>66-85 (Moving Towards Mastery)</b>	8	12
<b>35-65 (Average Mastery)</b>	38	58
<b>16-34 (Low Mastery)</b>	6	9
<b>5-15 (Very Low Mastery)</b>	3	5
<b>0-14 (Absolutely No Mastery)</b>	2	3

Mean PL	52 (AM)
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It can be gleaned from the table that relative to safe and responsible use of ICT, there are (5%) pupils who are mastered in this area. Likewise, (8%) pupils showed nearly mastery, (12%) of them have performance that is moving towards mastery, and (58%) pupils have average mastery in this topic. However, there are (9%) pupils showed low mastery, (5%) of them acquired very low mastery, and (3%) pupils have absolutely no mastery in the area. Generally the pupils are evident that average mastery was obtained from safe and responsible use of ICT with mean PL of 52.

This means that pupils have knowledge in terms of using computers safely and responsibly. However, there are still some learners without mastery at all. This dismal result perhaps may be attributed to the effects of modular distance learning where pupils are only learning ICT skills using printed materials because of

pandemic. Likewise, the lack of computer facilities could also be one of the reasons on the low performance of pupils. This factor really affects the academic performance of pupils especially in 21st century educational landscape. As emphasized by Rudio (2017), teacher and student involvement are important in the learning process in the learning process. In Teaching effective TLE-ICT, it must involve hands-on activities to develop skills among learners particularly in using computers. Thus, teachers must allow pupils to do learning by doing to practice the use of computer skills among learners.

Searching and arranging information using ICT. Table 2B includes the frequency and percentage of the performance level of grade five pupils in ICT along searching and arranging information

**Table 2B.** Performance level of pupils along searching and arranging information using ICT

Performance Level	f (n=65)	%
96-100 (Mastered)	0	0
86-95 (Nearly Mastered)	0	0
66-85 (Moving Towards Mastery)	1	2
35-65 (Average Mastery)	50	77
16-34 (Low Mastery)	9	14
5-15 (Very Low Mastery)	4	6
0-14 (Absolutely No Mastery)	1	1
Mean PL	42 (AM)	

The data showed that generally, in terms of searching and arranging information using ICT, the pupils have an average mastery as evident in their mean PL of 42. Specifically, there is only one pupil who is moving towards mastery. In the same manner, (77%) pupils acquired average mastery, (14%) of them have low mastery, and (6%) of pupils showed very low mastery.

The results are indication that five pupils found it as easy since almost of them belonged to average mastery. However, there are some pupils who find it as a very difficult lesson. Hence, it implies that the use of modules as the main approach in teaching ICT during pandemic time is not enough to address the needs of learners particularly that pupils had no hands-on activities. Moreover, as observed by teachers, lack of computer facilities in the school perhaps added to the reasons of having low scores in the assessment test given to learners. It is therefore important that as teacher,

additional instructional materials maybe needed to be developed and specifically designed for the competency in order to enhance the level of performance of pupils in ICT. Teachers also need to conduct remediation using the developed tools to effectively transfer learning among pupils needing remediation.

In a similar contention, Lee, (2016), Nurita (2019), and Sirait (2017) articulated that through the use of instructional materials, it could help give students the opportunity to take an active role in their learning by assisting them in developing and discovering concepts through process skills, as well as to serve as a resource for teachers and learners during the learning process.

Analyzing information using ICT. Table 2C consists of the frequency and percentage of the performance level of grade five pupils in Information and Communication

Technology (ICT) along analyzing information using ICT.

*Table 2C. Performance level of pupils along analyzing information using ICT*

Performance Level	f (n=65)	%
96-100 (Mastered)	0	0
86-95 (Nearly Mastered)	0	0
66-85 (Moving Towards Mastery)	0	0
35-65 (Average Mastery)	40	62
16-34 (Low Mastery)	18	28
5-15 (Very Low Mastery)	5	8
0-14 (Absolutely No Mastery)	2	2
Mean PL	36 (AM)	

It can be observed from the table that (62%) pupils have shown average mastery in analyzing information using ICT. Also, there are (28%) of them who have low mastery and (8%) of pupils have very low mastery. However, (2%) of pupils are evidently no mastery at all. Generally, the pupils have average mastery in this area with mean PL of 36.

