The Instructional Media for Different Levels in the Philippine Educational System

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Abstract: In the Philippines, the K+12 system is newly introduced and the readiness for its implementation undoubtedly made the teaching community confused and confounded. Thus, extra efforts are being done to upgrade and update all instructional materials. Even if the Department of Education are preparing the faculty members through trainings, seminars and providing them with syllabus accompanying the new curriculum, still the confidence for the coming teaching assignments for the additional two years in the system is very low. The faculty members are now strategizing teaching methodology for the subjects they have to handle through upgrading not only their knowledge but also the teaching materials they are to use in their classroom. With the changing environment, the learning style of students also advances. Children are now exposed to various modern gadgets, thus, they learn more advanced knowledge about their environment. These modern medium must be an advantage to the teaching profession. Teachers must know how and what the children learn through these medium and create some learning materials that will augment this knowledge in schools. This study is a partial analysis of the learning style of students in different levels of the educational system and the knowledge they acquire through different modern medium and test the gap between this and the knowledge they must learn in school. Also, this study will come up with what medium can be used as instructional medium that will aid the faculty members in their teaching courses or subjects in school.

Introduction

Educational institutions in the country are implementing ideas to answer the demands of times in partaking critical and perceptive ideas for students to motivate and effectively learn their studies. Teachers use an educational learning which is not only theoretical but also practical. This is accomplished by providing multimedia-aided instruction and materials suited to the different types of learners. As stated by Dela Pena, S. (2012), with media education, teachers and students both achieve critical, analytical and creative skills that enable them to think independently and to become well-informed and active citizens of this nation. In our world of multi-tasking, commercialism, globalization and interactivity, media education means having the right answer and asking the right question which results in an empowerment of a learner and a citizen. Because media educations are complex and often contradictory or controversial, the educator's role is not just to impart knowledge but also to facilitate the process of inquiry and dialogue. This role given to a teacher as facilitator and co-learner in a student-centered learning process is not only a model for education but also a new pedagogy for them.

According to the research reports of Mayer and McCarthy and Walton, multimedia has gained acceptance with many benefits derived from its use. Learning gains are 56% greater, consistency of learning is 50-60% better and content retention is 25-50% higher. Instructional multimedia focuses on what the learner is expected to do upon the completion of the instruction. Computer technology can assist the instructional environment in one of three basic categories: electronic communication, presentation support, or student materials.

Background of the Study

At the dawn of the implementation of the K to 12 educational system in the Philippines in the school year 2012-2013, different reactions were stirred from all sectors of the society. However, its implementation is inevitable due to the reasons stated by the government as posted by Solis, R. (2012) the students will be able to get sufficient instructional time to do subject-related tasks which makes them more prepared and well-trained on the subject area; graduates of this program will be more prepared to enter the labor force, thus adding up to the nation's manpower and finally, graduates will be automatically recognized as professionals abroad because this follows the international education standard.
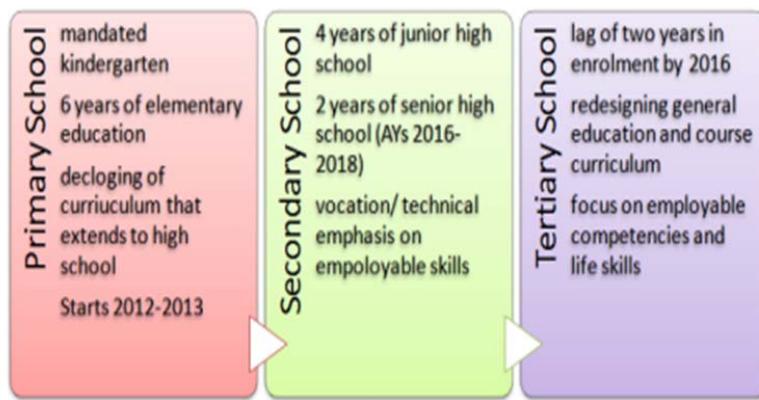
Figure 1 Implications of the K12 Implementation

As shown in Figure 1, the implementation of the system will highly affect the secondary school curriculum with the addition of two years giving emphasis on vocational and/or technical skills for employability. At the same rate, except for the redesigning of the curriculum in the tertiary level focusing on employable competencies and life skills, there is a lag of enrolment from the school year 2016 to 2018. To augment this situation especially in the tertiary level, the Department of Education and the Commission on Higher Education devised a cushioning plan as shown in Figure 2.

