

Assessment System or Method for Developing Attitude Competency and Mindset of learners

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Abstract-The process of identifying, collecting and interpreting information about students' learning is known as Assessment.

To evaluate, measure, and document the students' learning various methods and tools of Assessment can be used. It basically improves learning and also directs the ongoing teaching and learning process.

Assessment system can help to develop attitude competency and mindset of the students.

This paper discusses on the design and assessment system or method for developing attitude competency and mindset of learners discusses attitude competency, various competencies, competency based system of assessment (CBA), Competency-based assessment tools (CBT), and outcome of competency-based assessment (CBA).

Key Words: Assessment, CBA, CBT, competency, mindset.

Introduction:-

The process of identifying, collecting and interpreting information about students' learning is known as Assessment.

To evaluate, measure, and document the students' learning various methods and tools of Assessment can be used. It basically improves learning and also directs the ongoing teaching and learning process.

Competency assessment is a continuous process, by which student's knowledge and skills are constantly developed. A competency based assessment measures competency for a various skills. To prove the competency of the learners, the learners must

exhibit an ability to work through specific units of competency using the guidelines provided by defined standards.

Attitude competency: It is an ability that exists in a person that leads to behaviour that meets the job demands which brings in required results beyond knowledge and skill.

The important attributes of an assessment based on competency-skill system are;

1. Competency Assessment based on Criterion
2. Competency Assessment based on Evidence
3. Competency Assessment based on Participatory method

A. Purpose of competency assessment:

Any system for measuring and documenting personnel competency is known as Competency assessment. The objective of such assessment is to recognize problems with learners performance and to improve these issues for developing their competencies that better reflects the world our learners are entering into. The objective of such assessments methods focuses more on empowering students to demonstrate what they've learned, reflect on how they're doing, and plan what they'll learn next and focuses less on collection data for the teacher.

The Competency-based assessment scheme strengthens principle of pursuing education for

adults in which, these participants are judged based on their competency skills but not on the results in terms of pass or fail; hence such a method starts doing assessment when the participants believe that they are ready to be judged for their competence.

A range of assessment activities can define a judgment of competence.

In this evaluation system, the assessment tasks can be arranged or concluded for the assessor and the person being assessed.

Hence, the learners are not assessed in competition with others. Rather a benchmark or criteria is to be set for the assessment.

Such benchmark or criteria comprises the various standards of competency, learning outcomes, or other performance outcomes for the assessment.

Competency embraces various parameters like skills, knowledge or attributes which are helpful to perform jobs for an assigned role to complete a particular task effectively.

The training based on Competency skills is focused more with outcomes, instead to concern only about the time spent in learning. Hence in this learning method, a participant or learner is considered to be skilled or suitable if the desired outcomes can be accomplished by the participant.

This is opposite to the traditional practice which considers the participant to be trained usually at the end of a scheduled training course. In real learning scenario, the scope for learning for person to person has the scope, but which can actually take place at a different learning pace and maybe in disparate techniques varying person to person.

B. Theory

The important features of a competency-based assessment scheme which is a competency-based are as follows:

Criterion based Competency-assessment:

In this the learners are not assessed as competitors of each other, but they are evaluated or graded based on the with reference to a specific set of pre-specified criteria/s or qualities.

The example of such kind of assessment could be a driving test conducted by the regional transport offices.

Evidence based Competency-assessment:

In this the decision related to a particular person's competency is based on the evidence shown, or collected or furnished by the participant himself. This method comprises competencies like, preconditioning about the evidences which focuses on searching of evidence or evidences, appraising & applying the evidence or evidences, synthesis of evidence or evidences and evaluation of evidence or evidences.

The example of such kind of assessment could be testing of a specific medicine/s or treatment/s on a disease with reference to the evidence/s.

Competency Assessment based on Participatory method:

In this method the process of assessment involves the participant who is to be assessed.

This method of assessment uses collaborative learning instead of competitive assessment of the learners.

This kind of assessment technique comprises various activities that enables the learners to play an active and important role or part and their views also considered or listened in the assessment.

The example of this type of assessment scheme could be collaborative learning imparted in the higher education, other example could be a Public transport system.