With these, findings revealed that pupils have not enough knowledge in terms in the analysis and utilization of ICT though most pupils attained average mastery. However, there should be room for improvement for the students to reach the mastered level. This low performance of pupils in ICT maybe brought about by global outbreak where pupils are only learning at home, and to the fact that only few of them have computers at home where they can do hands-on activities.

The teaching strategies used by teachers in teaching ICT might also be the reason of low performance of pupils as reflected in the sub question number of the study

where most teachers used lecture method in teaching. Thus, this implies that teachers may change their strategies in teaching ICT skills to the learners. The use of these should be given special attention and highest priority on the part to teacher in order to teach learners the basic skills in ICT.

Likewise, due to pandemic, reading modules is not enough to enhance the competencies of pupils and with limited computers at school, it is difficult for pupils to learn how to manipulate computers which greatly affected their performance in ICT. This necessitated teachers to be innovative in class towards achieving its vision-mission statement by integrating into the curriculum and instruction the use of digital teaching and learning tools according to Javier (2021).

Communication and collaboration using ICT. Table 2D lists of the frequency and percentage of the performance level of grade five pupils in Information and Communication Technology (ICT) along communication and collaboration using ICT.

*Table 2D. Lists of the frequency and percentage of the performance level of grade five pupils*

Performance Level	f (n=65)	%
96-100 (Mastered)	0	0
86-95 (Nearly Mastered)	1	2
66-85 (Moving Towards Mastery)	11	17
35-65 (Average Mastery)	36	55
16-34 (Low Mastery)	8	12
5-15 (Very Low Mastery)	7	11
0-14 (Absolutely No Mastery)	2	3
Mean PL	45 (AM)	

It can be asserted from the table that generally the pupils acquired average mastery in communication and

collaboration using ICT. In particular, (55%) pupils obtained average mastery and (19%) of them are evident

that their mastery is from moving towards mastery to nearly mastered. On the other hand, there are (26%) pupils whose performance level ranged from absolutely no mastery to low mastery.

This means that there are most pupils who got a high-performance level in terms of communicating and collaborating using ICT. However, there are still some grade five pupils who could hardly grasp the lesson, hence no mastery occurs to the topic already covered by the teacher.

The result may also be attributed to students' lack of interest in learning ICT especially during pandemic time where they only rely their learning through modular approach. Since ICT skills cannot just be learned in

reading, it is difficult for the students to learn basic skills in ICT particularly that there is no hands-on activities. Furthermore, the results may be attributed to the poor conditions of computers in ICT which is ranked 2 as revealed in the problems encountered by pupils in ICT. As such, school is expected to improve their ICT resources to effectively teach pupils in the said subject area. It was revealed in the study of Netragaonkar (2015), and Areza (2018) that lack of computer facilities is barrier in improving the skills of pupils in ICT.

Creating knowledge products. Table 2E lists the frequency and percentage of the performance level of grade five pupils in Information and Communication Technology (ICT) along creating knowledge products.

**Table 2E.** Performance level of pupils along creating knowledge products

Performance Level	f (n=65)	%
96-100 (Mastered)	0	0
86-95 (Nearly Mastered)	1	2
66-85 (Moving Towards Mastery)	1	2
35-65 (Average Mastery)	29	44
16-34 (Low Mastery)	15	23
5-15 (Very Low Mastery)	19	29
0-14 (Absolutely No Mastery)	0	0
Mean PL	32 (AM)	

From the table, it can be noticed that in relation to creating knowledge products, there are (4%) pupils whose performance level is from moving towards mastery to early mastered. Likewise, (44%) of them have average mastery and (52%) pupils are evident of very low to low mastery in this area. Generally, the mean PL of the pupils in this topic is 32 which is described as average mastery. This means that most grade five pupils find difficulty in creating knowledge products. This further implies that the lessons are hardly absorbed by the pupils. The results could be attributed to the insufficiency of computers, lack of ICT facilities as observed and experienced by teachers teaching ICT. Further, the use of lecture as common method in teaching ICT maybe attributed to the dismal result of test as reflected in sub problem number four where teachers utilized this method in teaching ICT competencies and skills. Hence, such findings imply that there is a need for teachers to be innovative specifically on the strategies to be used in teaching learners at pandemic time. Since modules do not effectively transfer learning and skills in

ICT, teachers may change their style and approaches in teaching to improve students' learning.

