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Competency Assessment and Grading in Higher Education

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ABSTRACT
Higher education aims to develop quality and competent professionals who would be economically productive and contribute to society. Here comes the question of how fit are they? Are our passing out graduates ready to take up and perform jobs successfully? Is the present education equipping them for that? What should be the assessment of a graduate be based on? Higher education aims to impart competency to the learners and generally the presumption is that those who undergo higher education have acquired the desired level of competence. Examination and assessment are key indicators for measuring the performance of a graduate in the widely prevailing credit-based education system. The credit-based system in higher education is developed on the foundation that the grades which a student has secured by way of assessment and evaluation speak what the student has earned by way of education. But the question is how to measure the competency among the graduates who pass out. Various indicators are available in Competency-Based Education System (CBES), most important among them is Employability. Employability is the capacity to take up and perform the job independently with relative ease and little support. This paper attempts to outline the major factors contributing to competency, their objectives, and outcome. Our competency measurement model suggests various performance indicators which lead to measurable parameters that directly give an idea to judge how successful a person would be in a given job. An attempt has also been made to predict performance in a job situation by judging competency level performance indicators in select categories of jobs.

Keywords: Competency-Based Education System (CBES), Performance grading, Performance indicators.

1. INTRODUCTION:

Over the years considerable advancement has taken place in higher education in India [1]. New thinking on realizing the intended learning outcomes has brought into the

scene integration of technology, improvement in pedagogy, restructuring of curriculum, the shift in focus, open classrooms, online learning, etc. From the conventional education model [2-4], higher education evolved to a technology-supported ubiquitous model [5, 6], choice based credit system (CBCS) model, and competency-based education system(CBES) model [7]. A credit-based approach is a systematic procedure of describing an educational program by offering credits instead of marks to the subjects to be studied. These credits to be offered to the subjects in the higher education system may be based on various parameters which include student workload of study, expected learning outcomes, and class contact hours of subjects offered in a course. Currently, the higher education system in India follows mainly the choice based credit system for students assessment and evaluation [8].In a Choice Based Credit System (CBCS), the students while pursuing a course are required to choose along with compulsory core subjects, some elective or minor or soft skill subjects for study and the evaluation is graded using a credit system. Further, CBCS offers a choice for the students to select the elective subjects in any department of the same institution or in other institutions well, thereby giving them greater exposure. Competency-Based Evaluation System is a significant improvement in the higher education system compared to the Choice Based Credit System. The focus is not on the result in the examination but on the outcome of intended learning objectives. In the Competency-based education system (CBES), students are required to demonstrate their earned academic competence and experience during their academic programme using a combined method of evaluation to earn academic credit. This also allows the students to progress at their own pace by incorporating a suitable method of learning with a logical framework as decided by the institution for improving knowledge, skills, and experience as per the level of requirement for the industry. It is also argued that competency-based education system students instead of taking the predetermined elective courses can demonstrate a predefined set of proficiencies which are found suitable for doing a particular job[8]. This model allows students to study anywhere as per the curriculum they are enrolled for their courses but develop specific competency levels to get the graduation [9]. The evaluation part of the Competency-based education system is most challenging and there is no hard and fast method existing today. The competency-based education system is a concept and is under discussion since 1970 [10-17]. Due to the limitations involved in the evaluation and distribution of scores and ratings of outcomes this model in higher education could not become popular to be adopted.

2. OBJECTIVES OF THE PAPER:

This conceptual paper based on explorative research has the following objectives:
(1) To examine the objectives of the Competency-Based Education System (CBES).
(2) To analyse the distinctive features of CBES and its relevance to higher education.
(3) To study areas of competency, their outcome, and indicator
(4) To arrive at measurable parameters for employability as a distinctive characteristic of competency
(5) Apply the set of parameters to certain categories of jobs.
(6) Address challenges in focusing competency as an outcome in higher education.
(7) Suggest effective implementation of CBES based on critical analysis.

