

Teachers' Educational and Professional Backgrounds: Standards for Competence in Instructional Materials Preparation

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Abstract – *Global education has started shifting from the use of traditional instructional materials to technology-based instructional materials (IM) to provide students a flexible learning environment. Many countries have already started integrating computer-based and multi-sensory IM in the classroom. The shift is challenging especially to those who have not advanced in their field of study, but there are insights that those who take post graduate studies are more adept to the use of various technology-based IM. In the Philippines, the Department of Education is actively engaged in various programs that upgrade the quality of education. One of these programs is enhancing the teachers' competencies in the use of instructional materials. In this study, the IM preparation competency of the randomly selected public and private secondary school teachers in Camarines Sur were analyzed in terms of the relationship of their knowledge and skills in IM design and preparation, and their educational attainment and length of service. Utilizing a descriptive-evaluative methodology, the data were gathered through questionnaires and interviews. The result of the study revealed that most teachers prefer handouts over the multi-sensory technology and technology-based instructional materials. Moreover, it showed that the level of competency of the teachers in IM preparation is affected by their educational attainment and length of service. It was then suggested that the government and the educational institutions should work together to provide teachers with opportunities and computer-based educational materials that would help them become more competent in the preparation and use of IM for today's high school students. It was also proposed that a 3-year program focused on IM preparation should be established.*

Keywords: *competency, instruction, teachers, instructional materials, technology-based instructional materials*

INTRODUCTION

The instructional materials (IM) are an integral part of the teaching-learning process. These are educational technologies not only necessary for the achievement of the learning objectives but at the same time substantial to the teacher effectiveness. Teachers, as the central figures in the education institution, are expected to be equipped with adequate tools to perform their work efficiently. The preparation of IM is expected to be a foundation of projected equipment or tools that are deemed compatible into a particular pedagogical strategy [1].

In the global context, sweeping reforms of said process were encouraged to build bridges between the educational competence of the students and professional confidence of the teachers [2]. It is in this vein that students are becoming more prepared in facing the complexity of higher educational requirements in the real world while the teachers bear greater responsibility of immersing these students in the heart of global education through the use of meaningful IM. In Nigeria, it is sought that

instructional materials are strengths towards the achievement of quality education and they look into the use of ICT to meet this goal however, lack of funds makes it difficult for them to be aided with such materials inside the classroom [1].

In the Philippines, the Department of Education (DepEd) issued Order no. 95 Series 10 which states that DepEd has been involved in various programs and projects for modernizing its operations and improving the teaching and learning process, included here were the upgrading of teachers' competency in instructional materials preparation due to the current shift of education program to K to 12 system in the country [3]. Teachers occupy a strategic position in the teaching-learning process and the utilization of teaching materials are basically one of their tasks to realize their learning objectives. According to researchers, teacher education level and experience may not directly influence student achievement but may do so indirectly [4]. In other words, it is possible that these two teacher attributes (i.e., education and experience) affects one or more other important variables, which then influences

student achievement. It could also be noted that improvement of classroom instruction is largely dependent upon the competencies of the teachers. Thus, determining the level of competency of teachers in IM preparation is essential.

The learning style of students also advances with the changing environment [5]. Students are now exposed to various modern gadgets thus, they learn more advanced knowledge about their environment. Teachers must know how and what the children learn through this medium and create some learning materials that will augment this knowledge in schools. The teachers have to upgrade their teaching competency through the use of meaningful instructional materials.

At present, the DepEd Camarines Sur's trainings and seminars for the teachers are being aligned to the utilization of technology-based instructional materials to keep abreast with the pedagogical needs of the modern students. The secondary education students are mostly the ones who need alternative teaching strategy from their teachers being the one more exposed to the various technological gadgets.

The significance of this study is to have a view of the competency level of the teachers in Camarines Sur as to the preparation of IM in line with the efficiency of the teaching-learning process and to effect further possible intervention to attain educational competence of the students and professional confidence of the teachers.

OBJECTIVES OF THE STUDY

This study aims to determine the level of competency of the teachers in designing instructional materials in both public and private schools in Camarines Sur and identify if the IM used is effective in the teaching-learning process. Specifically, the researcher worked in (1) to determine the competency level of the Camarines Sur public and private secondary school teachers in terms of (a) educational attainment, (b) length of experience as a teacher, and (c) instructional materials used; (2) to analyze the influence of the teachers' professional profile to the IM preparation, and; (3) to effect possible intervention in teacher training focusing on applicable IM preparations.

