

For The Kind Attention Of

Heads Of The Institutions

Principals

Training And Placement Officers

HODs Incharge Of Placements

Comprehensive Assessment of Students Competencies for Employment at Undergraduate Level

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Since undergraduate education is the first terminal stage of education, students are expected to come out as adults with discernible learning outcomes in the form of competencies at the end of the course.

They are likely to develop a variety of competencies in the domain and general areas, at different levels, during the course of education, partly aided by the institution and partly on their own. These competencies, in the form of knowledge, skills, attitudes etc., determine what the young man/woman is capable of and poised to.

It is at this stage a graduate decides whether to go for further higher education or to go work with the competencies acquired over the years. At the same time, the institutions of higher education (post graduation and there on) as well as the employers look for these competencies in their future clientele. There are, however, wide variations among the urban and rural students and between institution and institution because of lack of clear and common awareness.

It is therefore, very essential that a complete picture of competencies acquired by the students is known both to the students themselves and to the others concerned. A comprehensive assessment of

Competencies are required for this purpose. This evaluation also lays focus on the gap between the institutional outcomes and social and market requirements and helps in reducing the gap. Till today, no such overall assessment was made either by the universities or by any other agencies concerned.

I.N.D.I.A Trust is proposing a model for assessing the overall competency level of a student at the end of his/her undergraduate education. Before going into the details of the model, it may be appropriate to look at what would be the competencies in general

Competencies to be achieved in general.

The first level development of a college aged student is developing competence in three areas. There are

1. Intellectual competence where knowledge acquisition, critical thinking skills, and capacity for analyses, synthesis, evaluation and creation of ideas are the components.
2. Physical and manual competence where they use bodies to master previously unattainable skills
3. Social and interpersonal competence where interactive and communication skills are acquired

After gaining confidence in the above areas the students moves along to other areas like managing emotions ,developing autonomy, establishing identity, freeing interpersonal relationships , developing purpose and developing integrity.

In the context of collegiate education system, a student develops competencies, in an institution, through the curricular (domain), co-curricular and extra curricular (general) activities. These competencies are acquired as learning outcomes. Hence, these competencies can be measured comprehensively with the available systems.

Competencies and Employment Requirements

While recruiting, the employers invariably look for certain related and a few general competencies in their would-be work force. It is being pointed out that the graduates, even those coming out of technical institutions, are falling short of industry and employer expectations. An ironical co existence of shortage of man power and unemployment prevails. One of the main reasons is that the training and assessment in the institutions is not matching with the social and market requirements. In recent years, it is being emphasized that Higher education is skill-oriented education and obviously should have a relevance to the market.

Of late, there has also been a greater demand for knowledge and skills in generic and general. There is a special emphasis on the personality development .These changes have increased the number of competencies a student shall acquire and consequently there are demands for changes in teaching-learning paradigms. There are calls for Indian Universities to start teaching soft skills like teamwork, communications, negotiations, customer services, and problem solving and achievement orientation.

Some of the new competencies needed to be acquired by the present day students are, information literacy, application of knowledge , judging ability, critical thinking, analytical skills, problem solving, creativity and innovation, aptitude for research, quantitative ability, multidisciplinary knowledge, computer skills ,communication skills, soft skills, leadership, working in a team, positive attitudes,broader world view etc.At present ,the students are learning them by less systematic means or by default and often through external sources.The colleges ,therefore,shall make learning in these areas more systematic by modifying their curricular practices.

This can be initiated indirectly by testing such competencies at the end of the course, which is absent now.

The Need for a Comprehensive Evaluation of Competencies

At present, there is no single testing mechanism that assesses the wide spectrum of competencies of a student at the end of his/her education. There is a growing demand for such an evaluation that measures both qualitative as well as quantitative aspects of a young human mind reflecting the changes that take place in the different domains(cognitive, affective ,psychomotor)of one's personality as a result of a structured instruction.st

Because there is no single comprehensive evaluation, a graduate has to face several parallel evaluations that partly test his/her competencies. The university conducts several sets of examinations for awarding a degree. At the same time he/she has to undergo a series of entrance tests for admission into post graduation. Specialized institutions like IIMs conduct their own admission tests. Employers such as industries, banks, software firms, public sector companies and governments evaluate candidates in their own way. On the hand the university examinations test the student's abilities in domain knowledge and skills, while on the other hand employers test his/her competencies in other areas. The content and methods differ from one test to the leaving the students confused .This parallel system is much to the disadvantage of, especially rural, students.

