Original Article

Journal of Social Welfare and Management
Volume 10 Number 3, September - December 2018
DOI: http://dx.doi.org/10.21088/jswm.0975.0231.10318.50

An Assessment of Readiness of Schools in Implementing Technology Stream in GCE (A/L) Classes in Akkaraipattu Education Zone

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Abstract

The trend of global education has been reshaping to the need of the world of labor. Many a country has refined their educational policies to suit and address the need of the country as per process of globalization in education. In Sri Lanka, as a part of these changes, technological stream was introduced as an additional stream in the advanced level classes. The objectives of the study are to find out the available of human and physical resources, to identify obstacles in implementing technological stream and to suggest measures to overcome the obstacles. A sample of 09 schools was selected by using stratified random sampling technique for this study. The data were collected mainly from the principals, the teachers teaching at Advanced Level classes, and the Advanced Level class students by using School Questionnaire, Teacher Questionnaire and Student Questionnaire. The findings of the study have revealed that there is a shortage of human resources for teaching the subjects in technology streams. Most of the teachers are graduates holding postgraduate diploma in education and there are many obstacles in implementing the technological streams in these schools.

Keywords: Educational policies; Labor.

Introduction

The trend of global education has been reshaping to the need of the world of labor. Accordingly, many a country has refined their educational policies to suit and address the need of the country as per process of globalization in education.

In Sri Lanka, several significant changes were made in education to address a wide range of issues arising in education. Competency based national curriculum was introduced to all the schools in the country. Free education was strengthened further by providing university education free of charge for undergraduate students. National universities introduced new faculties of technology to produce graduates in the realm of technology, etc. However, the unemployment and under employment have emerged a serious problem in Sri Lanka. A large number of Arts graduate are demanding employment in government sector. These graduates do not have enough skills for the employments they demand (Ministry of Education, 2016) [1,4].

On the other hand, there are acute shortage of skills workers in government and private sector. There are a range of job opportunities available in the technical and technological sectors. There are still more students are studying in GCE (A/L) in Arts stream in the country. To address these issues, a new stream of technology was introduced in 2013 in the GCE (A/L) classes. This option of conducting technology stream in GCE (A/L) classes were provided only to the selected schools to teach technology subjects taking into account of the physical and human resources. In this situation, the readiness of these schools are yet to be addressed focusing the schools which were affected in the thirty years war in the eastern province due to lack of facilities to implement the new technology stream. That is why this study is planned to assess the readiness of the schools in Akkaraipatu Education Zone to go ahead with conducting the technology stream in their GCE (A/L) classes.

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Received on 16.11.2018, **Accepted on** 03.12.2018

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Objectives of the Study

1. To find out the available of human and physical resources.
2. To identify obstacles in implementing technological stream.
3. To suggest measures to overcome the obstacles

Methodology

In this study, a survey method was adopted.

Population of the Study

The population of the study constitutes all the 1AB Schools in Akkaraipattu Education Zone.

Sample of the Study

A sample of 09 schools was selected by using stratified random sampling technique. The strata for the selection were type of school (Mixed/Girls), and education division. The data were collected each principal of the sample, all the teachers teaching at Advanced Level classes, 100 students studying at the Advanced Level classes selected at random.

Tools for the Study

The following tools were used for collecting the necessary data for the study

1. *School Questionnaire:* This tool was developed by the investigator in consultation with the experts after reviewing the relevant literature. The content validity was established through expert's opinion. The reliability was established using test retest method.
2. *Teachers Questionnaire:* This tool was developed by the investigator in consultation with the experts after reviewing the relevant literature. The content validity was established through expert's opinion. The reliability was established using test retest method.
3. *Students Questionnaire:* This tool was developed by the investigator in consultation with the experts after reviewing the relevant literature. The content validity was established through expert's opinion. The reliability was established using test retest method.

Procedure

After explaining the objectives of the study to participants and getting permission from principal of each school, the Students Questionnaire, Teachers Questionnaire and School Questionnaire were administered to all the students, teachers and the principal respectively and collected their responses.

Results and Discussion

The data collected by using the tools were tabulated in the following tables. Mean, Standard Deviation, and t value were calculated and the results are presented in tables below.

1. Available of Human and Physical Resources.

Data collected from the samples in respect to human and physical resources are given in the tables given below.

A. Availability of Human Resources

Table 1: Teachers' Requirement for Technology Stream

Required Number of Teachers in terms of Subject		Availability of Number of Teachers			
		Male	Female	Total	+/-
Engineering Technology	12	4	5	09	-3
Bio System Technology	18	4	6	10	-4
Science for Technology	16	5	6	11	-5

As can be seen from Table 1 there is a deficit of teachers for all three subjects in the zone. There needs 12 teachers for teaching the subjects of Engineering Technology, Bio System Technology and Science for Technology. There is a need of 09 teachers to teach in the technology stream in the zone.

Table 2: Educational qualifications of engineering technology teachers

Engineering Technology		
Educational Qualification	**Number of Teachers**	**Per cent of Teachers**
Postgraduate Degree	00	---
Postgraduate Diploma in Education	10	83.3
Graduate	12	100.0
National Diploma in Teaching	00	----
Trained Certificate	00	----
Not Trained	00	----

As indicated in Table 2, all the teachers are graduates, but only 10 teachers possess postgraduate diploma qualifications. In teaching the Engineering Technology, the teachers are

graduates with or without relevance to their degree to the subject they are teaching.