METHODS

The study used descriptive-evaluative approach to determine the competency level of the public and private secondary school teachers in Camarines Sur. The descriptive research focuses on the characteristics

or profile of a population using questionnaires and interviews to gather data while the evaluative approach utilizes the gathered data to systematically analyze effectiveness using qualitative methods [6].

This study used the data and information gathered from the responses of the 360 teachers from selected public and private schools in Camarines Sur through the use of random sampling. The respondents were provided with researcher-made questionnaire that would reflect their educational attainment and length of service as a teacher. This was made possible through the clearance acquired from the Ethics Review Board and through the consent of the respondents. The data in the questionnaire would show their knowledge and experience in using instructional materials in the teaching-learning process. They were also given a list of instructional materials that is categorized into two, printed materials and technological instructional materials. They are to choose which among the listed IMs they often use and identify which of them is the most effective.

After the collection of data, a table was prepared to show the professional profile of the teachers vis a vis the IM used. The result of the IM used shall serve as basis for the training of teachers.

RESULTS AND DISCUSSION

The contributions and the role of teachers to the students are vital in the learning process of the students [7]. The teacher-related factors should be given a great deal of attention as they were important considerations in teachers' preparation of materials. Results of educational research stated that the teachers are essential element in structuring and guiding students' understanding among all types of learning areas [8].

Clark and Mayer said that the potential for IM to revolutionize education has been described repeatedly and yet the promise has not been delivered and learners are likely to acquire knowledge and decode patterns when they are given numerous, effective examples [9],[10]. That is why, technology provides teachers the opportunity to explore different possibilities in designing IM, so that instead of teaching the boundary of his/her subject taught, teachers can present his/her lesson in various representations or examples.

Thus, teachers' competency and materials used to impart knowledge and educate students really matter to achieve good quality education. Teachers used different IM to cater the needs of the students. With these various IM teachers should have the knowledge and skills in preparing these materials.

In this study, the researcher determined the level of competency the teachers have on instructional materials preparation and analyzed the influence of educational attainment and experience of teachers to the IM preparation. It also looked into the most commonly used IM inside the classrooms.

Educational attainment of the teachers

The teachers' professional profile was identified to assist researcher in determining the level of knowledge and skills of the teacher in the IM preparation hence, educational attainment and length of service in the academe were sought.

The result showed that of the 360 respondents 31 % already earned master's degree units, 30% finished their master's degree, 25% finished the bachelor's degree, 12% had their doctoral units, and 3% finished their doctoral degree.

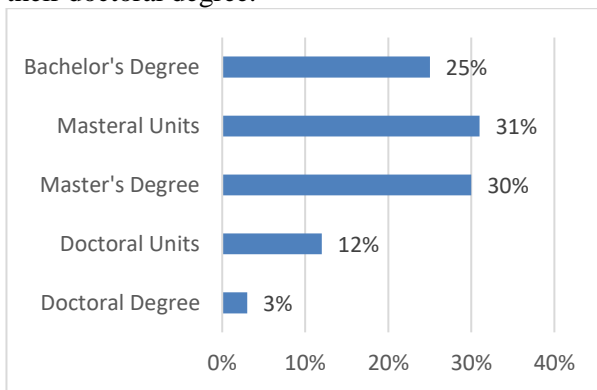


Figure 1.1 Highest educational attainment of teachers.

The data gathered showed that most teachers already have their masters' degree (30%) and have earned masters' degree units (31%). Few have doctoral degree with 3% while some have doctoral units with 12%. At this level of educational attainment, teachers have already the knowledge and mastery of their subject and have a wide experience in IM preparation – from their bachelor to the post graduate studies. The participants in the study gave greater importance on education as a means of improving their skills and competencies with regards to the teaching profession.

Those who have not taken any post graduate degree yet lack a more in-depth knowledge and skill on their subjects and this entail to a limited use of meaningful IM.

Length of experience as a teacher

The work experience of the teachers forms a part of an essential factor in considering them as knowledgeable in the use of different IM. Figure 1.2

shows the length of service of the teachers from Camarines Sur. Out of the 360 teachers who worked in the private and public sectors, more of the teachers have worked for 6-10 years which was 35% of the population, 34% worked for 11-15 years, 20% worked for 16 and above years, and 11% have worked for 1-5 years.

