

Needs Assessment of College General Education Science Instructors

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Abstract

This study assessed the needs of General Education Science Instructors in terms of physiological, social, and professional needs. From the survey among 70 males and 180 female science teachers, results showed that building research capabilities, upgrading teaching methodologies and the need for better incentives in the form of higher salaries and benefits were the perceived needs of General Education Science Instructors. The findings also of the study illustrated that the need to grow in professional aspect is the top priority of the respondents.

Keywords: *Needs Assessment, General Education Science Instructors*

Introduction

Science has never been strong in the Philippines even before or after the war except that there is even more of a shortage of science teachers. Shortages of science teachers were reported in all science subjects and were particularly pronounced in physics, chemistry and earth science.

A recent study of conducted by the Third International Mathematics and Science Study (TIMSS) comparing the mathematics and science skills of students from 45 countries showed that Filipino students are biting the dust of their global counterparts. Poor reading skills in English of public secondary school students have largely contributed to their low performance in the major subjects of Science and Mathematics.

The Third International Mathematics and Science Study (TIMSS) is the largest, most comprehensive, and most rigorous international study of schools and student

achievement. In 1995, more than 40 countries participated in an assessment of mathematics and science achievement at the fourth, eighth, and twelfth grades. TIMSS provides detailed information about what students around the world know and can do in mathematics overall and in mathematics content areas.

TIMSS 2003 is the third in a series of studies which offers a state-of-the-art assessment of student achievement in Science and Mathematics at the fourth and eighth grade levels. The data provided by TIMSS are useful for participating countries to reassess their programs in Mathematics and Science, and to examine and revise existing practices in curricular provision, textbook design, teacher preparation, school organization, and instructional practice. Data from a 2003 study of the United Nations Educational, Scientific and Cultural Organization (2011) Institute for Statistics show that the Philippines has a public school elementary average class size of 43.9 students in a classroom as compared to Malaysia which is 31.7; Thailand, 22.9; Japan, 28.6 and India, 40. There is a strong perception that the Philippines is lagging behind other Asian countries such as Thailand, Malaysia and Singapore.

If teachers are to grow in their jobs, they need more than time off from their regular classroom duties. They should be given an institutional climate that supports and encourages their efforts to learn about what they are doing. Zen Philosophy says that “learning does not so much as knowing something new, but learning to do better what has been learned previously.” Thus, if one can learn to do better what he already do well, then one can move from competency to that higher level of competitiveness. It is in this regard that this study was pursued.

Statement of the Problem

This research aimed to determine the needs of General Education Science Instructors in Region 8. Specifically, the following questions were answered in the study:

1. What is the profile of general education science instructors in terms of:
 - 1.1 sex
 - 1.1 education qualifications

- 1.2 civil status
- 1.3 length of teaching experience
- 1.4 professional eligibility
- 1.5 in-service training attended over the past five years
- 1.6 type of school being served?
- 2 What are the needs of general education science instructors?

Theoretical Framework

This study is anchored on the theory of needs postulated by Maslow. Maslow's Hierarchy of Needs suggests that well-designed jobs should allow employees to address certain basic and psychological needs. The theory suggests that, "once employees have satisfied lower level needs, they seek to satisfy those needs at the higher level" (Heizer and Render, 2005).

Man's needs according to Maslow are organized in a series of levels, or a hierarchy of importance. The lowest level of man's needs is his physiological needs, that is, his need to be alive and to stay alive, to seek shelter and protection, and others. The needs at the next higher level are called safety needs, that is, man's desire to feel safe from accident or pain, from threat or deprivation.

When man's physiological and safety needs are satisfied, his social needs become important motivators of his behavior. Among these are his needs for association, for belonging, for acceptance by his fellows, for giving and receiving friendship.

Next in the hierarchy are the ego needs. These are grouped into two kinds: (1) needs that relate to one's self-esteem, that is, his needs for achievement for knowledge, for self-confidence; (2) needs that relate to one's reputation, that is, his needs for appreciation, for recognition, for status, and for the respect of fellow men.

The highest in the hierarchy of needs is the need for self-fulfillment. These are the needs for continued self-development and for realizing one's own potentialities. Thus, "individuals will look for meaning and personal growth in their work and will actively seek out new responsibilities," (Naval and Aquino, 2006).

According to Andres that, "Filipino worker is unique since his hierarchy of needs does not follow in the same order as that of Maslow's." In the context of Maslow's hierarchy of

needs, man's survival is considered more important. To a Filipino worker, his first need is to belong to a family group. He needs the company of the people around him as a defense against hostile environment and security against hunger and old age. Hence, "kinship is very strong in the Filipino family system, which gives the individual a high sense of security and belongingness," (Andres, 2005).

To belong to a teaching profession, teachers in the service must continuously grow in the job. "This need of belongingness can be fulfilled by attendance at in-service training activities, which are both necessary to neophytes in the teaching profession as well as those who are quite old in the service," (Socias, 1988).

