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Enhancing Curriculum in Philippine Schools in Response to Global Community Challenges

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ABSTRACT

The world is changing so fast that in order for schools and universities to cope with new innovations, they should keep at pace with the tempo of societal changes and technological progress. The schools of today should participate in the educational and social revolution. Thus, the curriculum in Philippine schools today has to be geared to the rapid societal changes and the new responsibilities for the new breed of Filipinos. The three most important sectors of society that give direct input to the improvement of the curriculum are the academe (institutions), the government, and the industries (both public and private companies). Some government institutions, such as the Commission on Higher Education (CHED) and the Department of Education (DepEd), are directly involved in upgrading the curricular programs of learning institutions. They oversee and control the operations of schools, colleges and universities.

INTRODUCTION

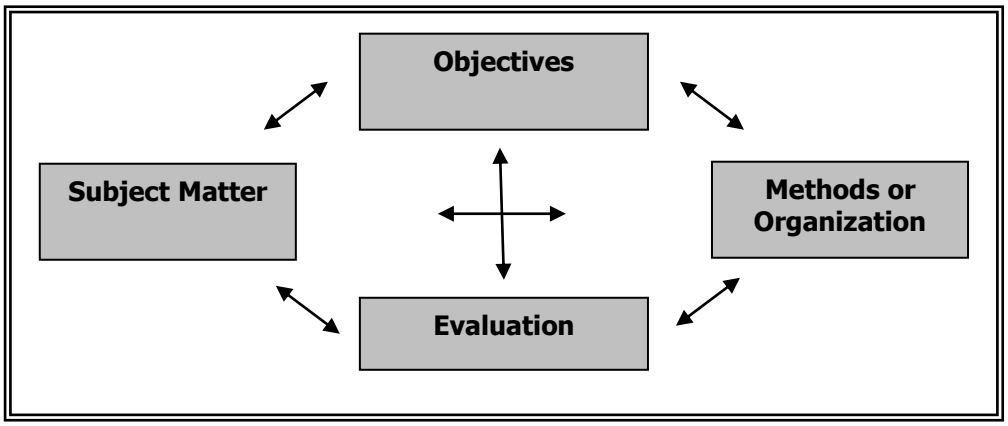
Curriculum is a broad set of experiences that students go through during the entire time they are in school. The curriculum is generally considered as the complete course path that will enable students to attain the goals and general objectives of education. It is the learner's engagement with various aspects of the environment, which is under the direction of the school. Curriculum empowers all students and motivates them towards lifelong learning. But because of technological advancements, the spread of new information media and the predominance of software and hardware devices, a school's curriculum should be enhanced. It should be pragmatic to meet the needs of society and should conform to the actualities of the community. A school's curriculum should be re-structured with a likely shift towards a more meaningful course of study.

It is indeed very important for an educational institution to have a balanced and well-designed curriculum for all the programs it offers. In doing so, the institution shall have a more stable system in undertaking its goals and mission so as to make its curricular programs efficient and effective to its major concern – the students.

Curriculum Design: Basic Concepts

"Curriculum" is from the Latin word that means "course" or "run". A school's curriculum is basically concerned with the course of study that identifies the specific goals of education for each development stage in school. Those goals are usually stated as "target competencies" a learner should achieve at a specific stage of his stay in school.

According to Monterozo (2000), curriculum design is basically concerned with the nature and arrangement of the four basic curriculum parts. These four components generally suggest to the curriculum maker four questions: What is to be included? What instructional strategies, resources and activities will be employed? What subject matter is to be included? And what methods and instruments will be used to appraise the result of the curriculum? These four components and their correlation are shown below.



Factors that Influence the Curriculum

The world is changing so fast that in order for schools and universities cope with new innovations, they should keep at pace with the tempo of societal changes and technological progress. The schools of today should participate in the educational and social revolution. Thus, the curriculum in Philippine schools today has to be geared to the rapid societal changes and the new responsibilities for the new breed of Filipinos. The three most important sectors of society that give direct input to the improvement of the curriculum are the academe (institutions), the government, and the industries (both public and private companies). Some government institutions, such as the Commission on Higher Education (CHED) and the Department of Education (DepEd), are directly involved in upgrading the curricular programs of learning institutions. They oversee and control the operations of schools, colleges and universities. Engineering programs, for instance, have been guided in the past a series of government policies, rules, and programs.