3. COMPLEX SCENARIO OF COMPETENCY-BASED EDUCATION SYSTEM:

The objective of higher education is to impart competency to the learners and the presumption is that those who undergo higher education have acquired a competency. Competence means ability or capability and performance is the proof of competence. The competency-based learning system focus on the students' capability of demonstration of learning outcomes which is considered as central to the learning process. But the question is how to measure competency among the graduates who pass out. A modified Likert scale model based on a 1-10 rating scale can be used to measure and express the competency of a graduate. A variety of competencies are expected on a job to a varying degree depending on the type and nature of the job. Eventually, all of them go into performing it that counts its success.

4. FEATURES OF CBES:

CBES involves educating a student in order to improve the competency of performance in one or more fields of specializations. This includes enhancing his knowledge, skills, and experience along with ethical aspects of doing things systematically to the expectations of the industry. The evaluation of competency should focus on developing a tool to measure the progress of the candidate and periodically report the speed of learning and achieving the different levels of competency. Such an evaluation process and outcome is called competency rating and reporting. The distinctive features of CBES are [8]:

(1) Pre-defined Competency: Competency-based education system focus on building and measuring some pre-defined competency in performing a specified task efficiently and effectively.

(2) Personalization of learning: CBES allows a student to personalize the learning programme in the higher education system by providing the required direction in choosing the subjects and the assessment methods.

(3) Documentation of Experience: The competency-based education system allows students to demonstrate academic competence as per the defined standards by means of a combination of assessment and documentation of experience using a systematically planned evaluation method to earn academic credit.

(4) Studying in own pace: The students individually can plan their progress at their own pace, by incorporating a suitable method of learning with a logical framework as decided by the institution for improving knowledge, skills, and experience as per the level of requirement for the industry.

(5) Demonstrate a predefined set of proficiencies: It is also argued that in competency-based education system students instead of taking the predetermined elective courses can demonstrate a predefined set of proficiencies which are found suitable for doing a particular job

(6) Enhances the skills required: The CBES allows a student to choose any number of areas where he/she is interested to enhance the skills required to do a particular job with the required level of competency.

5. PERFORMANCE LEVEL MEASUREMENT IN CBES:

Competency-based education system focus on developing working skills on a particular set of jobs during a time frame. Those working skills together called as competency

comprises of wide-ranging skills and expertise mixed with attitude conducive to perform the job adequately and satisfactorily. Various teaching-learning methods including classroom teaching, laboratory-based learning, experiential learning, experimental learning, online learning, internship based projects, fieldwork practicum, etc. are adopted to realize the goal in the competency-based education system. These methods are geared to provide the right opportunity for the student to develop these competencies. Major factors that contribute to building the competency has been identified and classified. Our competency measurement models suggest that what counts on employability is a sum total of outcomes achieved through a set of identifiable factors which has clear objectives and verifiable indicators. The following table list out areas of competency, their performance objective and outcome. The performance indicators suggested against each of these give a clear idea of the expected traits required for employability.

Table 1: Factors which contribute to competency and their expected performance outcome

Sl. No.	Areas of Competency	Performance Objective	Performance Outcome	Performance Indicator
1	Communication and comprehension	Translating Thoughts	Rapid Action	Speed
2	Proficiency in writing	Transmitting Ideas	Quick response	Accuracy
3	Generation of new ideas	Trying out new and easier ways	Innovation	Productive efficiency
4	Preserving a vision in life	Commitment to goals	Adaptability	Value addition
5	Desire for learning	Improvement in life	Job meaningful	Pro-activeness
6	Attitude towards life	Combine personal ambitions with employment goals	Positive energy	Positive view
7	Respect for fellow-beings	Accept others contribution	Increased co-operation	Receptiveness
8	Self-control	Strength and determination	Courage in action	Accountability
9	Self-confidence	Faith in one's own action	Sustained interest	Quality in work
10	Creativity	Ability to make things happen	Go-getter	More output

Even if competency is an intangible property, it could be subject to measurement. Various rating scales have been used in the past to measure intangible quantities like attitude, feelings, quantities, perception, love, affection, happiness, pain, satisfaction, status, talent, knowledge, etc. In a Higher education system where competency measurement becomes more relevant than credit grading, it becomes necessary to evolve measurable parameters relevant to the indicators. A modified Likert Scale [18] or metric supports can be used to measure and express the competency of a graduate in

a given area to a great extent in a very systematic way. This scale is a 10 point scale depending on the rigorousness of the evaluation which is used to allow the evaluator to express how much they agree or disagree with a particular statement related to competency level.

