

RESEARCH IN HIGHER AND TECHNICAL EDUCATION BY THE HELP OF AREA OF APPLIED AND INNOVATIVE IDEAS FOR PROMOTING R&D

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ABSTRACT

Active collaboration between corporates and academia is the need of the hour in today's knowledge economy. Creativity (Research & development) and innovative ideas should be viewed as a continuous process of designing and developing new ways in which organization and academia can partner together to put into place focused academic programmes and training for the whole some development of our wonderful country through our young and energetic youth. This paper discusses the concept of customization for innovative ideas from the students which can also be used in researching the higher and technical education. These innovative ideas take their organizations and companies to far greater heights and to exciting destinations. What institutions can do to encourage new approaches for introducing innovations in their class room? A few approaches are suggested in this paper like customization of students.

Keywords: Customization, Research & Development, Globalization and Interest of Students.

I. INTRODUCTION

The concept of innovative ideas for promoting the R&D in the field of higher & technical education is customization of students. In [1] George M. Korres, attempts to analyze the background of innovation statistics and in particular to examine the measurement and also the statistical estimation of innovation activities. In [2] Mihir Parikh presented a broad framework to manage R&D knowledge. It identified major sources of R&D knowledge and problems in managing knowledge in high-tech R&D.

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[3] According to Paul Chatterton & John Goddard for many higher educational institutions, regional engagement is becoming the crucible within which an appropriate response to overall trends in higher education is being forged. Responding to the new demands requires new kinds of resources and new forms of management that enable higher education institutions to make a dynamic contribution to the development process in the round.

The concept of customization of student is to bring out their latest talents and create a congenial environments to fulfill their hidden desires filled with stress and zeal the student is in a state of mixed ideas and fluctuating personality. Students after completing the plus two, intermediate and the graduation like B.Tech. or B.E. in different fields need to take the interest in their different fields like Mechanical, Electronics, Electrical, CS, & IT etc. Taking the interest in their particular field make will leave a craze in their mind after entering the practical field which make them strong and positive thinker. Considering such students as targets the novel of customization has been introduced in Maharishi Markandeshwar University, Mullana- Ambala.

II. UNDERSTANDING THE CUSTOMIZATION

Customization is not homogeneous phenomenon that can be addressed to as a whole. Customization means differentiated product and can increase the variety of products. Customization is a choice for its own sake, the process of customization is mostly concerned with industries and related units. However, student customization is also of equal importance and significance in the light of globalization, liberalization and privatization .Each student is a customer to the educational institution that the needs and moods vary form one students to the other. [4] Greenhow summarizes that using social media tools in learning promotes a more student-centered course. These tools allow students to interact and collaborate with each other and instructors and “promotes personal choice, customization and student familiarity”.

Four distinct approaches have been identified for customization known as collaborative, adaptive, cosmetic and transparent. In collaborative customization the customer selects his/her own combination from the predetermined elements after which the product is custom made. In adaptive customization the product itself is customizable and the provider does not make any customization. Cosmetic customization is used when a standard product or service satisfies almost every customer, that is, the product remains standard but its wrapping is customized.

Transparently customized product may look like a standard one to the user. However, the manufacturer or the provider studies the customer behavior in such a way that the product can fulfill the needs of an individual customer, which requires long-term customer relationship. Applying these techniques to the academic institutions is rare gesture that the certain practices seem to be irrelevant, yet practically applicable. Out of different approaches transparent customization is the best fit for academic environment.

III. CUSTOMIZATION IN EDUCATIONAL INSTITUTIONS

Customization, practically, needs an insight into the personal requirements of each individual. In educational institution students are the valuable customers, as the brought up of each student is different and the requirements also differ from each other. Customization of a student means providing the facilities that fulfill the desires in addition to quality education. Sometimes the same requirement is asked by a group of students. That is a group of thirty students may ask for western music, another group of forty students ask for soft skills training and so on. In such cases the institution may arrange such programmes as common facilities, in doing so, the fundamental service of providing quality education should not be neglected. For different sections of students there might be different orientation programmes are required, however, the undercurrent of all the programmes is the all-round development of the student. All such programmes encourage the students and motivate them to a better living.

Customization in producing goods, vehicles and articles is different from mass customization in education. Mass production concepts are at the core of industrial development over the last 100 years and more. The upcoming concept of mass customization increases the individualization potentials at prices and quality levels close to mass production. The core concept of mass customization is co-creation of value of supplier with the customer. In [5] H. Klinger carried out a project work on life learning with educational institution from school to university level concepts and concrete experiences form mass customization in industry are applied to education. The clear target in the investigation is to substantially raise efficiency and effectiveness of learning in public.

It has been observed that very rigorous educational standards are strongly advocated by many people in western countries, both within and outside the educational establishments. Many third world countries are also working on and legislation for educational

standards. Evidently, this is an important issue that is likely to impact all who have a stake in public education, the expected standards are to mandatory at root level and voluntary at the branch level. These are some voices stressing upon standards which lead to interdisciplinary instruction. In the process of maintaining academic standards, role of customization of learning has a great significance.

The 21st century education is to be customized to meet the diverse needs of the fast moving community. In this process both standardization and customization are two major issues that every growing educational institution needs to adopt and show some concern. As students differ greatly in their abilities, learning skills, prior knowledge, home environment, the standards which are easy for some students are challenging for others. At this juncture, customization plays a very significant role. Lack of customization leads to more frustration among students. This will require a considerable investment in professional development, which is intensive rather than piecemeal. Also, it requires powerful learning resources and systematic change in the system. That is, the roles of teachers, learners and administrators are to be redefined.

IV. APPROACH

Every faculty member may be attached to a group of 10 or 15 students such that a close observation and intimate study are possible. The dreams and desires of the students can be known through counseling and those can be attended to known as the customization. Students have various goals in their career may not be in a position to find the way out on their own. They may have certain ideas and thoughts, but unable to turn them into reality. It is in this direction the faculty and the management can put some effort to chalk out an appropriate plan. For this exercise, a suitable questionnaire may be prepared to know the interests and hobbies, dreams and desires, aims and goals along with their details. Students are required to fill the questionnaire and based on their answers a constructive plan of action can be prescribed. The plan must be a collaborative one that a team of three or four faculty members are to sit together and draft various alternatives and finally select the right plan. That is, prescription of a way out is an illustrious outcome of a serious team work of learned pool. The questionnaire was as follows:

- Name of the student and branch of study.
- Percentage of marks from SSC.
- Subject of interest (core area).

- Co-curricular/ Extra-curricular Activities interested.
- Reading and writing habits.
- Time management.
- Hobbies / pass time
- Skill and values.
- Goals: Short term, Long term
- Community development/ social service.
- Books and Newspaper read / T.V. programmes watching.
- Sports and games.
- What do you want to become.
- Relationship with family & friends.
- Opinion on team work.

In addition to these descriptive images, the teacher may enquire into other intimate details and based on all this information the individual student may be given a suitable solution.

V. CONCLUSION

Customization leads to happy and pleasing environment in the educational institutions. More emphasis is to be made on individual customization and collective implementation is expected. Education with passion supported by customization is the correct style of learning process. Let the students come out with their talent and deep rooted desires. Nourish the students by creating their own environment. Let the students confidently, that is derived from the customization.

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