As stressed by Morante (2018), there are several strategies in teaching TLE- ICT. One of which is the use of activity based teaching. With continued practice and use of this method in teaching, students learn not only the content of the lesson but also develop many other skills. It enhances creative aspect of experiences, gives reality for learning, uses all available resources, and provides varied experiences to the students to facilitate the acquisition of knowledge, experience, skills and values.

Also, teachers must not stop to search and innovate new ideas and must continue improvising learning resources could greatly help the learning difficulties of pupils particularly in today's global outbreak where pupils have limited knowledge at home. After all, as teachers, it is really our utmost responsibility to make learning not only effective, but also meaningful for our students.

## 2. Strategies used by the teachers in Teaching ICT

Table 3 contains the frequency and rank of the strategies used by the teachers in Teaching ICT. Multiple responses was utilized by the respondents.

*Table 3. Strategies used by the teachers in Teaching ICT*

Strategies	f	Rank
Discussion method	5	1.5
Lecture method	5	1.5
Direct instruction	4	3
Demonstration method	3	5
Project-based learning	3	5
Activity-based learning approach	3	5
Integrative learning strategy	2	7
Laboratory method	1	8

The data showed that the most strategies used by the 5 teachers are discussion and lecture methods which are tied in rank 1.5. Then, there are four teachers who utilized the direct instruction in 3rd rank and tied in 4th rank. The 5th are the demonstration method, project-based learning, and activity-based learning approach that are used by three teachers.

This means that teachers mostly used traditional methods of teaching such as lecture and discussion method. These may also be the reason on the low performance of pupils in ICT particularly in these trying times where global outbreak led to the closures of all institutions and pupils are only learning from the printed materials given to them by the teachers. It is also extraordinarily challenging for teachers to practice ICT skills to the learners. Since the low performance of pupils may also be attributed to teacher factor, it is important that at this pandemic time, they must continue upgrading their skills particularly in ICT to meet the demands of 21st century learners.

Likewise, as revealed in the findings, some teachers utilized different strategies in teaching during pandemic. This would imply that teachers teaching ICT must utilize various teaching strategies to cater the needs of the 21st century learners in teaching-learning process.

Using such strategies/ methods would help to promote high learning in terms of acquisition of knowledge and skills

It was stressed by Yelon (2016) and Phipps (2017) that in order to keep students' attention, teachers must vary their teaching strategies and techniques. Using varied techniques particularly in teaching computer skills amidst pandemic may improve learning and make the subject matter useful. Any change in the teachers' strategies causes changes in the students; involvement and achievement (Bernaus, 2019). Their ideas were backed-up by the study of Blanca (2019) which stated in her study that strategies play an important role in teaching specifically to the development and enhancement of students' performance. Based on her findings, using strategies in teaching largely affects the students' learning.

## 3. Problems encountered by the pupils in learning ICT

Table 4 encompasses the problems encountered by the pupils in learning TLE along Home Economics, Agriculture, Industrial Arts, and ICT. The frequency and rank were utilized in analyzing the data. The multiple response was used by the respondents.

*Table 4A. Problems encountered by the pupils along ICT*

Problems	f	Rank
Lack of reading materials/learning resources in ICT	54	1
Poor working conditions of computers	48	2
Insufficient number of computers	35	3
Lack of financial support	29	4
Lack access of internet	24	5.5



<b>Lack of adequate skills in manipulating computers</b>	24	5.5
<b>Lack of laboratory rooms in ICT</b>	22	7
<b>Lack of interest to learn ICT</b>	20	8
<b>Difficulty to learn ICT lessons</b>	13	9.5
<b>Inadequate time in using computers</b>	13	9.5
<b>Lack of technical support from teachers</b>	7	11
<b>Teacher's insufficient knowledge and skills in using computer</b>	6	12

It can be gleaned from the table that the five most critical problems encountered by the pupils are the Lack of reading materials/learning resources in ICT as observed by 54 pupils in 1st rank followed by the poor working conditions of computers in 2nd rank with frequency of 48. Then, there are 35 pupils who noticed that there are insufficient number of computers in the 3rd rank. Also, the lack of financial support with frequency of 29 in the 4th rank and tied in rank 5.5 are lack access of internet and lack of adequate skills in manipulating computers as encountered by 24 pupils.