AY 08-09	AY 09-10	AY 10-12	AY 11-12	AY12-13	AY13-14	AY 14-15	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20	AY 21-22	AY 22-23	AY 23-24	AY 24-25	AY 25-26	AY 26-27	AY 27-28	Ay 28-29
Old 4 yrs High School				Tertiary Education															
	Old 4 yrs High School				Pre Baccalaureate	Tertiary Education													
		Old 4 yrs High School				Pre Baccalaureate	Tertiary Education												
			Old 4 yrs High School				Pre Baccalaureate	Tertiary Education											
				Implementation of Junior High School				2 yrs Senior High	Tertiary Education										
					4 yrs Junior High				2 Yrs Senior High	Tertiary Education									
						4 yrs Junior High				2 years Senior High	Tertiary Education								
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									4 yrs Junior High				2 years senior High	Tertiary Education					
										4 yrs Junior High				2 years senior High	Tertiary Education				

Figure 2. Cushioning the Impact of K12 System on Colleges and Universities

The Figure shows a proactive strategy that private colleges and universities will have to give the last three batches of graduates from the old education cycle options to take a pre-baccalaureate, international baccalaureate, or associate degrees for two years before they take the four-year degree course. In this attempt, general education teachers will have to design academic programs and reengineer their existing programs for the change.

Problem Statement

The people that feel the impact of this program implementation are in the education sector, the administrators and the teachers in all levels. The government assured of its support to the implementation of the program as announced by the Secretary of the Department of Education, Armin Luistro, "The Department of Education has already allocated funds from the fiscal year 2012 Textbook Funds and subsequent years until fiscal year 2015 for the provision of the centrally procured learning activity packages or LAPS, modules and other instructional materials to support the initial implementation of the K to 12 curriculum". Also, the House of Representatives enacted a bill entitled, An Act to Provide for Elementary, Secondary and Tertiary School Library Media Resources, Technology Enrichment, Training and Development. This act aimed to prepare the nation's youth for the challenges of the future, as well as to keep the nation competitive in a global economy, every elementary, secondary and tertiary schools in the Philippines should be equipped with the best and most up-to-date library resources, certified library media specialists, access to advanced technology and instruction on the use of library and information resources.

Though the government and other sectors of the government have strong assurance of support, such as classrooms and media resources, technology enrichment and training, and additional teachers, still there is a need for educators to prepare for content delivery and teaching strategy. To effectively transmit important knowledge to the students, educators must devise media education since it encourage students to examine, believe, see, hear and read ways which they can analyze, codify medium which are specifically situated for them. Teachers also employ media education to hone students' abilities which can provide primary and secondary sources of understanding a lesson. On the other hand, teachers also considered this type of education as a prime opportunity to heighten student awareness. This introduces a media-related goals and a technology competent classroom to capture and focus student attention and to make connections and to further engage student in a core curricular content.

It is well understood that the use of multimedia can facilitate learning or increase understanding of a material. Communicating to facilitate learning can be a challenging process which often requires creative efforts to achieve a variety of implicit instructional goals, among of which are, attracting attention, developing interest, adjusting the learning climate and promoting acceptance of an idea. The major challenge in designing instruction through multimedia is the choice of media and their application for optimizing human learning with reference to the instructional objectives. Thus it is important to keep in mind the components that constitute the instructional design for multimedia learning system as shown in Figure 3.
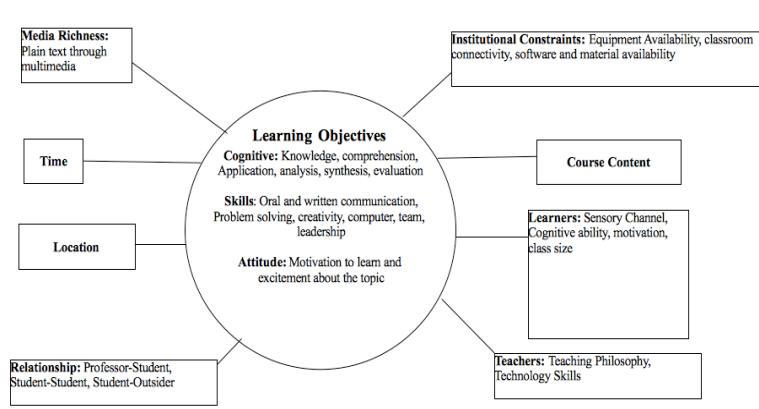
Figure 3. Components of the Instructional Design for Multimedia Learning System

