2018

NATIONAL SEMINAR on ASSESSMENT IN TEACHING LEARNING PROCESS ACROSS DIVERSE CONTEXT– RESEARCH COMPENDIUM

ORGANIZED BY:

Dnyan-Ganga Education Trust's,

College of Education

(B.Ed.)Behind Hypercity Mall,

Ghodbunder Road, Kasar-

Vadavali, Thane (W) 400615

RESEARCH COMPENDIUM

of

National Level Seminar

ASSESSMENT IN TEACHING LEARNING PROCESS ACROSS DIVERSE CONTEXTS

on

24th November, 2018, Saturday

Organized By:

DNYAN-GANGA EDUCATION TRUST'S, COLLEGE OF EDUCATION (B.ED.)

Behind Hypercity Mall, Ghodbunder Road, Kasar-Vadavali, Thane (W) 400615

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FROM THE DESK OF CHAIRMAN

It gives me immense pleasure to acclaim Dnyan Ganga Education Trust's, College of Education (B.Ed.) for organizing National Seminar in college on Assessment in Teaching Learning process across diverse context on 24th November 2018.

I am certain that meaningful deliberations and discussions on *Assessment* during seminar shall definitely provide new sights to all participants, pertaining to classroom teaching and learning process. Apart from seminar discourse, this special issue of seminar in journal form will be research compendium to refer for all academicians and researchers related to all level of education.

My deepest appreciation goes to dynamic Principal of B.Ed. College and also convener of seminar, vibrant and complaisant coordinator of seminar, supportive faculty, supportive non-teaching staff, enthusiastic student – teachers, esteem participants and behind-the-curtain pain takers for the seminar who turned this event into great success. I accolade Editor and publisher of this special issue.

Finally wish Principal and her college team for all their future endeavors.

Prof. B.D. PATIL.

Chairman

Dnyan Ganga Education Trust, Thane.

FROM THE DESK OF DIRECTOR

It is my great pleasure to welcome you all to special issue on national seminar onAssessment in Teaching Learning process across diverse context held on 24th November 2018in Dnyan Ganga Education Trust's, College of Education(B.Ed.).

Over the past eleven years DGET is providing quality education in Thane an upcoming cosmopolitan and vicinity region. DGET always strives to provide professional, well qualified faculty team along with state of the art infrastructure to student. Education college do not rest by providing knowledge and skill to its student teachers but extends its hand to provide placement service. DGET College of Education will continue to produce many professional, prudent, competent and skilled teachers for national service.

National seminar organized by college was one way to impart student teachers to know various aspects of Assessment in teaching learning which they can employ in their profession in coming near future.

The seminar would not have been possible without the enthusiastic and hardworking team constituting of principal as convener, coordinator of seminar, editor of special issuer on seminar, prudent keynote speaker and chairpersons, non-teaching staff, all student teachers and soul of the seminar that is participants.

I congratulate entire team for their success and give best wishes for future ventures.

Mrs. Anita. Patil More

Director,

Dnyan Ganga Education Trust, Thane.

FROM THE DESK OF PRINCIPAL

I am very much delighted to convey my warm greetings to the Trust, Faculty, Staff and the student- teachers of esteemed Dnyan Ganga Education Trust's, College of Education(B.Ed.). Our college imparts futuristic teacher education and instill high pattern of discipline. Education is sweeter and valuable when it promotes the blossoming of natural talent that enriches students to be value enhanced individuals.

Teacher education in India is now in a transformational phase as compared to earlier times. We are in a compelling era where global conditions require conventional practices which make one to change and adapt to suit the present requirements and also address futuristic needs of the school education. The college is committed in enhancing the quality of education and providing practical oriented program.

In order to remain abreast to latest method and techniques of assessment in teaching and learning, college organized National Seminar onAssessment in Teaching Learning process across diverse context on 24th November 2018. I thank Prof. B.D. Patil, Chairman and Ms. Anita Patil, Director of Dnyan Ganga Education Trust from core of my heart for all their support for seminar.