Based on the information gathered from an interview to learners and teachers, the insufficiency of instructional materials in ICT and lack of computers as the main problem encountered by pupils in pandemic time. This may be the reason for having low performance in some of the competencies in ICT as revealed in the results of the assessment given to them. The pandemic maybe largely attributed on the low performance of pupils since the limited time in using computers in teaching might have been another factor on not helping the pupils to develop the needed skills.

More so, as observed and experienced by teachers in the conduct of classes during pandemic time, pupils have also limited time in using computer. The 1:3 on the ratio of using computer could be another determinant that affected the development of computer skills of learners. This indicates that teachers must continue innovating instructional materials to ensure that pupils are learning at home using the innovative resources made by teachers especially in these global outbreaks where the knowledge and skills of pupils are only limited. Likewise, schools must invest more on improving the ICT facilities to address the ICT related problems met by pupils. Moreover, pupils should be introduced some important ICT skills to improve the competencies and skills of learners, thus, enhance pupils academically.

The results were congruent to the study conducted by Netragaonkar (2015) who examined the issues related with ICT and found out that barriers in ICT education

include the following: lack of qualified ICT Personnel, cost of equipment, management's attitudes, inconsistent electric power supply, and teachers' training curriculum.

#### **4. Proposed Action Plan**

This portion includes the proposed action plan which is an output that emerged based on the results of the study. It contains the key result areas, objectives, activities, persons involved, budgetary requirements, time frame and expected outcome.

#### **Rationale**

The proposed action plan focuses on different activities that would help to heighten pupils' achievements. Various actions are to be implemented to address issues regarding on the low performance of pupils in ICT. The Action Plan set out four actions aimed at improving the performance level of pupils. The actions focus on the practice of safe and responsible use of ICT, demonstrate knowledge and skills on searching and arranging information using ICT, demonstrate knowledge and skills on analyzing information using ICT, communicate and collaborate using ICT, demonstrate knowledge and skills on, and creating knowledge product,

Each action proposed has specific task to be done, person responsible, when to initiate, whom to consult and budgetary requirement needed in the conduct of activities. It is expected that after all activities was done, it could stand to bring enhancement and development of skills of grade five pupils in ICT.

#### **General Objective**

The main goal of the plan of action is to improve the performance level of the pupils in ICT.

#### **Specific Objectives**

1. Practice safe and responsible use of ICT.
2. Demonstrate knowledge and skills on searching and arranging information using ICT.
3. Demonstrate knowledge and skills on analyzing information using ICT.
4. Communicate and collaborate using ICT.

5. Demonstrate knowledge and skills on creating knowledge products.

#### IV. CONCLUSION AND RECOMMENDATIONS

It was concluded that majority of the pupils have average mastery in ICT along safe and responsible use of ICT, searching and arranging information using ICT, analyzing information using ICT, communication and collaboration using ICT and creating knowledge products. The foremost strategies used by the teachers in teaching ICT are discussion and lecture methods. The lack of reading materials/learning resources in ICT and poor working conditions of computers are the critical problems encountered by the pupils in learning ICT. An action plan was proposed to improve the performance level of the pupils in ICT.

This study recommends that the pupils may be provided the adequate instruction and state-of-the-art equipment in ICT for them to improve their performance level in the subject. The teachers may attend ICT-related training and seminars to upgrade their strategies in teaching the subject. The school may provide additional ICT-related reading materials to supplement the performance of the pupils and regularly maintain the working condition of the computers. The action plan may be submitted to the concerned authorities for further review and evaluate prior to its adoption and implementation. Further study may be conducted that may widen the scope and the inclusion of other variables not covered.