Table 3: Educational qualifications of bio system technology teachers

Bio System Technology		
Educational Qualification	**Number of Teachers**	**Per cent of Teachers**
Postgraduate Degree	00	----
Postgraduate Diploma in Education	10	55.5
Graduate	15	83.3
National Diploma in Teaching	03	16.6
Trained Certificate	00	---
Not Trained	00	----

As can be seen from in the Table 3, only 83.3 percent of teachers for teaching bio system technology are graduates, while teacher of 55.5 per cent of them hold postgraduate diploma in education. 16.6 per cent of teachers are diploma teachers. Majority of them are graduates.

Table 4: Educational qualifications of science for technology teachers

Science for Technology		
Educational Qualification	**Number of Teachers**	**Per cent of Teachers**
Postgraduate Degree	00	---
Postgraduate Diploma in Education	10	62.5
Graduate	14	87.5
National Diploma in Teaching	02	12.5
Trained Certificate	00	---
Not Trained	00	---

As can be seen from in the Table 4, only 87.5 percent of teachers for teaching science for technology are graduates, while teacher of 62.5 per cent of them hold postgraduate diploma in education. 12.5 per cent of teachers are diploma teachers. Majority of them are graduates.

Table 5: Training needs of teachers

Subject	**Training Received**		**Training Not Received**	
Bio System	06	50%	06	50%
Engineering Technology	08	44.4%	10	56
Science for Technology	06	37.5%	10	62.5

As can be seen from in the Table 5, 50 per cent of bio stream teachers want to be trained while 56 percent of engineering technology teachers requires training. 62.5 per cent of science for technology teachers have to be trained. This shows majority of teachers need training in the education zone.

Table 6: Availability of physical resources.

Physical Resources	**Number of Schools with Adequate Resources**	**Percentage**
Student tables	04	40
Student chairs	04	40
Teacher tables	10	100
Boards	06	60
Multi Media Projector	04	40
Cupboards	05	50

As can be seen from in the Table 6, Fortyper cent of schools have students tables and student chairs. Only teacher tables are enough in all the schools. Only 40 per cent of schools have multi-media projectors. Majority of schools require student chairs and tables, boards, multi-media projector and cupboard.

Table 7: Availability of Laboratories and Other Resources.

Physical Resources	**Number of Schools with Adequate Resources**	**Percentage**
Water	10	100
Electricity	10	100
Syllabuses and Teachers Guides Received	08	80
Laboratory Equipment	06	60

As can be seen from in the Table 7. The laboratory and other resource are available in most of the schools. Only 60 per cent of schools have laboratory equipment.

B. The Obstacles in Implementing Technology Stream

1. *Willing of students to offer technology stream*

Even after implementation of technology stream, most of the students still prefer to Arts Stream to their Advanced Level subjects. Both parents and students are skeptical of the new stream

2. *Awareness of technology stream*

The awareness of technology is below among parents, teachers, principals, and students. As this is a new stream, they seem to be not aware of many of the things.

3. *Dearth of teachers*

There is acute shortage of trained graduate teachers for teaching the technological subjects in most of the schools. The teachers who studied general science degree courses in the universities are now mostly teaching. There is little teachers with B.Ed and PGDE in Teaching Technology.

4. I*nadequacy of practical training for teachers*

The teachers who are teaching the technological subjects face a lot of problems without adequate training provided by education officials. Even school based trainings are not properly implemented in the case of technology teachers.

5. *Lack of equipment and laboratories*

There are shortage of technological laboratories and equipment in many schools. Even though technological laboratories are set up, these laboratories are used for some other purposes in many of the schools

C. Suggestions for Overcoming Obstacles

a. It is suggested that awareness raising workshops and programs be organized among school levels to popularize the technology stream and the employment opportunities available in job market.
b. It is further suggested that there be a link between the schools and the other institutions which offer technological degrees and courses.
c. It is also suggested that the present curriculum for the subjects related to technology be revised to cater to the need of employment opportunities and higher education opportunities in technical and vocational sectors.
d. Rethinking of the present method of recruitment of teachers to teach technology subjects be suggested so that qualified teachers can be deployed to the schools where there are subjects of technology taught.
e. The present teachers who are teaching the technology subjects be given additional training and the universities starts new educational degrees in technology.

Discussion

The findings of the study establish many of the previous studies done on.

Conclusion

From the analysis of the findings, it isconcluded that there is shortage of human resources available in the schools where technology stream is taught. Most of the teachers are graduates, but most of them hold postgraduate diploma in education. Most of the teachers need training in teaching at technology stream. There is dearth of physical resources for teaching technology stream in the schools. In most of the school the laboratory and other resources are available.

Though most of the teachers possess Postgraduate Diploma in Education and Degree, their degree and diploma not relevant to the subject they are teaching

There are training needs. The training given by Zonal Education Office and Provincial Ministry of education are not very effective. Many teachers avoid participating these training attributing the same resource persons are doing the training which are boring.

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