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CURRICULUM DEVELOPMENT FOR TEXTILE DIPLOMA EDUCATION IN BANGLADESH

A. KHALIFA¹, M. HOSSAIN² AND A.K.M.F. AZAD³

¹Curriculum Specialist, Bangladesh Technical Education Board, Agargaon, Dhaka, Bangladesh; ²Principal, Textile Institute, Bajitpur Road, Tangail, Bangladesh; ³Chief Instructor, Textile Engineering College, Salgaria, Pabna, Bangladesh.

¹Corresponding author & address: Dr. Engr. Alauddin Khalifa, E-mail: drengalauddin@gmail.com

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ABSTRACT

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Series of researches were conducted on the curriculum and syllabus development for textile diploma education in Bangladesh. It was done through a technical survey, Focus Group Discussion (FGD) and conducting case studies. The aim of the studies were to know the practical curriculum base for Diploma Textile education for the improvement of the graduates and to meet the national demands. The results showed that the practical experiences and skills utilized for curriculum development were very less than the actual requirement. Involvement of textile teachers, specialists and graduate employers in curriculum development and implementation were inadequate. The Theory and Practical class/credits/periods must be specified in the curriculum both as per courses and semesters along with evaluation systems to be followed. It is recommended that the present curriculum for Textile Diploma Education need immediate revision according to employers job specifications and market demand. The syllabus of 3rd and 4th semester of core and additional course credits need to be updated as to increase the credibility of the graduates to the employers and make the graduates career open for higher studies. It is recommended to maintain responsive partnership between Industries and Academic Institutes in the process of developing curriculum and courses/syllabus and thus employment of the graduates.

Key words: *textile diploma technical education, curriculum development*

INTRODUCTION

Very recently several reports have been published on polytechnique and textile education and training status in Bangladesh and stated important limitations of the system in Bangladesh (Azad *et al.* 2012; Hossain *et al.* 2012; Khalifa *et al.* 2012). Technical education is the most powerful instrument to economic prosperity of developing countries (OECD 2002; Korean OECD, 2007) like Bangladesh where per capita land for agricultural production is very less but having small-scale industrial and export development scopes. In the canvas of the global technical developing trend, the overall national development of all countries greatly depends upon the expansion of Institutional technical education as stated by Owen in 1912 and still emphasized by Buzz ell (1987) and Korean OECD (2007). It plays vital role in reformulation and re-organization the socio-economic structures of the country. There are three levels of technical education in Bangladesh. These are: first, Degree level, for producing engineers or technologist. Second: for Diploma level producing mid-level technicians. Third: Certificate level for producing hand-skilled workers i.e. called vocational graduates. The Diploma graduates can play very important role as a service delivery link between the engineers and the vocational certificate graduates. They work in floor level and supervise their work for a successful execution end.

According Wolf (2002) to the textile industry is now state of rapid and revolutionary modernization and automation in the world. The engineers graduated in Textile Engineering are equipped with the knowledge skill of the behavior of textile materials and the functions of machinery in textile and clothing and related service technologies. Textile Diploma curriculum initiated in Bangladesh 1992 which is still now improving under several projects of national and international capacities. Current textile curriculum evaluations identified so many limitations as per its academics and administration. Thus the present research was formulated to study the limitations of Textile Diploma education as regards the curriculum and syllabus is concerned. Textile Engineering deals with the application of scientific and engineering principles to the design and control of all aspects of fiber, textile, and apparel processes, products, and machinery (Sharpe 1993). These include natural and man-made materials, interaction of materials with machines, safety and health, energy conservation, and waste and pollution control.

There are several Textile Institutes in Bangladesh. The other name of the institutes is Institute of Textile Engineering and Technology (ITET). After passing the SSC equivalent Exam students are applied to admission here. The students of Textile Vocational Institute (TVI) get 30% quota to admission here. And the general students those who come from general High School they should have to Science background or equivalent. A brief of the Textile Education in the country reveal that there are so many courses in the European countries (Reeves 2006) which may also be initially followed in our country. Thus the courses may be selected from: Advance Diploma in Textile Design, Computer Aided Textile and Garment Designing, Diploma in Dress Designing, Diploma in Garment Fabrication Technology, Diploma in Garment Manufacturing and Merchandising, Diploma in Garment Technology, Diploma in Packaging Technology, Diploma in Textile Design, Diploma in Textile Manufacture, Diploma in Textile Processing, Diploma in Traditional Textiles and Crafts, Diploma in Textile Technology, and Fashion Technology. They are employed in departments of textile plants and companies varying from small to big scale, i.e., production, planning, quality control, sales or