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#### REFERENCES

- [1] Agluba, C.,A. (2021). Technical Skills and The Academic Performance Of Grade 9 Technology and Livelihood Education Students: A Basis For Placement Plan. Retrieved from: <file:///C:/Users/DESKTOP/Downloads/30.pdf>
- [2] Amilou s. Morante. (2018). Teaching Strategies for TLE Teachers. Retrieved from: <https://www.pressreader.com/philippines/sunstar-pampanga/20180713/281792809795686>
- [3] Areza,J., A. (2018). Level of Competency of the Pupils in Technology and Livelihood Education 6 in Sorsogon City Division. Retrieved from: <https://www.ijsr.net/archive/v9i7/SR20630125510.pdf>
- [4] Ariaso, A., D. & Tancinco, N., P. (2016). The Plight of Technology And Livelihood Education Teachers In Selected Schools In The Municipality Of Naval, Biliran, Philippines. Retrieved from: [file:///C:/Users/DESKTOP/Downloads/127%20\(1\).pdf](file:///C:/Users/DESKTOP/Downloads/127%20(1).pdf)
- [5] Araiz, J.(2018). Profile and Level of Competence of Information and Communications Technology (ICT) Coordinators among Secondary Schools in the Division of Davao del Sur. JPAIR Multidisciplinary Research, 32(1), 124-148.
- [6] Basri W.,S. . Alandejani, J., A., and Almadani, F.,M. (2018). ICT Adoption Impact on Students' Academic Performance: Evidence from Saudi Universities. Retrieved from: <https://downloads.hindawi.com/journals/edri/2018/1240197.pdf>
- [7] Buniel, J. M. C., & Monding, V. A. (2021). Effectiveness of developed worksheets to the academic achievement of students in science 9 concepts. International Journal for Innovation Education and Research, 9(4), 210-214.
- [8] Campbell, L. (2020). Teaching in an inspiring learning space: An investigation of the extent to which one school's innovative learning environment has impacted on teachers' pedagogy and practice. Research Papers in Education, 35(2), 185-204.
- [9] Chrisostomou, H. and Bank, J. (2020). Technology and Pedagogy: Why Don't We See the Promised Revolution? Educational Technology, 42, 71-75.
- [10] Dalton, D. W., & Gredrum, D. A. (2021). The effects of computer programming on problem-solving skills and attitudes. Journal of Educational Computing Research, 7(4), 483-506 <http://dx.doi.org/10.29322/IJSRP.11.08.2021.p11627>
- [11] David, C.,L. (2018). Creating Impact for Teaching TLE. Retrieved from: <https://www.pressreader.com/philippines/sunstar-pampanga/20181116/281578061695353>
- [12] Delos Reyes, J.,F. , Caballes, D.,J. (2021). A Review on the School – Based Learning Activity Sheet Towards Improvement of Instructional Material Faye . Retrieved from:
- [13] Eie. (2021). 7 Research-Based Classroom Strategies for Teaching Computer . Retrieved from: <https://blog.eie.org/7-research-based-classroom-strategies-for-teaching-computer-science-cs>
- [14] Etikan, Musa, & Alkassim . (2016). Comparison of Convenience Sampling and Purposive Sampling.