Many faculties and student from various disciplines presented papers on various seminar themes and participated in seminar. There was real good dialogue exchange between chairpersons, paper presenters and participants during technical session creating an erudite environment. This research compendium is compilation of research papers presented in seminar.

I congratulate faculty, staff and student teachers for all their pain staking efforts and success of this seminar.

Dr. (Mrs.) Anjana Rawat, I/C Principal.

DGET's, College of Education (B.Ed.), Thane

MESSAGE FROM COORDINATOR

On behalf of organizing committee of this 2nd National Level Seminar, I extend my gratitude to our Honorable Chairman Prof B. D. Patil, Mrs. Ranjana B. Patil (Trustee of DGET), Ms. Anita Patil (Director of DGET), Our Principal Dr. Mrs. Anjana Rawat, the keynote speaker, our chairpersons, delegates, paper presenters and all the participants of this seminar. It is indeed the dream coming true for us to have venerated personalities amongst us and to listen to the presenters about their views on ever changing world of Education.

Assessment is integral part of teaching learning process, as it determines whether or not the goal of education is being met. Assessment affects the decisions about grades, placement, advancement, instructional needs, and curriculum and in some cases funding. Assessment inspires us not only thinking about our teaching learning students but also discerns us better ways of teaching which encourages better learning. Today's students need to know not only the basic reading and arithmetics kills, but also skills that will allow them to face a world that is continually changing. They must be able to think critically, to analyze and to make inferences. Change in the skills base and knowledge our students need require new learning goals; these new learning goals change the relationship between assessment and instruction. Teacher need to take active role in making decisions about the purpose of assessment and the content that is being assessed. Therefore it was decided to organize seminar on Assessment in teaching and learning.

National seminar was a great platform to know more about the theme by eminent key note speaker Dr,Vijay Dhamane, Tilak College of Education, Pune ,Dr. Jayesh Jadhav, Chembur Sarvankash Shikshanshastra Mahavidyalaya, Chembur, Mumbai and Mrs Sunita Britto Mudshingikar for sharing their views on the theme

The motive not only is to generate discussion around contemporary issues on Assessment in teaching and Learning, but also to propel the culture of academic exchange which is only way to achieve excellence in this field. I would be happy to welcome you all the next year too with more versatility in approach and wish.

Mrs. Savita Upasani, Asst. Prof.

DGET's, College of Education (B.Ed.), Thane.

THE EDITORIAL

I am glad to introduce special issue of Scholarly Research Journal for Interdisciplinary Studies on National Level Seminar –*Assessment in Teaching Learning process across diverse context*organized for very first time by Dnyan Ganga Education Trust's, College of Education (B. Ed.), Thane.

The seminar aimed at bringing together all stakeholders like research scholars, college and school principals, teacher educators, college professors, school teachers, assessors from all faculties and student-teachers for sharing and exploring various facets of assessment.

The seminar was successful endeavor of college. Papers on seminar themes were presented. Theme wise sessions were chaired in professional and efficient way by chairpersons who were selected for their vast contribution in the subject.

This special issue shall be permanent record of paper presented in the seminar. They indicate the state of development in area of assessment in teaching and learning and will be invaluable to all stakeholders in the field of education for that reason.

Finally, it is highly appropriate to express heartfelt thanks to Prof. B.D. Patil, Chairman and Ms. Anita Patil, Director of Dnyan Ganga Education Trust for being our backbone throughout this venture, Dr.Mrs. Anjana Rawat, Principal for her able guidance and leadership, all faculty members, non-teaching staff and student teachers of Dnyan Ganga Education Trust's,College of Education for all possible support extended directly and indirectly. We are also appreciative to Dr. Vijay Dhamane who delivered excellent talk as keynote speaker, Dr. JayeshJadhav and Mrs. SunitaMudshingikarwho served as chairpersons, without their expertise the seminar could not have been the success that it was. We also acknowledge the authors, without whose expert input there would have been no seminar.

I also recognize the important association of Dr. Yashpal Netragaonkar, Editor of Scholarly Research Journals by publishing seminar papers in international, peer reviewed and UGC approved journal with high impact factor journal.