marketing or in agencies of domestic or foreign companies for textile products and textile machinery, concentrated in different regions of the country. The academics and related elements may be described as below. **Academics:** Diploma in Textile Engineering is 4 years long program consisting of 8 semesters (1 Semester = 6 months). The final exams of each semester is conducted under the supervision of Bangladesh Technical Education Board (BTEB). All the exams question, answer script checking and final results are published by the BTEB. Beside this each student has to attend the regular class test, quiz test and semester final project. After the successful completion, a student will receive a Diploma in Textile engineering certificate from BTEB. The Admission procedure starts after the SSC results. There is mainly one session in a year. Students have to follow the admission announcement which is given by the Bangladesh Technical Education Board Authority. Textile Engineering can work as: Process Engineer, Quality Control Supervisor, Technical Services/Sales Manager, Operations Trainee, Process Improvement Engineer, Teaching and Medical Textiles Engineer. In the context of the above discussion the present studies were formulated with the objective to know the curricular status of Diploma Textile education in Bangladesh, assessing its curricular features identifying the related problems.

MATERIALS AND METHODS

The classical methodological approach frequently utilized and recommended (Anon. 1997) was followed in the resent study. The methods followed for the were mainly: Direct survey through a questionnaire, Focus Group Discussion (FGD) and conducting case studies making profiles individual institutes. The sample population was Textile Engineering Institute (Private and Govt.) - 20 and number of respondents-130. The respondent groups were Teachers/Instructors-80, Academic Administration-20, and Students were-30.

Questionnaire Guideline: The personal and institutional characteristics of the respondents were recorded in detail including personal identity, courses passed, qualification, training and experiences. Persons having experience of >1 courses from certificate to post graduation will be given preference.

The major questions were in total 5 which were scored in a 1-9 scale about the status as lowest and highest respectively. The questions were: What is the current status of textile education curriculum in Bangladesh? Which curriculum is comparatively better? Which syllabus is comparatively better? Which of the following courses have laboratories/workshops? Which of the following courses have examination? Write good, medium and poor. The collected data were then checked for intra question verification and then analyzed to get the results as per objectives.

RESULTS AND DISCUSSION

The results obtained from the studies as per objectives are presented and discussed here.

The main curriculum and syllabus of the Diploma Technical Education are studied and reported in the forms of Semester 1 to 8. The courses were categorized as i. Core Courses, ii. Optional Courses, iii. Basic Science Courses, iv. Language Courses, and v. Supplementary Courses.

Curriculum development for Diploma Textile education

The results given in the Fig. 1 here showed significant differences among the courses and its vertical semester based distributions. This type of erratic distribution of contents over semester was reported (Shields 1989) to be unfavourable for a good curriculum. The results show that the distribution of the courses was found to be erratic indicating that no specific principles have been followed as required for sequential knowledge and skill gain and over semesters. Specifically curricular changes were indicated by respondents for the third to sixth semesters (Fig. 1). The core subjects studies were to be very weak during the 5th semester.

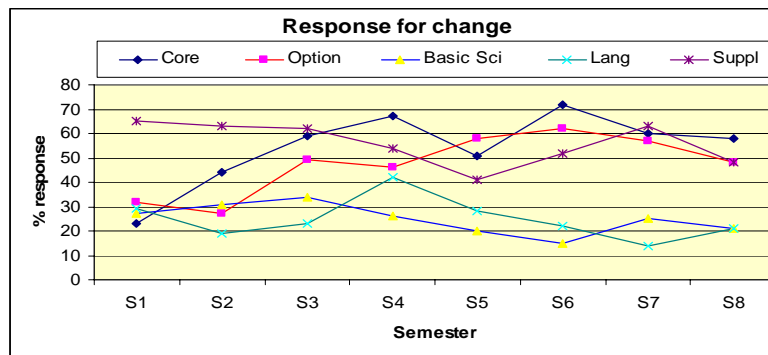


Fig. 1. Response for curriculum development for Diploma Textile education

Core and other related courses

The results obtained on the parameters of core and other disciplines are given in the Fig. 2 here. The results as compared with core courses and optional courses show that optical subjects were distributed mostly parallel

