Education

ROLE OF CURRICULUM IN BRIDGING THE GAP BETWEEN ACADEMIA AND INDUSTRY

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ABSTRACT The goal of a successful educational program is effective through curriculum development and it should be able to meet the needs and current demands and the expectations of the stake holders. The students admitted in a program belong to a heterogeneous group. In an undergraduate program, the students have variety of options. Many prefer to seek employment, some aspire for higher studies, few are interested in entrepreneurship and very few opt for research. The curriculum should cater to the needs of all these students. So the curriculum should be designed in such a way that it has all the KSA's (Knowledge, skill and Abilities). Employers want people who can think intuitively, who are imaginative and innovative, who can communicate well, work in teams, and are flexible, adaptable and self-confident (Ken Robinson). The present study tries to seek answers to the following questions: What are we trying to achieve through the curriculum? (Intent) How do we need to organize the curriculum to achieve the agreed intent or aims? (Implementation) How do we measure the impact of the curriculum and continuously improve it? This is done by studying the various models developed in the curriculum designing process and coming out with a model which is inclusive of the demands of the stake holders.

KEYWORDS : Curriculum, Academia, Industry, Innovation, Stake holders.

INTRODUCTION

In today's educational system, the participation of industries in curriculum design and delivery at institutions and universities is very much essential to prepare the students for employment. This will bridge the gap between the industry and institutions and will enable the students to become industry ready. This will also reduce the time, effort and resources spent on the students at industries, before they will take up the real projects. Necessity drives inquisitiveness. Industry and academia collaboration is must for the overall development of the youth and the country. Industries demands new and developing skills so that they can compete in demanding global market. (Rajani Bhandari). Academia and industry share a symbiotic relationship. Academia produces graduates who are absorbed by industry. Research work in universities are taken up by the industry and turned into products and services. Industry on the other hand looks to academia for solutions to their concerns. It would like universities to tailor their courses to turn out graduates whose skill-set are aligned to industry requirements. Often new research topics arise out of interaction between the duos which benefit both academia and industry.

In earlier times the number of industries and technology were less or limited. With time the technology has become very advanced and industries also increased but academic system is not kept pace with up gradation in technology and system. Hence there arises a gap between academia and industry. To bridge this gap, *a carefully* planned, purposeful, progressive, and systematic process of curriculum design is essential to create positive improvements in the educational system. Every time there are changes or developments happening around the world, hence there is a need to update them to address the society and industrial needs. The goal of a successful educational program is effective through curriculum development and it should be able to meet the needs and current demands and the expectations of the stake holders.

STATEMENT OF THE PROBLEM

The students admitted in a program belong to a heterogeneous group. In an undergraduate program, the students have variety of options. Many prefer to seek employment, some aspire for higher studies, few are interested in entrepreneurship and very few opt for research. The curriculum should cater to the needs of all these students. So the curriculum should be designed in such a way that it has all the KSA's (Knowledge, skill and Abilities). Employers want people who can think intuitively, who are imaginative and innovative, who can communicate well, work in teams, and are flexible, adaptable and self-confident (Ken Robinson). With the demands caused by constant change in the society and in the industry, curriculum development and implementation have also been constantly changing over time. Hence, the unending debates of which curriculum model best addresses the needs of the society and private sectors continue to exist. (Russell Rodrigo, 2017). Constant changes in technology also pose continuous

challenges for higher education institutions. These changes are making it necessary to adapt the curriculum in order to develop the skills needed by the Industry. (Claudia M. Zeaet al 2014). An effective curriculum is not just related to the pure action of teaching; it also includes the procedures of planning, designing and implementation (Richards, 1990). Constructed on the main principles of development, conducting and evaluation, curriculum development has six main steps: ,needs analysis, goal setting, syllabus design, methodology, testing and evaluation' (Richards, 1990, p. 1). Taking into account all these aspects, the present study is conducted with the following objectives.

OBJECTIVE

1. To study the various models developed in the curriculum designing process
2. Propose a model which is inclusive of the demands of the stake holders.