Editor –in – Chief

Mr. Ketan Kamble, Assistant Professor

Dnyan Ganga Education Trust's, College of Education (B. Ed.), Thane.

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ASSESSMENT TYPES AND STRATEGIES

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Abstract

Interest in alternative types of assessment has grown rapidly during the 1990s, both as a response to dissatisfaction with multiple-choice and other selected-response tests and as an element in a systemic strategy to improve student outcomes. Alternative assessments range from written essays to hands-on performance tasks to cumulative portfolios of diverse work products. This paper describes four types of alternative assessment that might meet the needs of vocational educators and summarizes assessments in use in the cases selected for study. The paper concludes with a brief discussion of the advantages and disadvantages of different types of assessment.

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INTRODUCTION:

The most familiar form of assessment is one in which the test-taker is asked to select each response from a set of specified alternatives. Because the test-taker chooses an option rather than creating an answer from scratch, such an assessment is called a selected-response assessment. Such assessments include multiple-choice, matching, and true-false tests. Alternatively, an assessment can require a student to develop his or her own answer in response to a stimulus, or prompt. An assessment of this form, such as one that requires an essay or a solution to a mathematical problem, is called a constructed-response assessment. Neither the prompts nor the responses need be written, however. Responses commonly include any form whose quality can be judged accurately, from live performances to accumulated work products. For this reason, constructed-response assessments are also called performance assessments. In our study, we also used the less technical term alternative assessment as a synonym for both of these terms.

A major distinguishing feature of all constructed-response assessments is that humans must score the responses. Someone must review each answer (be it an essay, performance, project, or portfolio), compare it to a standard, and decide whether it is acceptable. Human scoring is slower and more expensive than machine scoring. Furthermore, as the answers grow more complex, the scoring judgments are more difficult and subject to greater error.

There are a variety of ways to classify assessments (Hill and Larson, 1992; Herman, Aschbacher, and Winters, 1992). In fact, since the range of constructed-response types and situations is limitless and more formats are being developed all the time, it is unlikely that there will be a single best system of classification. There are four major categories of assessment strategies: written assessments, performance tasks, senior projects, and portfolios. As Table 1 shows, the written assessment category includes both selected- and constructed-response assessments, whereas the other three categories involve only constructed-response assessment

The classification system is based primarily on format—how the questions are presented and how responses are produced. However, selected-response and constructed-response assessments differ in many other ways, including the complexity of their development, administration, and scoring; the time demands they place on students and teachers; their cost; and the cognitive demands they make on students.

Table 1:Broad Categories of Assessment

Category	Response Type	
	Selected	Constructed
Written assessments		
Multiple choice, true-false, matching	*	
Open ended		*
Essay, problem based, scenario		*
Performance tasks		*
Senior projects (research paper, project, oral presentation)		*
Portfolios		*

Written Assessments

Written assessments are activities in which the student selects or composes a response to a prompt. In most cases, the prompt consists of printed materials (a brief question, a collection of historical documents, graphic or tabular material, or a combination of these). However, it may also be an object, an event, or an experience. Student responses are usually produced "on demand," i.e., the respondent does the writing at a specified time and within a fixed amount of time. These constraints contribute to standardization of testing conditions, which increases the comparability of results across students or groups.

Rahn et al. (1995) distinguish three types of written assessment, one of which involves selected responses and two of which involve constructed responses. The first type is multiple-

choice tests,which are commonly used for gathering information about knowledge of facts or the ability to perform specific operations (as in arithmetic).

Multiple-choice tests are quite efficient. Students answer numerous questions in a small amount of time. With the advent of optical mark sensors, responses can be scored and reported extremely quickly and inexpensively. Such tests provide an efficient means of gathering information about a wide range of knowledge and skills. Multiple choice tests are not restricted to factual knowledge; they can also be used to measure many kinds of higher-order thinking and problem solving skills. However, considerable skill is required to develop test items that measure analysis, evaluation, and other higher cognitive skills

The other two types of written assessment both involve constructed responses. The first consists of open-ended questions requiring short written answers. The required answer might be a word or phrase (such as the name of a particular piece of equipment), a sentence or two (such as a description of the steps in a specific procedure), or a longer written response (such as an explanation of how to apply particular knowledge or skills to a situation). In the simplest case, short-answer questions make very limited cognitive demands, asking students to produce specific knowledge or facts. In other cases, open-ended assessments can be used to test more complex reasoning, such as logical thinking, interpretation, or analysis.