being slightly lower than to core subjects. But as a technical degree the core subjects should cover more credits. Higher population of optional/supplementary non-core subjects weakens the skill of the diploma graduates (Azad *et al.* 2012; Khalifa *et al.* 2012; Anon. 1997). So in these case core subjects must be more specifically calculated for its proportions not being less than 70:30 as found with East Asia (Korean OECD 2007).

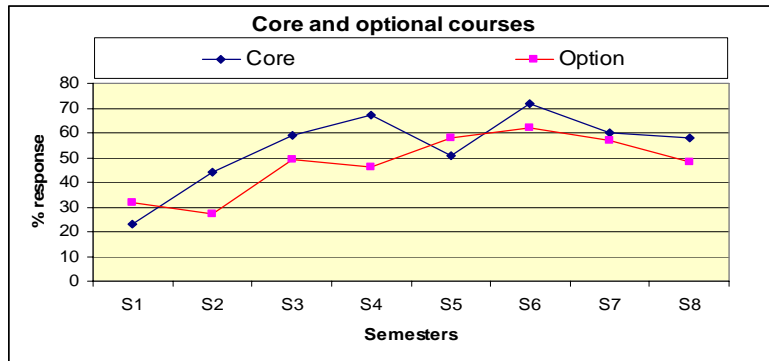


Fig. 2. Comparatives responses on the curriculum of core and optional courses

Semester based responses on the total courses

The results found on the semester based responses are given in the Figs. 3-6. analyzing them in different interactions. The results indicate that mean load of courses were mixed without following any progressive or regressive trends over time in terms of revision needs. More that 40 percent of the respondent (Figs. 3-4) told that the optional and supplementary courses should be updated which was stated to be decided by individual teachers of their own.

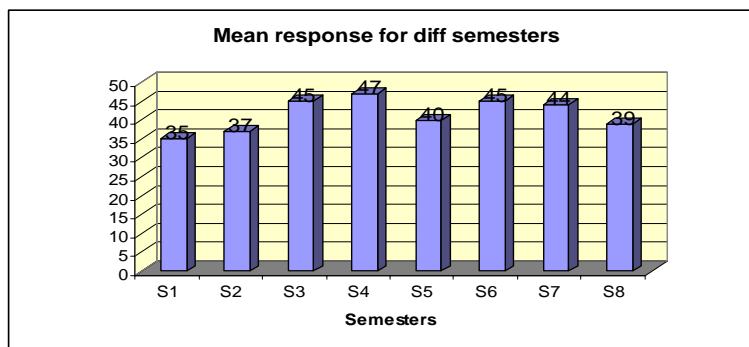


Fig. 3. Semester based responses on the total courses

The results given in the Fig. 4 indicate that courses needing revision were found to be 23-27% for additional courses as highest. But the deviations of the courses in the core subjects (26) ere found to be more important for quality education. The response for basic science and language courses were less attended as major revisions were suggested for core subjects.

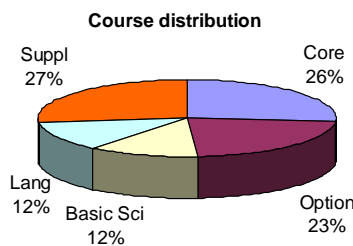


Fig. 4. Semester based responses on the total courses

Current peak semester changeable needs

The Figs. 5-7 illustrated above on the current status and need changes as per peak semester bases show that the supplementary and core disciplines need maximum changes mean value being 73% response at different semesters. The mid semesters namely semester 3 to semester 6 were considered to be the academically peak study semesters. However the basic science and language courses were responded to be comparatively satisfactory. There were also found so many anomalies in the optional/supplementary courses at the later and early semesters.