For instance, during President Ferdinand Marcos' administration, when the government shifted to parliamentary form, the Ministry of Education and Culture (MECS) issued Order No. 36 S. 1976 (the "S." stands for "Series") which spelled out "Policies and Standards for Engineering Education". About 10 years later, MECS also issued Order No. 42 S. 1985 titled "Revised Policies and Standards for Engineering Education". Upon Marcos' deposition and the consequent restoration of the presidential form of government under the Aquino Administration, the Department of Education, Culture, and Sports (DECS, which was how today's DepEd used to be called) sent out DECS Order No. 76. 1989 setting forth the "Revised Engineering Laboratory Requirements and Its Implementing Guidelines". This was supplemented in the same year by DECS Order No. 102 S. 1989 known as the "Revised Policies and Standards for Engineering Education" Later, CHED issued Order No. 16 S. 1996 which created the Technical Panel for Engineering, Architecture and Maritime Education (TPEAME).

In 1997, the Technical Panel for Engineering (TPPE) was created thru DECS Order No. 35 S. 1997 and DECS Order No. 25 and 75 S. 1998 which provided that the TPPE shall serve as a consultative, advisory and recommendatory body to the DECS. The CHED, through Memorandum Order No. 14 S. 1997, laid down "Guidelines for the Identification, Support and Development of Potential Centres of Excellence in Engineering and Architecture Programs." The issuance of guidelines was supplemented

by CHED Memorandum Order No. 49 S. 1997 which set down a new "Curriculum Guidelines for Engineering Education".

The government agency known as Department of Trade and Industry also came up in the late 90s with major programs to upgrade engineering education in the country. Two such programs were the " Industry Exposure Program for Engineering Students (IEPES) and the SMEs – Academe Collaboration for Technology Innovation (SME stands for small and medium enterprises).

Industries, on the other hand, also contribute a lot for the improvement of the curricula. Industries and companies (both public and private) give insights regarding the specific competencies and skills needed by graduates at the workplace. This is strengthened by the results of researches conducted by the Congressional Commission of Education 1993 (EDCOM) which identified the problem of mismatch between the attributes of products leaving the educational system and the expectations of industries. The mismatch was identified as having stemmed from irrelevant curricula.

Re-structuring the Curriculum

Several colleges and universities are now beginning to shape curriculum for the future in an attempt to address the realities and changes in the global community in the 21st century. They have initially envisioned the future curriculum to be:

1. Computer – Based. Subjects in the curriculum should be computer-based to meet the rapid advancement of technologies. A lot of computer software is already available in the market in almost all subjects in medicine, engineering, education, business, nursing, architecture, etc.

Current computer applications for classroom instruction vary and include:

Computer-Assisted Instruction (CAI) – uses the computer as well as a self-contained teaching machine to present individual lessons

Computer-Managed Instruction (CMI) – uses the computer to organize instructions and track student records and progress. The instruction itself need not be delivered via a computer, although CAI is often combined with CMI

Computer-Mediated Education (CME) – computer applications that facilitate the delivery of instruction and may involve electronic mail, fax, real-time computer conferencing, and World Wide Web application.

Computers indeed can be used in improving the quality of student learning and the efficiency of teaching. With the CD-ROM and projection facilities, the computer is used to supplement personal teaching methods.

2. Environment – Focused. The continuing degradation of the environment has captured the attention of concerned citizens around the globe. Integration of environmental education in selected curricular programs is very important especially for a developing country like the Philippines. Students must become "earth-friendly" and commit to environmentally sound lifestyle. They must also recognize interdependence in a "global village" and be prepared to contribute to it.

In 1992, President Fidel V. Ramos signed Executive Order No. 15 that answers the call for global action on the state of the environment. He created the Philippine Council for Sustainable Development that adopted the Philippine Agenda 21which takes a balanced and integrated approach to development issues by incorporating sustainable development principles and concepts aligned with the national priorities of the government.

One of the strategies of Philippine Agenda 21 is the promotion of environmental education, information and public awareness. This strategy reinforces P.D. 1152 or the Philippine Environment Code of 1977 that mandates the integration of environmental education into the core curriculum of all academic levels. Agenda 21 recognizes the fact that both formal and non-formal environmental ethical awareness, values and attitudes, skills and behaviour are consistent with sustainable development.