The second type of constructed-response written assessment includes essays, problem-based examinations, and scenarios. These items are like open-ended questions, except that they typically extend the demands made on students to include more complex situations, more difficult reasoning, and higher levels of understanding. Essays are familiar to most educators; they are lengthy written responses that can be scored in terms of content and/or conventions. Problem-based examinations include mathematical word problems and more open-ended challenges based on real-life situations that require students to apply their knowledge and skills to new settings. Scenarios are similar to problem based examinations, but the setting is described in greater detail and the problem may be less well formed, calling for greater creativity.

Performance Tasks

Performance tasks are hands-on activities that require students to demonstrate their ability to perform certain actions. This category of assessment covers an extremely wide range of behaviors, including designing products or experiments, gathering information, tabulating and analyzing data, interpreting results, and preparing reports or presentations. In the

vocational context, performance tasks might include diagnosing a patient's condition based on a case study, planning and preparing a nutritionally balanced meal for vegetarian or identifying computer problems in an office and fixing them. Performance tasks are particularly attractive to vocational educators because they can be used to simulate real occupational settings and demands.

The skills that must be demonstrated in performance tasks can vary considerably. Some tasks may demand that a student demonstrate his or her abilities in a straightforward way, much as was practiced in class (e.g., adjusting the spark plug gap). Other tasks may present situations demanding that a student determine how to apply his or her learning in an unfamiliar context (e.g., figuring out what is causing an engine to run roughly). Teachers participating in the skill based certification process must respond to unanticipated instructional challenges presented during a day-long series of assessment exercises.

As assessments become more open ended and student responses become more complex, scoring grows more difficult. A variety of methods have been developed to score complex student performances, including both holistic and analytic approaches. In some cases, students are assessed directly on their performance; in other cases, assessment is based on a final product or oral presentation. Using interdisciplinary performance events, students work together in groups on open-ended activities and then produce individual products. The group work is not judged, just the individual responses.

Traditionally, vocational educators have relied on performance based assessment strategies to judge student mastery of job-specific skills. For example, an automotives teacher judges whether a student can change the oil of a car by asking him or her to perform the task. However, other strategies may be required if that teacher wants to assess a student's ability to understand the technical principles underlying an automotive engine

Recently, researchers have developed performance tasks that can be administered and scored by computer. Such computer-based performance assessment systems are in the experimental stage, but the results of recent research are promising. Vocational educators may be able to add computer-based tools to their list of assessment alternatives in the not too distant future.

Two types of computerized assessment tools deserve attention. First, computers are being used to simulate interactive, real-world problems. For example, O'Neil, Allred, and Dennis (1992) developed a simulation of negotiation skills in which students interact with a computer as if they were negotiating with another individual. The researchers found strong

evidence that the simulation provided a valid measure of interpersonal negotiation skills within the workplace context. It is easy to imagine other occupational skills that might be assessed using computer simulations. Second, expert computer systems are being developed that can review and score constructed responses. For example, Bennett and Sebrechts (1996) developed a computer system that scored student responses to algebra word problems. This system was as accurate as human judges in determining the correctness or incorrectness of student responses, although it was less effective in classifying student errors. Similar prototype systems have been used to score answers to programming problems, to analyze architectural design problems, and to identify student misconceptions in subtraction (Bennett and Sebrechts, 1996).