Table 2: Competency rating model for a skill-based 1-10 rating scale (Modified Likert)

Sl. No.	Competency Grading Level	Grade Point
1	Outstanding	10
2	Excellent	9
3	Very good	8
4	Good	7
5	Above Average	6
6	Average	5
7	Below Average	4
8	Weak	3
9	Very Weak	2
10	Extremely Weak	1

6. COMPETENCY-BASED GRADING SYSTEM:

Competency-based grading could be a useful tool for the employer to predict the success of a new employee when he is admitted into a new job. For the educational institution, it is a reference point to sharpen its interventional strategy to build capability in the new pass-out. It is safely presumed that a person who obtains a minimum of 50 percent in aggregate and separately in each of these ten components would perform satisfactorily. The higher score is reflective of the merit of the candidate. In order to use the scaling technique, measurable parameters have to be worked out for each of the performance indicators. For example, speed could be measured in a job based on the ability to follow deadlines. This would mean in other words reaching the intended target on time. Accuracy would be reflected in reduced mistakes and so on. These are apparently visible whereas 'readiness to follow instruction' is something that is felt and 'appropriate actions' are to be judged and 'turning challenges into opportunities' have to be contextualized. However, all these combined in varying extent are required competencies for any job.

Table 3: Measurable parameters for competency assessment

S.No.	Performance Outcome	Operational Indicators	Measurable parameters
1	Rapid action	Speed	Follow deadlines
2	Quick response	Accuracy	Fewer mistakes
3	Innovation	Productive efficiency	Better planning
4	Adaptability	Value addition	Exceeding limitations
5	Job meaningful	Pro-activeness	More output
6	Positive energy	Positive views	Demonstrate initiative
7	Increased cooperation	Receptiveness	Maintaining

			enthusiasm
8	Courage in action	Accountability	Readiness to follow directions
9	Sustained interest	Quality in work	Appropriate actions
10	Ability to make things happen	Go-getter	Turns challenges into opportunities

7. GRADING COMPETENCIES BASED ON JOBS:

Three main factors decide the time span for the acquisition of competency. These factors are :

(1) The characteristics of an individual,

(2) Type of the job, and

(3) Level of the job.

For example, the managerial job may demand more of planning while a subordinate job demands more of readiness to follow instructions. A marketing job may demand meeting deadlines while a production job demands more output. A receptionist or a salesman may have to demonstrate initiative more than a nurse or a doctor whose job demands more of appropriate actions. Fewer mistakes are common to all jobs but individual differences matter in the incidence of avoiding a mistake. A project manager often has to go beyond all set limitations if he has to address day to day challenges. He cannot sit down and wait for ratifications for actions to be done before they are done. Although risks have to be minimized, some jobs warrant decisions involving risk. This is the only way to turn challenges into opportunities. An accountant, for instance, has largely a stereotype job – less risk, less initiative but fewer mistakes and more output. It may be noted that traits like punctuality, discipline, commitment, alertness, etc. are to be seen differently from employability skills.

Individuals vary in their learning abilities. Therefore, two individuals who undergo learning may not develop equal capability. Their competencies differ when they come to the job situation. Each type of job has a certain set of demands which it places on the job holder. The individual competence in relation to the requirement of the job could be called ‘aptitude’. This points to the importance of sensing aptitude as a prerequisite to choosing any course of study. A mismatch between the two may lead to failure to perform the job, reduced job satisfaction, emotional problems, and occupational mental health. An illustrative competency grading for select jobs is provided in Table 4.