Added to this, several experts indicate that the effectiveness of the present formal system of examination is a matter of concern as they typically measure lower-level educational objectives such as memory of facts and definitions rather than higher level outcomes such as critical thinking and problem solving.

Hence, a comprehensive and regular evaluation of different competencies of students is the need of the hour. It also helps the industry and employers not only in reducing their selection burden but also in systematically developing human resources with the right competencies.

The Requirement of a Suitable Design

It is also important to develop a suitable design for critically evaluating various student competencies. Single methods are to be replaced by multiple methods. The normative pass-fail decisions shall move to assess standards and the assessment of knowledge is to be replaced by the assessment of competence. Such a comprehensive assessment will be useful in five ways.

- a. It gives information on a wide range of student abilities, not just job related skills
- b.It tells how proficient the students is in a particular area of competence
- c.The feedback suggests modifications in curricular and learning practices
- D.It helps the institutions, industry and user agencies in their selection processes and facilitates their association with the institutions and
- e.It enhances awareness on developing competencies and requirements of world of work and the society among institutions and students thereby reducing the disparities.

What is needed, therefore, is constructing a comprehensive model for testing various competencies achieved by students in various domain and general areas. An attempt has been made here under for outlining such a model.

The Model

An outline model is proposed attempts a comprehensive assessment of a variety of student competencies in terms of their responses to the testing instruments.

The model proposes assessing various competencies, segregated under ten parameters, identified based on the existing testing methods. Each parameter indicates one on a group of related competencies. It is not easy to identify and isolate individual competencies in human beings. The permutations and combinations are multiple, especially when they are in action .Nevertheless, while testing; questions can be designed to cover as many individual competencies as possible. Despite the shortages, this proto model is likely to give the overall picture of competency levels of students.

The ten parameters are broadly grouped under two major areas (each with five parameters), namely, Domain (subject) area and General area. The areas and the parameters under them are;

1. Domain (subject) Area

In the formal education system it is in the domain subjects like maths, physics, biology, history, economics or commerce that the students spends most of his/her time and learning is made systematically and sequentially over the years.In fact, the study of a 'subject' in the formal system is usually organised.Hence, the competencies of a student can be best assessed in the subject area, even though the domain is not relevant to the future work area. Since it is very difficult to test the domain area of all subjects, and the intention is to test organized learning, a set of 15 to 20 popular subjects can be identified excluding language subjects. This area can be tested in only one of the subjects opted by the students as in civil services. The five parameters under this area are:

Subject Knowledge

This parameter deals with competencies in information literacy, systematic understanding, breadth of knowledge, depth of comprehension, inter-relations, etc.that are acquired with the subject knowledge as a basis. Presently, this is the main platform for the university examinations.

Subject and Computer Skills

Skills are learnt in the subject area over the years in practicals in case of science and in methodologies in case of arts subjects. Skills acquired in one subject can be transferred to another area. Testing of skills even while not in action is possible. Acquiring computer skills has become a basic requirement now for any subject.

Data interpretation

The abilities such as to inquire into a piece of knowledge, to analyse, to interpret, to deduct, to judge and to make projections are part of this parameter. The capacity to decide and to act in the right way is a vital competency required.

Problem Solving and application

It deals with application of intelligence in identifying problems and solving problems by converging different aspects of existing knowledge. The capacity to explore application areas of the subjects can also be tested here.

Creative ability

The ability to look for out of box ideas and solutions is included in this parameter. Inventing new models with a divergent approach can also be tested. Testing creative ability may be preferred in domain area because the student is already familiar with the existing knowledge.

2. General

There are many multidisciplinary and generic abilities an educated young man /woman needs to possess for a successful work and personal life. These areas do not fall under the category of any of the subjects, which a student studies from school level upwards.

Communication and Soft Skills

Effective communication skills are the most sought after competency in recent years by the corporate world at the national and global levels. These Skills include primarily writing and speaking skills in English and soft skills related to interactive behavior.

Logic and reasoning

Comprehending an aspect by applying logic and reasoning is a desirable ability. It facilitates an objective approach towards a situation. Employers as well as research institution desire good reasoning ability in their workforce.