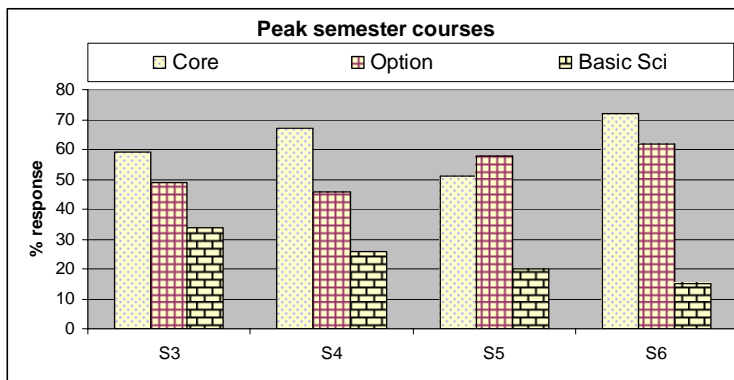


Fig. 5. Semester based responses on the total courses

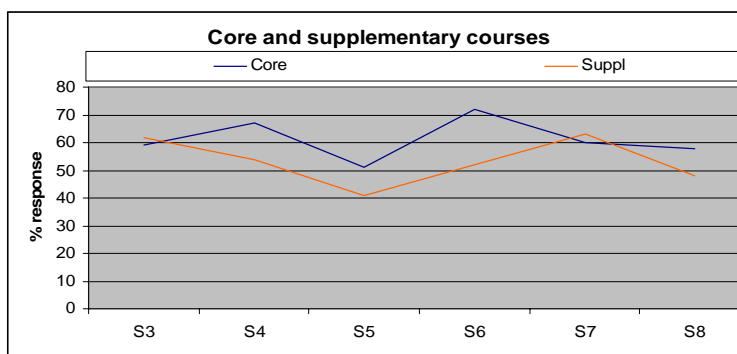


Fig. 6. Semester based responses on the total courses

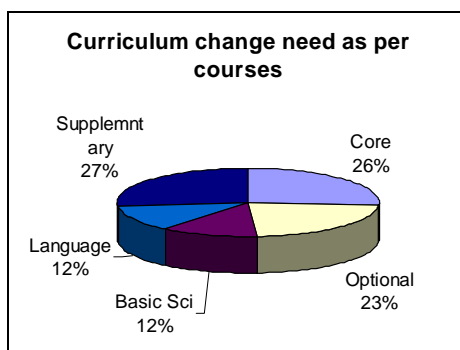


Fig. 7. Mean per cent changes needed as per subject groups

Curriculum Revision Status

The obtained on the revision requirement of the courses are given in the graphs Fig. 8. According to the results the courses needing revision as per semester was highest need for changes were found to be 13% and 14% in the 3rd and 4th semester respectively.

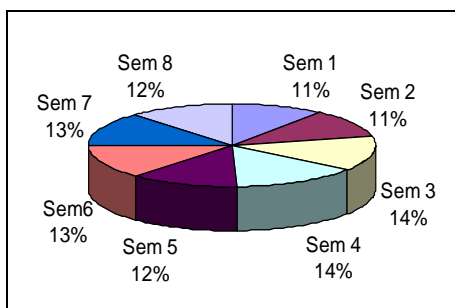


Fig. 8. Mean per cent changes needed as per semester

The features of the curriculum studied as per its quality were measured in the forms of credit/marks distribution, theoretical and practical ratios and evaluation systems. The results given in the graph above show that the objectives of the was satisfactory, but other parameters as mention here were mostly poor. The results given graph on the features of the curriculum in percentage form show that about 30% were in the satisfactory grade

which is inadequate according to even Asian standards (Indonesia >50% ADB status). It should be treated as major sector for improvement in our newly emerging Textile Education.

CONCLUSION

The academic and other curricular problems identified from the study on Diploma Textile Education System in Bangladesh had so many limitations as the curriculum and course syllabus were concerned. Examination features were not detailed or the examiners were not bounded clearly by prequalification in the curriculum. The whole curriculum should be in a comprehensive modular format and should duly be approved by Bangladesh Technical Education Board, It is recommended that the present curriculum for Textile diploma education should be updated as per job market and Technical learning philosophy. The syllabus of earlier and peak semester should be sufficiently core subject based. Semester for both core and additional course credits need to be revised as to increase the credibility of the graduates to the employers and make the graduates career open for higher graduation and post graduate studies.

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