Table 4: Grading competencies based on jobs

Sl. no	Categories of jobs	Prioritising competency requirements									
		Follow deadlines	Fewer mistakes	Better planning	Exceeding limitations	More output	Demonstrate initiative	Maintaining enthusiasm	Readiness to follow directions	Appropriate actions	Turns challenges into opportunities
1	Doctor	M	VH	M	M	M	L	VH	H	VH	H
2	Accountant	H	VH	M	L	M	M	H	H	M	VL
3	Manager	VH	H	H	VH	H	H	H	M	H	VH
4	Bank cashier	M	H	L	L	L	L	M	H	H	L
5	Cab driver	L	H	M	L	VL	L	H	VH	H	VL
6	Nurse	M	VH	M	H	M	M	M	VH	VH	VL
7	Sales man	VH	M	H	M	VH	VH	VH	H	M	H
8	Receptionist	M	M	L	VL	VL	H	VH	H	H	VL

(VH - very high, H – high, M –medium, L – low, VL – very low)

8. CHALLENGES IN MEASURING COMPETENCY USING GRADES:

Some of the challenges while implementing and evaluating in Competence-based system are the following.

(1) Competency level for a job as distinguished by the competency parameters can be represented by offering an appropriate grade so that the corresponding score could be considered in the industry while judging suitability for the job.
(2) The model based on 1-10 levels of competency looks straight forward but there are many implementation constraints for evaluators as well as the industry employers.
(3) The competency evaluation process for any identified job needs experts in that job. Hence the evaluation team should comprise both academicians and industry experts. This makes customization of the evaluation process complex and time-consuming.
(4) CBES is more suitable for Honours degree both in under-graduation (UG) and post-graduation level (PG) to measure the additional skills imparted during the training period whereas it is not feasible for pass degrees in UG and PG levels of higher education.

9. HIGHER EDUCATION INSTITUTIONS AND CHALLENGES FOR COMPETENCY BUILDING:

In modern times higher education institutions are competing with each other to gain prominence and popularity. Most of the time job placements become a distinguishable criterion to rank them. For instance in any batch of pass-outs, how many are securing jobs readily and what is the 'value' of their job offer. The new challenge thrown before them is addressing employability as a prime issue and focusing on competency building. Apart from reorienting mainstream academic activities, value additions, certification programs, skill enhancement courses, competency gaining activities are being increasingly incorporated to enrich the student learning experience. This would be a growing concern for the coming times in all higher education institutions.

When we look at employability in relation to performance, three main factors play an important role. One, for example, is the education and training that is the primary function of higher education. Side by side there is the hidden curriculum, such for example, the entire set of factors which together may be called campus atmosphere – peer interaction, mentor influence, co-curricular and extra-curricular activities, sports and games, programs and activities, opportunities leading to the discovery of potentials and development of self. Finally the personal attributes such as punctuality, discipline, commitment, etc. which are largely shaped by one's early life experiences and institutional norms of the organisation of employment. All three contribute to the holistic 'performance competency'. Education and training, and hidden curriculum are two sides of the same coin. One which allows formal learning and the other allows informal and experiential learning.

10.CONCLUSION:

Higher education institutions are critical focal points that transform youth into economically productive and socially useful citizens. This could be realised if they

provide a total learning experience which goes into developing competencies. Employability is a basic competency for educated youth. Therefore, employability comes foremost in competency assessment as an intended outcome of higher education. The institutional strategies for competency building include focusing on the quality of education and training, as well as providing for enriched learning experience through the hidden curriculum of campus life. This will complement the personal attributes of the student leading to enhanced competence. However, the application of competence in an actual job situation is subject to organisational factors such as hierarchy, openness, management style, motivators, and organisational culture.