- Retrieved from: <https://article.sciencepublishinggroup.com/html/10.11648.j.ajtas.20160501.11.html#paper-content-3>
- [15] Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- [16] Fajardo, M.,L. and Mendoza, F.,E. . (2021). Pedagogical Approaches and Information and Communication Technology (ICT) Skills of Teachers in the E-Learning. Retrieved from: [https://www.academia.edu/49050056/Pedagogical\\_Approaches\\_and\\_Information\\_and\\_Communication\\_Technology\\_ICT\\_Skills\\_of\\_Teachers\\_in\\_the\\_E\\_Learning](https://www.academia.edu/49050056/Pedagogical_Approaches_and_Information_and_Communication_Technology_ICT_Skills_of_Teachers_in_the_E_Learning)
- [17] Fauziah, A. , T. Nurita, Activities of Students in Using Worksheet Based on Contextual Teaching and Learning 2019. IOP Publishing, Journal of Physics: Conference Series. 1417 (2019) 012088
- [18] Fortes, D. B. (2014). Difficulties in Teaching Physics: Basis for the development of Instructional Materials. Master's Thesis. Sorsogon State College, School of Graduate Studies, Sorsogon City.
- [19] Fulgar, V. F. (2017). Computer Competency of Elementary Teachers in Sta. Magdalena District. Master's Thesis. Sorsogon State College, School of Graduate Studies, Sorsogon City.
- [20] Gopinathan, S. (2008). Transforming Teacher Education: Redefined Professionals for 21st Century Schools. Singapore: International Alliance of Leading Education Institutes.
- [21] Gregorio, L. (2006). Leading and Facilitating Curriculum Change. Manila: UNESCO National Commission of the Philippines.
- [22] Gregorio, M. S. R. (2016). Technology and Livelihood (TLE) Instruction of Technical Vocational and Selected General Secondary Schools in Catanduanes. *International Journal of Learning, Teaching and Educational Research*, 15(4).
- [23] Guillo, R., & Guillo, R. (2017). Assessment of Information Communications Technology (ICT) Competency of Teachers and Students at Batangas State University. *International Journal of Contemporary Applied Sciences*, 4(4).
- [24] Hernon, P., & Dugan, R. E. (2009). Assessment and evaluation: What do the terms really mean? *College & Research Libraries News*, 70(3), 146-149
- [25] Javier, B. F. (2021). Practices of Filipino Public High School Teachers on Digital Teaching and Learning Technologies during the COVID-19 Pandemic Basis for Learning Action Cell Sessions. Online Submission.
- [26] Julian,Frailon J., Wolfram, A., Schulz, T., Friedman, E., Gebhardt. (2020). Students' Use of and Engagement with ICT at Home and School. Retrieved from: [https://link.springer.com/chapter/10.1007/978-3-319-14222-7\\_6](https://link.springer.com/chapter/10.1007/978-3-319-14222-7_6)
- [27] Lapid, R. (2019). Action Research: Remedial Modular Instruction: Strategy in Bridging Learning Gap in Visual Graphic Design in TLE among Grade 10 Students of Rosario National High School.
- [28] La Shun, L. C. (2017). A Comprehensive Definition of Technology from an Ethological Perspective. *Social Sciences*, 6(4), 1-20.
- [29] Lederman, N. G., & Niess, M. L. (2001). An attempt to anchor our moving targets. *School Science and Mathematics*, 101(2), 57-60.
- [30] Lee,C.(2014) Worksheet Usage, Reading Achievement, Classes' Lack of Readiness and Science Achievement: A Cross – Country Comparison. *International Journal of Education in Mathematics, Science and Technology*, Volume 2, Number 2, April 2016, Page 96 – 106. ISSN:2147 – 611X
- [31] Letao Sun and Kelly D. Bradley. (2021). School Computer Use And Academic Performance. Retrieved from: [https://www.uky.edu/~kdbrad2/MWERA\\_Letao.pdf](https://www.uky.edu/~kdbrad2/MWERA_Letao.pdf)
- [32] Luna, K. (2021). Challenges In Technnology And Livelihood Education Modular Distance Learning And Tle Performance Of Grade 10 Students. Retrieved from: <https://orcid.org/0000-0002-8198-6558>
- [33] Lynch, M., (2016). Assessments In Education. Retrieved from: <https://www.theedadvocate.org/real-purpose-assessments-education/>
- [34] Maheshwari, P. (2017). Improving the learning environment in first-year programming: Integrating lectures, tutorials, and laboratories. *Journal of Computers in Mathematics and Science Teaching*, 16(1), 111-131
- [35] Mohd Nasir Ismail. (2020). Instructional strategy in the teaching of computer programming: A need assessment analyses. Retrieved from: [https://www.researchgate.net/publication/228765283\\_Instructional\\_strategy\\_in\\_the\\_teaching\\_of\\_co](https://www.researchgate.net/publication/228765283_Instructional_strategy_in_the_teaching_of_co)