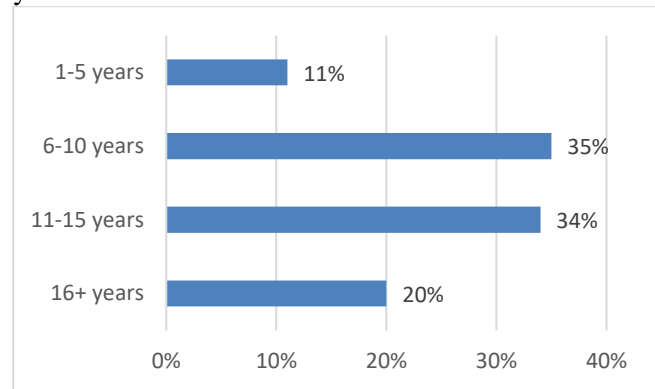


Figure 1.2 Teachers' length of service in the teaching profession.

Teachers who have been in the profession for 16 years and above have a wide experience in IM preparation. Most of these teachers are not exposed to technology-based instruction thus making them passive when it comes to changing their way of preparing IM with the help of computer-based technology.

Teachers teaching for 11-15 years also have a wide experience in IM preparation but they are not also adept in using technology in their IMs.

Teachers teaching for 6-10 years are teachers that have an ample training and seminars attended. They are the teachers that are exposed to technological advances in school. They prepare computer aided IM like slides and movie presentations.

Teachers in 1-5 years of service are the one truly exposed to technology. They incorporate technology to their teaching. They are the teachers that explore the possibilities of using computer aided materials in teaching, they prepare IM aided with technologically advanced materials.

Commonly used instructional materials

Students do not learn, or learn poorly, mainly because of the learning material available for use [11]. Figure 1.3a and 1.3b show the teachers' performance towards the use of different instructional materials. More often, teachers use the most accessible materials such as handouts which 15.4% of them said they use it, while with other IM: media (14.5 %), audio visual

(14.3%), module (13.8%), motion pictures, (13.3%), rear screen (10.4%), slides (8.7%), filmstrips, and the least performed is transparencies which accumulated 2% of the usual IM the teachers prepare.

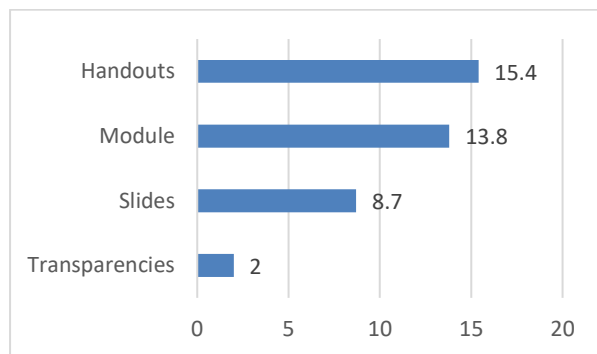


Figure 1.3a Teachers' performance in using printed materials as IM.

The data presented shows that teachers usually prepare "handouts" because it is the most available IM in the school. Insufficient financial resources could be the factor and at the same time a challenge why academic institutions are unable to acquire proper teaching equipment and materials. Because of these, some students and teachers don't have the opportunity to learn better and use new techniques in their field of specialization.

It is normal that teachers prepare IM based from the availability of material resources and equipment. In some government schools, the teachers would prepare the conventional or traditional IM such as chalk and chalkboards, handouts, pictures, manila papers and others because the school cannot provide enough resources for IM.

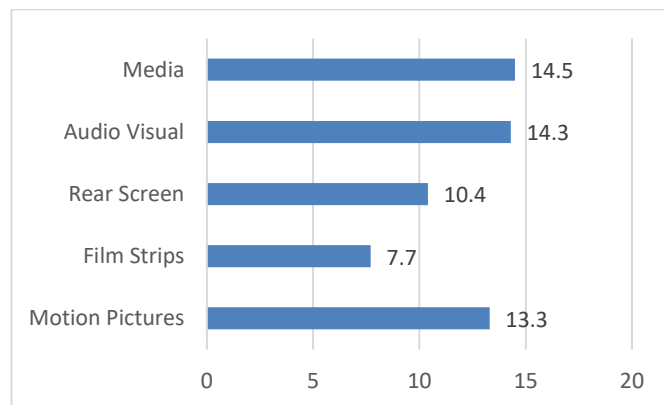


Figure 1.3b Teachers' performance in using technology-based materials.