As shown in the Figure, the instructional design for multimedia learning system must consists of the objectives, content, media options, and evaluation options. With the objectives and the content, there is little apprehension since these were undertaken in the level of the Department of Education. After much consultation with experts, the contents were properly put in its proper places. There are a variety of media to choose from, text, audio, video, graphics, animation, etc. It is important to match the learning objectives and decide the media to synchronize the design and learning from it. Also shown in the Figure is the Institutional Constraints such as, equipment availability, classroom connectivity, and software and material availability that were predicted to affect the K12 implementation.

Research Questions

The K12 system is now being implemented in the country, highly affected with the new set of curriculum is the secondary level. The schools were mandated to follow the curriculum strictly and to produce their own instructional materials according to the learning objectives as given by each subject. Thus, this research sought to answer the following questions:

1. What are the effective instructional media in each level of the K12 educational system?
2. What are the requisites in the design of an effective media education?
3. What is the level of readiness of the faculty members of selected schools in the preparation of the instructional media in terms of:
    a. Technical know-how
    b. Experience
    c. Content knowledge

Research Methodology

Research Design

The study is made use of qualitative method wherein faculty members of public and private schools, colleges and universities are the target subjects of the research. The heterogeneous random samples of 150 members were divided into three (3) groups, the primary group, the secondary group and the tertiary group. The primary group consists of teachers in the primary, Kindergarten to Grade 6, the secondary group are teachers assigned in the secondary, while tertiary group consists of faculty members assigned in different courses. First was to establish the instructional media that must be employed in the different level of education and the requisites in designing an effective instructional media for each member's use in their class.

Evaluation Procedures

The sample population consisted of 150 teachers teaching in private and public schools in different levels. However, teachers in the public secondary and tertiary level are majority since the public schools have more pupil and student

population. The problem in the system's implementation will be focused in the public schools rather than the private schools. Table 1 shows the distribution of the sample population and their groups.

Table 1. Distribution of Sample Population

Groups	Public	Private
Primary	20	10
Secondary	40	30
Tertiary	30	20
Total	**90**	**60**

After identifying the subjects that the teachers are assigned to, their choice of instructional media and how they use them in the course delivery were gathered through questionnaires and interview. Since the K12 is in its second year of implementation, the level of readiness was also determined in terms of the preparation of instructional materials. They were also encouraged to suggest measures for the smooth implementation of the system.

Results and Discussions

Since the choice of instructional media is dependent on the learning objectives of the subject each teacher is assigned, thus, it is a major component, the group was further grouped according to the subjects they teach except for the primary early childhood. Teachers in the early childhood, kindergarten until grade 3 are assigned in all the subjects of a class, but in grade 4 until grade 6, teachers handle subjects according to their specialization. Also, the tertiary faculty members were grouped according to the courses of specialization they are handling. Table 2 shows the sample groups according to the subjects handled by the teachers.

Table 2. Distribution of Teachers According to the Assigned Subjects in Schools

	Primary		Secondary	Tertiary
	Early Childhood	Grade 4 to Grade 6		
General Education	5	5	15	10
Sciences		10	15	10
Mathematics		10	15	10
Engineering/Technology			15	10
Management			10	10

Table 3 shows the instructional media that the sample population is using and their choice ranges from conventional to multimedia. It is worth noting that these data are of the present system and the early implementation of the K12 system, that is, Primary early childhood (Kindergarten to Grade 3), Primary intermediate (Grade 4 to Grade 6), Secondary New System (Grade 7 and Grade 8), Secondary Old System (Third year and Fourth Year) and Tertiary Old system. The country's educational system is now in the transition period where the new system meets the old system.