REFERENCES:

[1]. Aithal P. S., & Suresh Kumar P. M. (2018). Approaches to Confidence Building as a Primary Objective in Postgraduate Degree Programmes. International Journal of Applied Engineering and Management Letters (IJAEML), 2(1), 64-71. DOI:http://dx.doi.org/10.5281/zenodo.1205185.

[2]. Aithal, P. S., &Suresh Kumar, P. M. (2016). Teaching - Learning Process in Higher Education Institutions. International Journal of Multidisciplinary Research and Modern Education (IJMRME), 2(1)662-676. DOI :http://doi.org/10.5281/zenodo.160956.

[3]. Aithal, P. S., &Suresh Kumar, P. M. (2016). Student Performance and Learning Outcomes in Higher Education Institutions.International Journal of Scientific Research and Modern Education (IJSRME),1(1), 674 – 684. DOI: http://doi.org/10.5281/zenodo.160944.

[4]. Aithal, P. S. &Suresh Kumar, P. M. (2016). Student Evaluation and Reforms in Higher Education Institutions.International Journal of Multidisciplinary Research and Modern Education (IJMRME), 2(1), 652-66. DOI :http://doi.org/10.5281/zenodo.160932.

[5]. Aithal P.S. &ShubhrajyotsnaAithal (2015). An Innovative Education Model to realize Ideal Education System. International Journal of Scientific Research and Management (IJSRM),3(3), 2464 - 2469. DOI: http://doi.org/10.5281/zenodo.61654.

[6]. Aithal P. S., Shubhrajyotsna Aithal (2016). Impact of Online Education on Higher Education System.International Journal of Engineering Research and Modern Education (IJERME), 1(1), 225-235. DOI: http://doi.org/10.5281/zenodo.161113.

[7]. Aithal, P. S., &Shubhrajyotsna Aithal (2015). An Innovative Education Model to realize Ideal Education System.International Journal of Scientific Research and Management (IJSRM), 3(3), 2464 – 2469. DOI: http://doi.org/10.5281/zenodo.61654.

[8]. Aithal, P. S. & Suresh Kumar, P.M. (2016). Analysis of the Choice Based Credit System in Higher Education. International Journal of Engineering Research and Modern Education (IJERME),1(1), 278-284. DOI:http://doi.org/10.5281/zenodo.161046.

[9]. RumaniSaikiaPhukan, What is CBCS or Choice Based Credit System? How Does It Work? http://www.mapsofindia.com/my-india/education/what-is-cbcs-or-choice-based -credit-system-how-does-it-work, 24/06/2019.

[10]. Spady, W. G. (1977). Competency-based education: A bandwagon in search of a definition. Educational researcher, 6(1), 9-14.

[11]. Hodge, S. (2007). The Origins of Competency-Based Training. Australian Journal of adult learning, 47(2), 179-209.
[12]. Spady, W. G. (1978). The concept and implications of competency-based education. Educational Leadership, 36(1), 16-22.
[13]. Chyung, S. Y., Stepich, D., & Cox, D. (2006). Building a competency-based curriculum architecture to educate 21st-century business practitioners. Journal of Education for Business, 81(6), 307-314.
[14]. Chacko, T. V. (2014). Moving toward competency-based education: Challenges and the way forward. Archives of Medicine and Health Sciences, 2(2), 247.
[15]. Albanese, M. A., Mejicano, G., Anderson, W. M., &Gruppen, L. (2010). Building a competency-based curriculum: the agony and the ecstasy. Advances in Health Sciences Education, 15(3), 439-454.
[16]. May, B. J. (1977). Evaluation in a competency-based educational system. Physical therapy, 57(1), 28-33.
[17]. Lindsay, A. (1992). Concepts of quality in higher education. Journal of Tertiary Educational Administration, 14(2), 153-163.
[18]. Aithal, P. S. (2016). Student Centric Curriculum Design and Implementation – Challenges & Opportunities in Business Management & IT Education.IRA International Journal of Education and Multidisciplinary Studies, 4(3), 423-437. DOI:http://dx.doi.org/10.21013/jems.v4.n3.p9.