Quantitative ability

It is important to have certain minimum competence in numerical ability. One has to extensively apply statistical and quantitative techniques in day-to-day work-life. This is another competency demanded by recruiting agencies.

General awareness

A comprehensive understanding of the society and world is very essential for any young man/woman for developing a healthy perspective towards people and work.

Critical understanding of the relevance of current events, interplay of various forces ,concepts and their manifestations, , etc. are needed for the development of a student into a responsible adult. Of late, this ability of understanding and respecting alien cultures in general awareness is being desired for several responsible jobs including civil services.

Attitudes

Attitudes play a critical role in the way a work is carried out or a person adjusts to life and society. A student's personality and value base are developed over a period of time and take a shape at his/her adult stage. In recent years assessing attitudes has become a crucial part of testing

Sno	Parameter	Suggested testing methods
1	Domain Subject knowledge	As in university examination but to assess critical competencies Paraphrasing ,short answer, multiple choice, matching ,true false etc.
2	Subject and Computer Skills	Skills are to be assessed while in action. But, knowledge of situational, procedural, process-related, action –related etc. Skills can be assessed, to start with, through a written test. Methods testing computer skills are widely available.
3	Data interpretation	Well-established models are available in tests like in CAT. Data tables, graphs and pictures can also be added to testing paragraphs
4	Problem solving and application	Methods are available in physical sciences and commerce. Situational and short answer questions with or without numbers in other subjects. Finding of application of knowledge and relating evidence to theory can be tested through a variety of question.
5	Creativity	New solutions for existing problems, new design over the existing ones, questions that demand imaginative solutions and creations
6	General communication and soft skills	Methods for testing writing skills are available in plenty in the university exam system. Testing speaking and soft skills in written form by asking situational questions will assess speaking skills to some extent to start with.
7	Logic and reasoning	The methods are well established and being used by several recruiting agencies.
8	Quantitative ability	Here also the methods are well established as above
9	General ability	Methods followed in standardized testing like civil services can be adopted but with a wide range of types of short answer questions. Abilities like finding relevance and interrelations, analysis and judging can be tested
10	Attitudes	Standardized psychological testing methods are available

The model proposed is only an outline. It can be strengthened and a standardized index of competencies, at the national level, can be derived leading to comparative studies and betterment all over. In fact, such a standard index is needed for a diverse country as india. Upon its systematic improvement, the above model can also be developed to assess student Development index.

Attributes

Attributes are personal qualities or characteristics displayed by an individual.

1.Aggressive 2.Ambitious 3.Assertive 4.Astute 5.Attention to detail 6.Commercial awareness 7.Creativity 8.Commitment 9.competative 10.conceptual 11.Dedicated 12.Detrmination 13.Diplomatic 14.Disciplined 15.Discretion 16.Drive 17.Dynamic 18.Empathetic 19.Energetic 20.Ethical 21.Enthusiasm 22.Extroverted	23.Firm 24.Flair 25.Flexibility 26.Hands on approach 27.Hard-working 28.Imagination 29.Initiative 30.Innovative 31.Integrity 32.Intellectual capability 33.Mature 34.Motivation 35.Personality 36.positive 37.pragmatic 38. Professional. 39.Progressive 40.Responsible 41.Rsults-orientation 42.Safety orientation 43.Self-confident/assured 44.Self-starter
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Skills

Skills are specific behaviors required to complete tasks which can be taught and are likely to improve with practice

1. Ability to recognize complex issues 2. Add value 3. Administrative ability 4. Business development 5. Computer skills 6. Coping with pressure 7. Decision policy 8. Entrepreneurial 9. Foreign language competence 10. Attract funds 11. Graphic skills 12. Handle things simultaneously	24.Networking 25.Oral communication 26.Organizing 27.Persuasion 28.Planning 29.Presentation 30.Problem solving 31.Profit 32.Programming 33.Relate to clients management 34.Research 35.Selling set priorities
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<ul style="list-style-type: none">13. Implementation14. Interpersonal15. Judgment16. Leadership17. Liaison18. Manage change19. Managing20. Motivating staff21. Negotiation22. Analytical23. Develop policy	<ul style="list-style-type: none">36.Strategy37.Supervision38.Teamwork39.Therapeutic skills40.Training41.Understand broader picture42.Vision43.Work independently44.Written communication
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