As in the case of the engineering program, during the July 1996 Philippine Association of Technical Education (PATE) convention, the technical committee together with the different Technical Panel for Engineering, Architecture and Maritime Education (TPEAME) which serves as the technical arm of the CHED unanimously agreed to include Environmental Engineering as one of the subjects in any Engineering Program to help develop in future engineers an understanding of how humans relate to natural condition and to instil in them the importance of making wise decision on the use of natural resources.

As approved, a 2- or 3– unit subject, preferably with the descriptive title "Introduction to Environmental Engineering", is offered as compulsory subjects in all Engineering programs nowadays. Among the most popular descriptive title of the course as recommended by CHED are:

- Environmental Management
- Waste Management
- Industrial Waste Control
- Waste Pollution Control, Treatment and Disposal

The topics outlined by the TPEAME include the following:

- Principles of Ecology
- Sustainability Concept
- Global Environmental Issues
- Local and International Regulations
- Environmental Impact Assessment
- Water and Waste Waster Engineering
- Air Pollution
- Solid Waste Management
- Waste Minimization
- Noise Pollution
- Thermal Pollution

3. Research – Oriented. With the complex problems teachers face, they need to find solutions and it is in finding those solutions that research plays an important role. Research enables educators to identify outcomes, make predictions and establish cause-and-effect relationships. Assigning research work to students will give them the opportunity to learn by themselves with minimal supervision from their teachers. By doing research, students will have a first-hand experience of applying the principles of scientific methodology and hence make them better decision-makers in the future. Educators are encouraged to help their students' develop research attitude (Baratang, 2003) by instilling in them the so-called "Problem-Orientedness" attitude.

The following are worthy school-based related researches (Hagos, 2007) from different universities:

- The establishment of the Central Philippines University – affiliated Non-Conventional Energy Centre (CPU-NEC) in December 1989 to introduce, transfer, and encourage the utilization of technically and economically viable non-conventional energy system that are safe, cleaner and more sustainable than the conventional fuel based system. Guimaras islands were the target

areas. This was established through the joint effort of the Electrical Engineering students of CPU and the Department of Energy.

- A study in 2000 conducted by Civil Engineering students from the College of Engineering of the Pamantasan ng Lungsod ng Manila on the production of particle boards which are not of wood origin.

- In 2000, a group of undergraduate engineering students from the College of Engineering and Technology of the University of the Philippines collaborated with the Department of Environmental and Natural Resources in conducting an "Air Pollution Study" in Norzagaray and San Jose Del Monte Bulacan where there are three cement and two lime manufacturing plants operating.

- A student from Rizal Technological University conducted a study in 2002 on the "Immobilization of Toxic Heavy Metals from Academic Wastes" such as copper, nickel, manganese, cadmium, lead and mercury by establishing a mix design between academic waste, waste, fine and coarse aggregate.

4. Technology – Enriched. The positive impact of technology is not limited to business, government and medicine but extends to education as well. The advances in communication and information technology is radically altering the shape and delivery of learning throughout the world. Technological innovations have reshaped societies and affected men's life. It is likewise revolutionizing and globalizing education to meet business and industry needs.

Realizing that technology is the most important area, which the students must master, to succeed in the 21st century, many colleges and universities have begun to install technological facilities in the campus. Computers, CD-ROMs, the Internet. e-mail, television monitors, video equipment, and satellite systems for distance learning are some of the technologies that schools have begun to use. These technological devices interconnect, enabling students to maintain continuous links with the rest of the world, to use the computers to do homework, acquire new lessons, or consult with teachers and other experts outside the campus and within the comfort of their home.

The use of these technologies makes learning more real, dynamic and more interesting. It also facilitates ease in students' comprehension and complements other available learning materials.

5. Value – Laden. Although the main focus of the curriculum is to teach students a set of body of knowledge, educators all over the world agree that values should also be integrated in the learning process. Inculcating values in an academic program can lead to the development of a human being committed to the building of a "just and humane society". All academic programs should, therefore, be strengthened with values that are worthy of perpetuation for the rebuilding of society.

Because of widespread irregularities like graft and corruption, malpractice in some profession and design activities (such as tampering designs and contracts) and degradation of moral values among college graduates, it is imperative that the academe should do something on values formation among students. Teaching the students "values" gives them better preparation for the actual practice of their profession in the future.