- mputer\_programming\_A\_need\_assessment\_analyses
- [36] Monding, V., A. Buniel, J. (2021). Effectiveness Of Developed Worksheets To The Academic Achievement Of Students In Science 9 Concepts. Retrieved from: [file:///C:/Users/DESKTOP/Downloads/editor,+PB-3041%20\(5\).pdf](file:///C:/Users/DESKTOP/Downloads/editor,+PB-3041%20(5).pdf)
- [37] Musico, J. (July 26,2018). DepEd to Hire more Teachers with Different Skills. Retrieved January 18, 2020 from <http://www.pna.gov.ph/articles/1042690>
- [38] Nassipbayeva, O. (2016). The competencies of the modern teacher. Retrieved from: <files.eric.ed.gov/fulltext/ED567059.pdf>
- [39] Nueva, M. (2019). A Literature Review on the Current Technocology in Education: An Examination of Teachers Use of Technology and Its Association to Digital Inequality in School. In 12th DLSU Arts Congress. De La Salle University, Manila, Philippines. February (Vol. 20, p. 21).
- [40] Ochada, N. R. C., & Gempes, G. P. (2018). The realities of Maintenance and Other Operating Expenses (MOOE) allocation in basic education system: unheard voices of publicschoool teachers. *International Journal of Scientific & Technology Research*, 7(4), 315-324.
- [41] Olawale, S.K. (2016) The Use of Instructional Materials for Effective Learning of Islamic Studies. *Jihat-al-Islam*, 6, 29-40
- [42] Onyilagha, J. C. and Nnajifor, F. N. (2016). Comparative Study of the Impact of Instructional Materials and Technology on Traditional and Distance Education Systems. *International Journal for Innovation Education and Research*. 4(2), pp. 71-78.
- [43] Palor, B., (2021). Gathering and Organizing Information Using ICT. Retrieved from: <slideshare.net/Bernardo>
- [44] Retome, V. G., Estrella, N. C., Garcia, G. C., Yaoyao, I. B., & Granada, D. (2013). Instructional Assessment Of TechnologyAndLivelihood Education (Tle) Program. *Journal of Educational and Human Resource Development*, 1, 16-21.
- [45] Rudio. (2017). Teaching Strategies for TLE Teachers. Retrieved from; <https://www.pressreader.com/philippines/sunstar-pampanga/20180713/281792809795686>
- [46] Siahaan, M. Sirait, M. (2017). Development of Student Activity Sheet (Worksheet) Based on Guided Inquiry to Improve Student's Critical Thinking Skills in Senior High School. *Journal of Education and Practice*, 8 (20),
- [47] Tan, M. (2021). Technology and Livelihood Education (TLE) Instruction in the Secondary Schools in Northern Samar Division, Eastern Philippines. Retrieved from: <https://journalajarr.com/index.php/AJARR/article/view/30369>
- [48] Toquero, C. M. (2020). Challenges and Opportunities for Higher Education Amid the COVID-19 Pandemic: The Philippine Context. *Pedagogical Research*, 5(4). Torrefranca, E. (2017). Publication Office PNU Web-Based Research Management Portal. <https://po.pnuresearchportal.org/ejournal/index.php/normalights/article/viewFile/375/235>
- [49] UNESCO. (2021). Supporting teachers in back-to-school efforts. A toolkit for school leaders. Retrieved from: <https://www.unicef.org/rosa/media/7996/file/Guidance%20Continuity%20of%20Learning%20during%20COVID-1ww.ijcas.net>
- [50] Vergara, A. M. (2017). Development, Effectiveness and Acceptability of Module for the Problem Solving and Critical Thinking Skills of Alternative Learning System in District of Tanay II. *Research Gate Publication*. Retrieved from: [https://scholar.google.com/scholar?hl=en&as\\_sdt=0%2C5&q=Vergara.%282017%29Development++of+++module.+++Research+++Gate&btnG=Writer,+S.+2020.+How+to+Create+a+Strategic+Plan](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Vergara.%282017%29Development++of+++module.+++Research+++Gate&btnG=Writer,+S.+2020.+How+to+Create+a+Strategic+Plan)
- [51] Writer, S. (2020). How to Create a Strategic Plan <https://www.questionsanswered.net/article/create-strategic-https://natalieklingsblog.wordpress.com/2014/09/24/safe-responsible-and-ethical-use-of-ict-a-teachers-guide/>