Methodology

This research utilized the descriptive method of research and the survey questionnaire as the main source of data. It is descriptive because the researcher presents the data in a descriptive manner. It enables the researcher to present the picture of the study under investigation. Further, it is descriptive because the researcher describes the basic features of the data under study (Trochim, 2006.) The information gathered from the instrument served as the basis for a Proposed In-Service Science Program for College General Education Science Instructors.

The subjects included in the study were 250 or 74.18% of the total number of College General Education Science Instructors from Leyte, Philippines. Three hundred thirty-seven survey questionnaires were distributed to all science instructors, but only 250 questionnaires were retrieved.

The questionnaire consisted of items that assessed the characteristics of College General Education Science Instructors and perceived needs of respondents in terms of physiological, social, and professional needs.

The data gathered from the questionnaires served as the basis in assessing the perceived needs of College General Education Science Instructors.

Frequency and Percent were used to determine the profile of the respondents. On the other hand, mean was used to analyze the needs of the teachers.

Results and Discussion

Table 1 shows the profile of teachers in terms of sex, educational qualification, civil status, years of teaching experience, professional eligibility, in-service training, and type of school being served.

The result of the survey showed that majority of the respondents was female. The data reveal that there are more female science teachers than male teachers. Furthermore, the information gathered on the gender of science teachers shows that females are more inclined to the teaching profession. This finding further strengthens the observation that, teaching is a female-dominated career as revealed by the study conducted by Sister Chuwirack (1997) of Bangkok, Thailand. So, teaching is perceived to be a woman's world.

Science teaching in the Region is slightly critical since there are only 62 or 24.8 % who have completed master's degree while 46 or 18.4% have units or have completed the doctoral degrees.

Majority of the teaching force are married with 164 or 65.6% while 81 or 32.4% are still single and 5 or 2.0% are widowed. Of these, 77 or 30.8% has been teaching for more than 21 years. This shows that many of the respondents have gained enough confidence in science teaching. However, only 173 or 69.2% are eligible, while 77 or 30% are not eligible in their field of specialization.

Of the 250 respondents, only 139 or 55.6% have availed themselves of professional growth by attendance at seminars or in-service training for the last 5 years. One-hundred and seventy-nine respondents or 71.6% are serving the Public School System while seventy-one or 28.4 % are serving the Private School System.

Table 1:
Summary Table on the Profile of College General Education
Science Teachers

Variables	Frequency	Percentage
Gender		
Female	180	72.00
Male	70	28.00
Educational Qualification		
With Doctoral Degrees/ Ph.D. Units	46	18.40
With Master's Degree	62	24.80
With M.A. Units	105	42.00
Without M.A. Units	37	14.80
Civil Status		
Single	81	32.40
Married	164	65.60
Widow	5	2.00
Years of Teaching Experience		
Less than one year	9	3.60
1 - 4	56	22.40
5 - 8	27	10.80
9 - 12	31	12.40
13 - 16	21	8.40
17 - 20	29	11.60
21 - above	17	30.80
Professional Eligibility		
Eligible	173	69.00
Not Eligible	77	30.80
In-Service Training		
With In-Service	139	55.60
Without In-Service	111	44.40
Type of School Being Served		
Private	71	28.40
Public	179	71.60

The overall mean of perceptions regarding physiological needs is 3.08 with a verbal interpretation of minimally agreed. Thus, the results reveal that the income generated through teaching is not adequate to meet physiological needs. According to Julian (1996) that "promising teachers shy away from the teaching profession due to less attractive salary." So giving teachers a commensurate pay for a decent living is one way of responding to their physiological needs. Moreover, there is a smooth working relationship among teachers, students and administrators ($m=4.54$). Furthermore, the perceptions of the professional needs of the instructors indicate their genuine desire for professional growth ($m=4.61$). The information elicited for professional needs show that College General Education Science Instructors are not strong in research which is

supposed to be one of the three functions of higher educational institutions. The respondents lack the motivation for doing research since they do not have enough time and confidence to do research. The overall percentiles of respondents of 22.8% show that most of the instructors are not research-oriented.

To sum it up, it indicates that building research capabilities, upgrading teaching methodologies and the need for better incentives in the form of higher salaries and benefits were the perceived needs of General Education Science Instructors.

Conclusion and Recommendations

Conclusion

The found out that majority of those teaching science in college are female. Only about a quarter has masters degree while only very few are pursuing their doctoral degrees.

The study also noted that a many of the teachers handling science subjects have long experience in teaching – spanning more than 21 years. However, the study also noted that at least 30 percent of the respondents are not eligible to teach their field of specialization they are currently teaching.

In terms of their perceived needs, the study found out that College General Education Science Instructors need include building research capabilities, upgrading teaching methodologies, and the need for better incentives in the form of higher salary and benefits.

Recommendations

Based on the findings of the study, the following are the recommendations:

1. There is a need to share copies of the Proposed In-Service Science Program to appropriate officials, including officials from the Commission on Higher Education so that they can design specific interventions that will address the needs of the science teachers.
2. There is also a need to conduct a parallel study of the needs of College General Education Science Instructors in other regions in order to benchmark on similar concerns in other areas.
3. A correlational study on General Education Science Teaching and Performance in the Licensure Examination may also be

pursued to provide better picture as basis for intervention to improve science instruction.

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