

## Essential Adoption of Vocational Programs in Higher Education

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**Abstract:** In the context of the providing job-oriented skills to students in India, new study curriculums and courses are emerging that are explicitly aimed at qualified professionals inducted with job related skills. Based on this new horizon of education the STEM education has gained more importance with teaching agendas suiting accreditation and world class educational paradigms. This paper provides a short overview of empirical findings and the interlocking the theoretical content and practical hands on training within the vocational courses in regular academic STEM programmes. Furthermore, it works on the skill to be inoculated for enhancing the job eligibility of students to render them employable.

**Key words:** educational domains, education, extra-occupational based study programs, vocational education

### I-INTRODUCTION

Due to liberalization, globalization major changes have taken place in the workplace environment of India. The labour market in India is continuously subject to this change that enhances the complexities of occupational skills required in acquiring a job as well as getting promoted to different levels in the job.

Tasks and work assignments have increased over a period rendering to acquired hi-end skills that become an integral part of the new job scenario. The pass-outs from STEM education have majorly seen a notable change owing to this highly complex scenario essentially focusing towards integration of vocational and cognitive skills. The unison of this would render the student placeable and only with continuous improvement can he grow now in his profession. It is in stem education have a sees the increased influence of the demand and supply of the workforce but still any job sector in India faces a dearth of skilled workforce. For the job sector also its extremely difficulty to cater to the add-on skills required for promotions of the employees. Thus, the unison of higher education with vocational skills is vital for the student's placement as well as his growth to higher levels in work. This thought paves way for an extra occupational study program that is made essential along with the academic programmes or is interwind with the academic courses. The vocationalisation of higher education would try to develop certain programs that are included into the regular academic programmes aiming to develop skills required in the world work today. Interlocking higher education along with vocational education can render for better employment of our technical graduates both at the diploma and degree levels. it is high time the higher education institutes start opting for programs that interlock the vocational development along with the academic development or set for the way for development of potential courses that can be taken up to render the skills that target to make our students placeable. (Meyer and Beutnagel 2018, Schanz 2017).

Several University and higher education institute have opened up new courses, newer programs, to enhance the qualification related to vocational education for the pass-outs. There has been a sharp increase in the number of potential students that become takers of such additional programmes. The several education policies that have been formulated also focus on enhancing the vocational skills of

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students. This has extruded the intermixing of vocational and higher education describing the growth of degree or diploma courses for occupationally qualified and prospective students that are eligible for placement after passing out. The percentage of students in India that opt for higher education after passing out from the schools is still less. This fact takes us to hypothesize that in addition to formal regulations there exist certain obstacles both at the individual and structural levels that prevent these students to take formal higher education.

The complexity also exists with extra occupational study programs that exhibit characters being availability of full or part time professional activity and further qualification at the University this can also be done as an add-on course or program or lab work along with the regular running academic programs in any of the higher education organizations. The major challenge is to formulate a balance between the scientific theory and vocational practices that must be provided to the student for suitability. By expanding the excess possibility of higher education, the target group of occupationally qualified student differentiates further owing to the skills requirement and the academic background possessed individually along with the learning and psychological framework possessed by the students. This also holds true in terms of students currently employed in the stem area. In terms of skills required to constantly work and perform in their own work areas. Acquiring updated skills becomes of prime importance in terms of the career growth and promotions in addition to professional development. The employed students exhibit more personal interest in their core content areas. (Dittmann/Kreutz 2016). Due to these specific characteristics, employed students in the field of STEM pose new demands related to skill-based courses on the university and curriculum (Jürgens 2017). Thus, several new models, programmes, courses need to be tailored for these employed students in academic institutions. This creates enhanced requirement of critical-job oriented combinations of vocational and cognitive knowledge within the academic purview but the more critical task is evaluate the trade-off and procedurally and systematically interconnect the theoretical concepts, develop practical, industrial, experiential hands on component with the measured and structured theoretical and analytical knowledge. Currently, there is a dearth of didactics that are focused on vocationally qualified students along with a conceptual strategy for effective implementation. (Baumhauer 2017).

## **II: RESEARCH-STEM EMPIRICAL PROJECT STRATEGY :**

A consortium of Premier Indian Institutions can be designed and can work on designing and implementing occupational study programs in STEM. Several analysis and testing can be done to generate transparent and systematic empirical findings about the vocational study programs in order to gain insights on curriculum and its practical implementation. This can be formulated centering on the structural features do extra-occupational in addition to unison of vocational and academic teaching and learning interlocked on the organizational. The concerns about the pre-employed students the factors that promote or inhibit their educational success.