OVERVIEW OF CURRICULUM MODELS

Curriculum models help designers to systematically and transparently map out the rationale for the use of particular teaching, learning and assessment approaches. Curriculum development can be defined as the step-by-step process used to create positive improvements in the courses offered by a school, college or university. The world changes every day and new discoveries have to be roped into the education curricula. Innovative teaching techniques and strategies (such as active learning or blended learning) are constantly being devised in order to improve the student learning experience. As a result, an institution has to have a plan in place for acknowledging these shifts and then be able to implement them in the school curriculum.

PRODUCT MODEL *VS* PROCESS MODEL

Current curriculum models can be broken down into two broad categories—the product model and the process model. The product model is results-oriented. Grades are the prime objective, with the focus lying more on the finished product rather than on the learning process. The process model, however, is more open-ended, and focuses on how learning develops over a period of time. These two models need to be taken into account when developing curriculum.

Figure 1: The Product and Process Models of Curriculum Development.
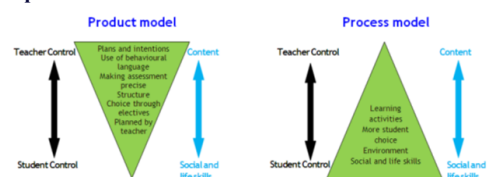
TYLER *VS* TABA MODEL

The Tyler Model, developed by Ralph Tyler in the 1940's, is the quintessential prototype of curriculum development in the scientific approach.

Tyler's model for curriculum designing is based on the following questions:
What educational purposes should the school seek to attain?
What educational experiences can be provided that is likely to attain these purposes?
How can these educational experiences be effectively organized?
How can we determine whether these purposes are being attained?

The Taba Model was developed by Hilda Taba (1902 - 1967), an architect, a curriculum theorist, a curriculum reformer, and a teacher educator. She advocated that teachers take an inductive approach to curriculum development which meant starting with the specifics and building toward a general design, rather than the traditional deductive approach (starts with the general design and work towards the specifics) which was rooted in Tyler's model. Hilda Taba followed the grass-roots approach in developing curriculum. For her, it should be the teachers who should design the curriculum rather than the higher authorities (Oliva, 1992). More specifically stated, the Taba approach believes in allowing the curriculum to be developed and/or authored by the users (teachers). Under the Taba Model teachers are expected to begin each curriculum by creating specific teaching-learning units and building to a general design.

JUNGHAGEN CONCEPTUAL MODEL

Why Is It Important to Link Curriculum to Industry Needs? Employers' input and review of the institution's curriculum typically produces better skilled, more knowledgeable employees who have a greater potential to succeed. Curriculum innovation and updating is a vital task for all educational insitutions. Industry employers have the best idea of what it needs in potential employees. Including Getting input from employers on training content is helpful for the following reasons: employers in curriculum development helps ensure that learners develop the work readiness, technical, and foundational skills (i.e., language and technology) valued and desired by local Often, instructors have not worked in private businesses in their industry. Having an accurate employers. understanding of what employees should be able to do will help instructors to refine curriculum and connect Many companies provide training to new employees, and they estimate that new employees training to the reality learners will face upon entering the labor market. take between 3 months and 2 years to learn the skills necessary to perform their jobs. This training period is costly to employers, especially because trained employees are more marketable and often leave for a new position after a short time.

In this regard, Junghagen (2005) introduced a conceptual model for curriculum development

Figure 2: JUNGHAGEN CONCEPTUAL MODEL
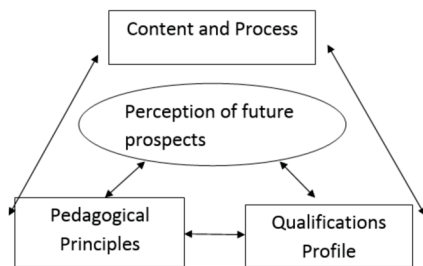
In this model, four dimensions are expected to develop by working with employers. The central dimension of the model is defining a perception of future practice. This perception is expected to develop over time and is dependent on information gathered by way of ongoing relations with industry through research activities, student projects in industry, or Advisory Board, etc. This perception then gives rise to a certain qualification profile of graduates needed to live up to the requirements in future practice. These two dimensions constitute competency goals/learning outcomes for the study programme. To reach competency goals requires the presence of content and process of programmes and pedagogical principles, both of which are aligned with the competency goals (Junghagen, 2005, p. 73). Junghagen's model indicates that both the content and process dimensions of

curriculum is important for employer collaboration, and these different dimensions need to be taken into account (with defining a perception of a future practice as a central one) when constructing a curriculum.