Table 3. Instructional Media Used by the Sample Teachers in Different Levels in Philippine Education

	General Education	Sciences	Mathematics / Arithmetic	Engineering / Technology	Management
Primary (Early Childhood)	Graphics, Animation, Video, Audio				
Primary (Intermediate)	Graphics, Textual, Video, Audio	Simulation, Video, Graphics	Simulation, Application Software	Simulation, Video, Application Software	
Secondary (New)	Textual, Video,	Simulation, Video, Audio,	Application Software	Simulation, Application	Simulation, Application

	Graphics, Audio	Application Interactive Software		Interactive Software	Software
Secondary (Old)	Textual, Video, Graphics, Audio	Textual, Video, Graphics, Audio, Application Software	Simulation, Application Interactive Software	Simulation, application Software	
Tertiary	Textual, Video, Graphics, Audio	Textual, Video, Graphics, Audio, Application Software	Simulation, Video, Graphics, Interactive Application Software	Simulation, Application Software	Simulation, Interactive Application Software

From the data gathered through questionnaires to the sample group, all use the computer technology in the design and/or delivery of their subject matter. They use multimedia in their presentation of the learning materials. Some use the Internet as sources of instructional materials and encourage students to use the network as learning sources and some uses the network to communicate with their students for consultation. There are also groups created in the Internet students so that the students can consult with other students regarding the subjects they are taking up. These media are found to be most effective in the delivery of the subject matter that the individual teachers are assigned. As noted in the use of the media, teachers in all subjects in the secondary both in the old and new system use the same instructional media. This means that the systems transition does not affect heavily the use of instructional media.

The table also shows that as the students mature, the instructional media used are more on the simulation and application software. The reason for this is that the Commission on Higher Education (CHED) is emphatic on the use of the Outcome Based Teaching and Learning (OBTL) system in the tertiary level of education. In this system, the students are expected to have an output that is an embodiment of the application of what they learned in the college or university. It is, thus, important that the students can apply what they learn in all the courses they take in school.

The groups were also asked to note what are they need to produce effective instructional materials for the assigned subjects to them. As the DepEd (Department of Education) is committed on the distribution of the curriculum for the K12 implementation, it is now the responsibility of the teaching staff to strategize the knowledge dissemination to the students they handle. It is now in the teachers' shoulders the burden of the design of instructional materials and the media they are to use for each subject they are teaching. Table 4 shows what the teachers need to develop effective instructional materials for their subjects.

Table 4. Perceived Materials in the Development of Instructional Materials

Rank	
1	Network Availability (Internet and LAN)
2	One to one computers
3	Development Software
4	Multimedia Equipment
5	Training

Most of the respondents are using multimedia as instructional media for their particular subjects especially those teaching in the higher levels, secondary and tertiary. However, some teachers responded that they need training in technology in the use of the multimedia in creating instructional materials and using these in their classrooms. In the survey of the readiness of the teachers on the use of multimedia instructional materials the result is as shown in Table 5.

Table 5. Level of Readiness in the Use of Modern Instructional Media

	Primary	Secondary	Tertiary
Technical Know-how	60%	75%	80%
Experience	50%	70%	60%
Content	60%	60%	80%

It was noted in the result that most of the primary teachers especially in the early childhood are not technically minded though they have much knowledge in the content of the lessons. Although these data manifest a strong technical know-how and minimal degree in experience since there are many new teachers in the primary level in preparation for the kindergarten and a change in the teaching direction. Meanwhile in the secondary level, teachers are being trained since this is the level most affected by the K12 system implementation with the additional two years. Thus, the teachers must be updated in the use of technology in teaching of rich content of the curriculum. Experienced teachers are favored in this level since most of the subjects are more technical or more advanced and the graduates must be employable. The teachers in the tertiary level must prepare for a higher, global content of the curriculum since aside from OBTL, the graduates must be competitive in the world job market.

Conclusions and Recommendations

Based on the data gathered from the respondents the following can be drawn:
1. The perceived effective instructional media in different educational levels, regardless of the subjects assigned to them, is multimedia. The teachers can better employ different types of instructional media through the computer technology
2. It is most important that the teachers have access to modern technological equipment, software and technical training to produce and use effective, updated instructional materials
3. The level of readiness of the teachers in the preparation of the instructional media is high in terms of technical know-how, experience and content knowledge.

For an effective delivery of the content of the K12 system curriculum, it is recommended that
1. Multimedia be used in all levels of the educational system;
2. Teachers be encouraged through training in the use of different instructional media especially in the basic education;
3. Facilities be improved especially in the public schools and schools outside the metropolis.

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