The web-based analysis was conducted to identify field of research, qualification standards that hold significance for employees in scientific and technical sectors. Based on the results, eight study formats typical for the STEM sector were selected and analyzed exemplarily. The structural and curricular design of the formats were explored based on theory and skill , guideline interviews and participatory observations in different sessions. The interview partners selected were administratively and academically responsible persons, course coordinators, lecturers and professionally experienced members and employed students also.

### **2.1 Institutional and Structural Framework**

The findings state clearly that in the field of STEM, private higher education institutions are becoming major players through the various extra-occupational /skill based vocational add-on courses offered by the private providers. This sector is becoming a major economic player too. The Private providers charge high tuition fees. They offer certain programmes along with the regular programmes and charge heavy finance. This fees and charges provide them the due financial security. The courses are designed

and the standards are adopted but its not essential that they are benchmarked in terms of quality. This creates an avenue for alliances with skill-based opportunities again suggesting collaboration between the academics and skill based occupational bodies. In cases of large dilutions in the admission requirements these organizations create and intensify problems of transparency and quality assurance.

## **2.2 Lack of systematic linkage between Theoretical concepts and Practical skills**

The interlocking of vocational and higher education is the need of the hour. The curriculum document communicates the contents of the programme. But the curriculum now must be enriched by inputs from employers, industry, professional bodies, and academic experts. They in combination can design the correct combination of combination of theoretical study content with practical skills. This has been adopted in India but has been only rudimentarily successful. The web-based analysis also talks about several courses being taken up by students from foreign universities and in online mode.

Although the offerings available today focus towards the practical requirements of the occupation with a knowhow of the subject. The right kind of interaction of practical and conceptual knowledge still poses a major challenge for higher education. This is evident in curriculum of the professional courses as well. A programmed systematic combination of professional and academic forms of teaching and learning is not available in maximum cases.

The cooperation of industries with the universities offering extra-occupational studies and the enterprises that would be participative in the placement drive is absolutely undoubted. This becomes a firm ground to analyze the job roles, qualification frameworks and the placement opportunities. But it is a point of regret that in certain institutions this connect is deliberately avoided. This is practiced to maintain the independence of few academic institutions and the industries. Money matters most to private organizations.

It is still pathetic that not much thought is given to the design of extra-occupational study programs. it is striking that for the most part the curriculum ,the approaches and methods used in these programs are not specifically do not satisfy the needs of professionally experienced students. The results obtained from the interviews and participatory observations clearly suggests that the focus is on teacher-centered forms of teaching. An additional problem is that the teaching staff is not equipped professionally for educating the target group of occupationally qualified and employed students.

## **2.3 Success of Occupationally Qualified Students**

The web-based analysis results show that the professional experience and the knowledge acquired in due course of work influences the students tremendously. They connect to the formal education during their UG or PG courses and this makes them more interested to develop their cognitive abilities to understand the contents of their studies better. On the other hand, the knowledge gained at university helps them to act more competent in practical contexts where the concepts are translated to practice. They appreciate the extra-occupational study programs incorporated into their curriculum. They appreciate that it is essential to take into consideration the interlinking of practical professional experience and scientific knowledge in the world of work. In the present context the lack of structural theory-practice interlinking on the part of the providers and the teaching staff employed is fulfilled by the students themselves. The academic accomplishments of superiors are often seen as a major factor for the realization of career advancement. From the perspective of a STEM professional, extra-occupational vocational courses can serve to reach career goals but there is dearth of vocational skills that becomes the delimiting factor always. In this respect, the results of the study show that a combination of occupation and university studies is part of the students' study motivation.

## **III CONCLUSION**

Vocationally oriented higher education is the need of the hour today. Since it offers opportunities for lifelong learning and the permeability between the different educational sectors. The finding of the research reveal that a systematic link between theory and practice has not been implemented fully neither is the combination much clear. Thus, a clear discrepancy between the study program and the

structural-organizational as well as an effective curriculum design of the formats can be noted. It is important to bring the premier institutions, the industries, and the curriculum designers together only then the vocationalisation of higher education would be possible for enhancing on the job as well as developing pre-service skills for pass outs. In regards to the growth and increasing variety of study programs that are explicitly focused on professionally experienced students and the consequential institutional differentiation in the Indian education system, it is essential to focus on quality assurance of these study programs.

In the scope of the further opening of universities to lifelong learning, expanding international perspectives in the field of university continuing education needs to be an essential focus. A new research task is to work intensively on the topic of context of higher education from an internationally comparative perspective.

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