SKILL ORIENTED MODEL

In the present day context, 'Survival of the fittest' is the mantra to survive in the industry. As output is higher in terms of graduates' number, competition is also high. The core skills and soft skills are required to match the industrial needs. The Knowledge, skills, abilities, attitudes, values, beliefs, competencies are identified as skills sets and the following model is proposed. The entire skills essential to be incorporated in the curriculum are identified from the previous models and literature. In order to bridge the gap between academia and industry needs the following Skill Oriented Model is proposed:

Figure 3: SKILL ORIENTED MODEL
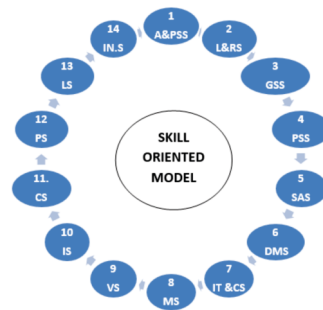
1.A&PSS – Analytical and Problem Solving skills	2.L&RS – Logical and Reasoning Skills
3.GSS – Goal Setting Skills	4.PSS – Problem Solving Skills
5.SAS – Self Assessment Skills	6.DMS – Decision Making Skills
7.IT & CS – IT and Computer Skills	8.MS- Management Skills
9.VS – Visioning Skills	10.IS – Interpersonal Skills
11.CS – Communication Skills	12.PS – Presentation Skills
13.LS – Leadership Skills	14.IN.S – Innovative Skills

As soon as student comes out of collage he aspires to gain a lot from his qualification. But actually that is not the case. The rejections in placements happen because of communication gap between employer and perspective employee. The skills which industry is expecting are summed up and a Skill Oriented model is constructed. Efforts should be taken to incorporate these skills in curriculum to bridge the gap between academia and industry.

CONCLUSION

This paper has made an attempt to provide an overview of the literature on the curriculum models. No *one* model is ideal and no *one* model may suit a full programme. However, identifying and being consistent with these models will help support cohesion and clarity of approaches in bridging the skill gaps. Developing, designing and implementing an education curriculum is no easy task. With the rise of educational technology and the diverse types of students attending higher educational institutions these days, by following the fundamental guidelines and framework of curriculum development, educators will be setting themselves and their students up for long-term success.

REFERENCES
1. www.geospatialworld.net
2. http://wosa.nbaind.org
3. www.britishcouncil.jo
4. https://www.ucd.ie/t4cms/UCDTLP00631.pdf
5. http://www.fedcareerinfo.com
6. https://educationalresearchtechniques.com
7. http://respark.iitm.ac.in/faqs.php?faq=2
8. http://nitdelhi.ac.in/downloads/Annual%20Report/Annual%20Report%202013-2014.pdf
9. https://wheebox.com/india-skills-report-2015.htm
10. http://www.slideshare.net/sheetalsharma32/bridging-the-gap-between-academics-and- industry
11. http://www.cisco.com/web/IN/about/network/academia_partnerships.html
12. http://www.aspiringminds.com/research-articles/employability-of-engineers-state-wise
13. http://msde.gov.in/
14. http://www.cnbc.com/id/40550184
15. http://www.dreducation.com/2014/06/graduate-data-india-student.html
16. https://www.iitsystem.ac.in/innovationbestpractices
17. https://www.iitm.ac.in/sites/default/files/uploads/strategicplan2020.pdf
18. http://osp.mit.edu/sites/osp/files/u8/bestpractices.pdf
19. http://businessworld.in/article/WeSchool-Wins-Award-For-Best-Industry-Linked-

Management-Institute-In-
20.   India/04-12-2015-89001
21.   Azami Zaharim, (July 2009) ,Engineering employability skills required by employers in Asia Article
22.   Rajani Bhandari Bridging the Industry—Academia Skill Gap A Study on Engineering Institutes in India with Special Emphasis on Computer Science Stream HCL Technologies Ltd., Noida
23.   Balasubramani R, Participation of Industry In Curriculum Design And Delivery