Purpose of assessment based on competency skills:

Competency assessment is defined as any system for measuring and documenting personnel competency. The goal of competency assessment is to identify

problems with employee performance and to correct these issues before they affect patient care.

Competency-based assessment tools:

The competency-based assessment tools are becoming the high-performing choice to manage performance development.

The competency tools can extract the successful performance of the learner through proper demonstration, clear and tangible actions.

Some of the competency-based assessment tools could be interviews, case studies, assessment centres, questionnaires, tests, questionnaires, etc.

Projects and assignments are the two well-known competency-based assessments that well suit engineering education's practical scenario. It goes on to test the ability of a professional's output.



Figure 1: competency-based learning tools

In a learning based on the Competency skills, a rubric is used which will not focus on scoring where as more importance is given on learning.

The Rubrics designed clearly expressing competencies and learning outcomes can be used to demonstrate clarity with students about what they are learning and why they are learning it.

These Rubrics are also essential tools for teachers to estimate understanding of quality performance: collaborative teacher review of student work using rubrics is a regular parameter of competency-based learning.

Finally, they are tools for assessment: students and teachers can use the rubric to measure performance, reflect on learning, and plan next move.

Because competency-centric learning is not a duration-based system, where in the participants regularly have a chance to reanalyse learning activities and be re-examined. This is supported by formative feedback and routine metacognitive reflection. The single-point rubric formats below allow a rubric to broadcast an continuous interaction between student and teacher about learning rather than merely assigning points.

Competency: Communicate & empathize with people who have perspectives different from your own.		
Concerns Areas that need work	Learning Outcomes	Advanced Areas exceeding expectations
	Audience awareness: Your work reflects an understanding of the needs and perspectives of your audience.	
	Communication: You articulate your own perspective and identify the influences on that perspective.	
	Context: You communicate how cultural, historical, and local factors have an impact on situations, events, issues, or phenomena.	
	Empathy: You explain how perspectives influence human interactions and understandings of a situation, event, issue, or phenomenon.	

Figure 2: competency-based learning emphasizing the communication between student and teacher

C. Methodology

There are different methodologies or assessment activities that are used are listed below;

1. ISA
2. SDP
3. ESD
4. IE

These various activities are conducted at Department level as well at the Institute level.

These methods are used for continuous assessment and learner's professional development.

The ISA, is an In Semester Assessment, which comprise three types of question formats like multiple choice questions, short answer questions and long answer questions. In such kind of assessment expected outcome is development of fundamental concepts, explanation of the concepts that are understood by the learner's. For such a kind

of question papers various levels of rubrics are used which helps assessor to understand the level of Learner.

The SDP, is a student's development program, through which the Professional competency of the learner is strengthen.

The ESD, is an Employability skill development program, through which the learners are made industry competent, where they are assessed and evaluated with levels of proficiency like learners knowledge, aptitude, attitude, skills and competency.

The IE, is an Innovative Examination which comprise of criteria based or participatory competency assessment examination.

In this, the learners are suppose either to be assessed with reference to pre-specific criteria's or the learners are motivated to actively participate on to a specific topic for the assessment.

Competency embraces various parameters like skills, knowledge or attributes which are helpful to perform jobs for an assigned role to complete a particular task effectively.

The outcomes are very much concerned in to the Competency-based training instead of the duration spent in learning. Thus with a competency centric learning approach, a person is considered to be learnt or trained or capable if the desired outcomes can be achieved skilfully by the participant.

In the conventional practice for assessment the person is considered trained only at the end of a particular training program. Everyone has the capacity to learn, it simply happens at a different rate and maybe in different ways for each one of us.

The Figure-3 depicts the graph of a sample data of one batch of Electronics Engineering, which is used as an indicative of how the continuous assessment helps in designing the attitude competency and positive mindset of the learners.

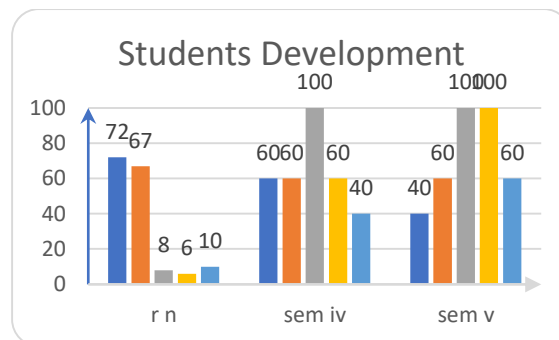


Figure 3 : Sample data indicating improvement in the students through various levels

An inclusive education is one of the method that can help in Developing attitude competency & mindset of the learners.