Some universities have integrated values-formation in their academic program. For instance, faculty members in the Mathematics department of the Institute of Arts and Sciences at Far Eastern University have emphasized the integration of the following values in their syllabus:

1. Responsibility
2. Resourcefulness
3. Creativeness

4. Patience
5. Cooperation/Teamwork
6. Neatness
7. Sportsmanship
8. Appreciation
9. Self-confidence
10. Humility

6. Community-Involved. Participation in community service has become an essential educational tool that enriches students' learning experiences. It bridges the gap between the theories learned in the classroom and the realities of life in an actual community where theories can be practiced. Mc Elhaney (1998) stated that serving the community is not only an integral part of the mission of institutions of higher education but also very much an actual tool of learning as it has been observed that there are real academic learning outcomes in individuals who participated in community service. Godwin (2001) also describes that community service is an experiential learning and has been offered as a significant strategy to assist higher education in producing the type of citizen needed for a healthy democracy.

Involving parents, teachers, members of the community and others in the process of identifying academic goals and standards and measure of programs is seen as a powerful vehicle in improving academic achievement and influencing the direction and services of the school programs. During the time of United States President Jimmy Carter, and through the help of his then Education Commissioner Ernest Boyer, the US President saw the importance of connecting the university to communities. He initiated community engagement, which called for the commitment of community schools and universities to the country's most pressing social, civic and ethical problems. (Godwin, 2001)

Another US President Bill Clinton demonstrated his belief in the educational potential of the community service by signing into a law the National Commission Service and Trust Act 1993 (Diaz, 2007). Clinton viewed college students as the nation's best resources to meet the challenge of rebuilding America through community service.

The Philippine government also acknowledges the value of community service as reflected in its Constitution. Article XIV of the Philippine Constitution states that:

"The state shall establish, maintain, and support a complete, adequate and integrated system of the education relevant to the need of the people and society."

On the other hand, because of its commitment to community, Far Eastern University was also challenged to help uplift the lives of the people in its adopted communities, and thus initiated school-community collaboration. The collaboration involved the administration, faculty members, non-teaching personnel, students as well as residents of their adopted communities.

Helping the community is incorporated in the Vision and Mission of the university:

"… Committed to the highest intellectual, moral and cultural standards, it [FEU] strives to produce principled and competent graduates".
"It nurtures a service-oriented community that seeks to contribute to the advancement of society…"

Its commitment to community service (Diaz, 2007) led FEU to organize a "Bisig Tamaraw" as the implementing arm of FEU extension program. Bisig Tamaraw has identified and classified its projects into three components: developmental projects which are long term and deals with development of the community; facilitative projects which are projects in partnership with other organizations and being done annually, and supplemental projects which refers to traditional gift-giving and is done annually.

7. Industry-Linked. Students are oriented to the world of work before they graduate. Curriculums are now designed to enhance optimum individual adjustments toward self-realization and career development. This means integrating classroom study with planned and supervised practical experience in technological, educational or cultural activities outside of the formal classroom environment usually in public or private enterprises.

The basic philosophy of the academe-industry linkage is that personal growth and professional development are best achieved by an educational method that combines classroom learning with periodic intervals of planned and supervised practical experience away from the academic community (Profeta, 2003). It integrates theories learned in the classroom with relevant work in the world of work. Hence, it is integrative and transformative since it combines theory and practice with the end in view of developing a graduate who is creative and responsible to the society in which he lives.

Gomez (2006) said that as the country moves towards the Information age, it becomes clearer that the education needs to respond to the nature and requirements of industry and business work force of today and tomorrow. The role of institution is to prepare individuals towards their functional and proactive roles in society. It is also essential for education to become active in understanding and internalizing the skills needed for the industry.

CONCLUSION

Central to the realization of an institution's goal is continuity and innovation anchored on a relevant curriculum. Change in strategies, in the course contents, in methodologies for teaching, is well recognized as sensitive, difficult and sometimes, impossible, so much so that the acceptance of the status quo is pervasive.

There is a great belief that if a plan is well planned and based on logical theories and goals; there is nothing that will prevent it from being initiated. Yet, it will also be noted that a quite a number of elaborately planned innovations and curricular changes have floundered on the threshold of the bureaucratic organization.

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