It is evident in Figure 1.3b that teachers also prefer the use of media as IM. Since students are more adept in learning with the use of visuals, the teachers tend to use utilize this material for the learning process that is adaptable to the kind of learners at present.

The influence of the teachers' educational and professional profile to the IM preparation

The teachers from Camarines Sur, may it be from public or private schools, are evidently keeping themselves abreast with the use of technology-based instructional materials however, it cannot be discounted that handouts and modules do not coincide with the "paperless" goal of technology-based IM. The teachers who integrate tools means that some teachers are using both the traditional and the technological IM. In the same vein, the length of service does not affect the ability of the teachers to become efficient in the preparation and use of modern IM as the latest trend in modern technology often targets the younger teachers, generally, the new teachers.

In teachers' instructional preparation using technology, they can cater the different learning type of students. An in-depth knowledge on this matter is divulged in further studies hence, the need to take graduate studies. This is because in the graduate studies, the teachers are deeply taught on how to cope with the rapid changes in education. The wide use of handouts and media shows that the teachers are trying to integrate the traditional IM to the modern IM which is beneficial to the diversity of the students when it comes to the learning process. It is a challenge to the teachers to keep up with the various changes in the environment and the learning style of the students. While length of service in the teaching profession does not hold much value in the competency of the teachers in the preparation of IM, the educational profile of the teachers certainly does.

The educational status of the teachers has a relationship in the competency of the teachers in instructional preparation. An instructional developer should have enough knowledge and mastery of skills in order to develop IM. Teachers acquire these skills and knowledge through continuing professional development such as attending trainings and workshops on designing IM, continuing higher education, and engaging through writing IM in and outside of the schools. With enough knowledge, skills and experience teachers could gain better and higher level of competency in IM preparation.

Proposed intervention in teacher training focusing on applicable IM preparations

Intervention program is conceptualized based on the result of this study. A 3-year intervention program focused in IM preparation is proposed.

For the first year of the program, conceptualization of activities and implementation of a regional seminar-workshop on Instructional Material Preparation for K to 12 education will be conducted. The regional workshop will be a five-day activity that aims to develop the skills and creativity of the teachers in instructional preparation that is parallel to the K to 12 curricula.

The program's second year will consist of monitoring the individual IM preparation through school visitation and a series of FGDs. Assistance to the teachers who attended the seminar-workshop will also be given.

The program's third year will consist of a regional seminar-workshop that will focus on the computer-aided instructional materials. This program aims to cater the needs of the different learners with the integration of computer-aided materials in the teaching-learning process.

CONCLUSION AND RECOMMENDATION

The study revealed that teachers from Camarines Sur are using both the traditional (printed) and modern (technology-based) preparation of instructional materials. It can be gleaned that the length of service does not really affect the ability of the teachers in the preparation of IM but the educational attainment of the teachers is an important factor. The teachers' behavior towards the frequent use of printed materials instead of the modern techniques show that there is a gap when it comes to their knowledge and skills in IM preparation however it can also be presumed that the lack of availability of modern materials affect the IM preparation.

Lack of resources, facilities, equipment, and bulk of enrolments were some of the barriers for effective use of integration of modern and conventional IM. Teachers prepare IM that depends on the available resources of the school. Some school lacked ICT based materials or tools thus; teachers usually prepare handouts and printed IM. However, outsourcing of funds is a strategy that has obvious benefits for the schools. Stakeholders may fund the resources just like the IM of the school to resolve the problems of insufficiency of materials and equipment and to be able to cater the needs of the 21st century learners.

In the light of the findings and conclusions, the following recommendations were formulated: Although many teachers in the selected schools in Camarines Sur were academically and professionally qualified, they must continue their professional development by attending trainings, symposia and workshops related to designing IM. Enrolling in post-graduate studies are also encouraged. Schools should buy quality instructional materials technology such as computers to cater for classes and ensure students are exposed to the use of modern technology. In addition, the 3-year intervention

program focusing in instructional material should be established. Further research should be conducted for the improvement of designing IM.

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