This is the method, where in, learners improves their learning by collaborative working which can be the best way to learn by teaching it to someone else, i.e. an inclusive education.

The learners have proper understanding and knowledge to able to work together.

Similarly, the competencies to be developed among the teachers for inclusive education are;

Equality: Promoting the same opportunities for all.

Quality: Offering functional and meaningful learning.

Equity: Responding to special educational needs.

There are some attitudinal challenges in inclusive education like, Attitudinal Barriers, Physical Barriers, Inappropriate Curriculum, Untrained Teachers, Inadequate Funding, Poor Organization of the Education System, Policies as Barrier.

Build up for Inclusive education Method which supports Competency-Based Assessment:

Parameters	Traditional Education	Inclusive Education
ENVIRONMENT	Traditional Education has students specific perspective.	Inclusive Education has outcomes-oriented perspective.
	An Traditional Education is one in which you cannot create a culture of all students having full access to everything.	An inclusive Education is one in which you create a culture of all students having full access to everything.
	Responsibility for students is divided (e.g., Students are often referred to as "those kids.")	Responsibility is shared (e.g., Students are often referred to as "our kids.")
	Teachers work in isolation	Teachers collaborate
CURRICULUM INSTRUCTION & ASSESSMENT	Some students (In this table, some students refers to those with special learning needs, such as students with disabilities or English learners.) are separated from peers for instruction.	In general, each student receives instruction with grade-mates.
	Some students can participate in extracurricular activities.	In general, each student can participate in extracurricular activities.
	Data for some students may not be used for accountability and decision making.	Data for all students are used for accountability and decision making.
	Behavior management takes place at the classroom level.	Behavior management takes place at the school-wide level.
	Teachers often base instruction on the needs of typical learners.	A team approach ensures that each student receives the appropriate help when needed.
STAFF DEVELOPMENT	The purpose of professional development activities is to address specific problems (e.g., high dropout rates) rather than to target needed skills.	The purpose of professional development activities is to build capacity by enhancing skills that promote students' access to the general education curriculum.
SUPPORT SERVICES	Clinical staff (e.g., consultant, psychologist, occupational therapist) and support staff are seen as secondary personnel who provide special services.	Clinical and support staff are integral members of the institute's community.
PARENT INVOLVEMENT	There is involvement with Some parents (In this table, some parents refers to those who are more engaged in school activities. Parents of students with special learning needs, such as those with disabilities or English learners, are	There is active involvement with all parents. Staff uses multiple approaches to reach different subsets of parents.

Table-1: Build up for Inclusive education Method
How to Design an Assessment using Competency skills for inclusive education?

To design a Competency-Based Assessment for inclusive education involves a step wise implementation like;

Step 1: Articulate Competencies

Step 2: Develop Evidence of Competencies

Step 3: Build Student-Friendly Rubrics

Step 4: Create the Learning Experience(s)

Step 5: Feedback

D. Conclusion

The Inclusion Education with Competency-based assessment system monitors the development of learner through various competencies like, Knowledge, Skills, decision making, team work, result-oriented way of working, etc.

It progresses an individual from being a novice to an expert, well enough to stay ahead of the curve in today's competitive world.

This paper discusses various CBE based criteria's and applied on one batch of electronics engineering students of TCET.

The various assessment schemes like ISA, SDP, ESD, IE, etc that uses different approaches with various competencies assesses the learners.

It is observed that the competency based evaluation schemes are effective in the development of the competency skills of the learner's compared to the traditional evaluation methods.

Also, In the CBE schemes the participation based competence assessment method found more effective compared with the other assessment schemes that nourishes & highlights the different competency skills of the learner.

To make existing assessment model of TCET more robust & effective certain competencies like student- friendly rubrics, full access to resources for staff and students, learner's participation, staff development, etc need to be included and maintained consistently.

In nutshell, CBE assessments model is the right model to be implemented for assured growth.

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