Although these results are encouraging, it will take considerable time before computer-based assessment tools are widely available. None of the cases we studied used computer-based assessments, and, with the exception of this brief look at the topic, we did not include them in our analyses. If this study were re-conducted five years from now, we would expect much more attention to be given to these alternatives. `

Senior Projects

Senior projects are distinct from written assessments and performance tasks because they are cumulative, i.e., they reflect work done over an extended period rather than in response to a particular prompt. The term senior project is used here to identify a particular type of culminating event in which students draw upon the skills they have developed over time. It has three components: a research paper, a product or activity, and an oral presentation, all associated with a single career-related theme or topic. The format is designed to be motivating, to permit involvement of people from business or community, and to encourage integration of academic and vocational ideas. For this reason, the process of implementing senior projects in a school often involves collaboration between teachers in many subjects who agree to guide the student's selection and accept the work for credit in more than one course. All three components of a senior project are organized around a single subject or theme. To complete the research paper, the student must conduct research about aspects of the subject he or she has not previously studied. The student draws upon library and other resources and produces a formal written paper. The student then creates a product or conducts an activity relevant to the subject. This might include making something or doing community volunteer work for an extended period and documenting it. The purpose is to demonstrate

knowledge or skills relevant to the subject. Finally, the student presents his or her work orally to a committee or at a public forum.

The length and complexity of the senior project make evaluation difficult. Schools that have implemented this type of assessment have spent a fair amount of time deciding how to judge the quality of the various elements. Their scoring guides reflect concerns about content, technical knowledge, organization and time management, the extension of knowledge outside traditional school domains, communication skills, and even appearance (Rahn et al., 1995, p. U3-12). These all involve subjective judgments, so great care must be taken to ensure that scores are accurate and meaningful.

Portfolios

Like a senior project, a portfolio is a cumulative assessment that represents a student's work and documents his or her performance. However, whereas a senior project focuses on a single theme, a portfolio may contain any of the forms of assessments described above plus additional materials such as work samples, official records, and student-written information. For example, students not only provide an artifact (or evidence of one if it is not portable) but give a class presentation that is evaluated as part of their project. Records may include transcripts, certificates, grades, recommendations, resumes, and journals. Portfolios also often contain a letter of introduction to the reader from the student explaining why each piece has been included. They may contain career development materials, letters from supervisors or employers, completed job applications, test results, and samples of work products. The contents may reflect academic accomplishment, industrial or career-related accomplishments, and personal skills. Some portfolios are designed to represent the student's best work, others are designed to show how the student's work has evolved over time, and still others are comprehensive repositories for the entire student's work. The portfolio is built around a selection of the student's best work. . Portfolios present major scoring problems because each student includes different pieces. This variation makes it difficult to develop scoring criteria that can be applied consistently from one piece to the next and from one portfolio to the next. States that have begun to use portfolios on a large scale have had difficulty achieving acceptable quality in their scoring (Stecher and Herman, 1997), but they are making progress in this direction. One approach is to set guidelines for the contents of the portfolios so that they all contain similar components. Specific learner outcomes can be identified for each

component and then techniques can be developed for assessing student performance in terms of these outcomes

COMPARING SELECTED-RESPONSE AND ALTERNATIVE ASSESSMENTS

For decades, selected-response tests (multiple-choice, matching, and true-false) have been the preferred technique for measuring student achievement, particularly in large-scale testing programs. In one form or another, selected-response measures have been used on a large scale for seventy-five years. Psychometricians have developed an extensive theory of multiple-choice testing, and test developers have accumulated a wealth of practical expertise with this form of assessment. Nevertheless, there are limitations to using multiple-choice and other selected-response measures. First, these traditional forms of assessment may not measure certain kinds of knowledge and skills effectively. For example, it is difficult to measure writing ability with a multiple-choice test. Similarly, a teacher using cooperative learning arrangements in a classroom may find that selected-response measures cannot address many of the learning outcomes that are part of the unit, including teamwork, strategic planning, and oral communication skills. In these cases, multiple-choice tests can only provide indirect measures of the desired skills or abilities (e.g., knowledge of subject-verb agreement, capitalization, and punctuation, and the ability to recognize errors in text may serve as surrogates for a direct writing task). Users of the test results must make an inference from the score to the desired domain of performance.

Second, when used in high-stakes assessment programs, multiple-choice tests can have adverse effects on curriculum and instruction. Many standardized multiple-choice tests are designed to provide information about specific academic skills and knowledge. When teachers focus on raising test scores, they may emphasize drill, practice, and memorization without regard to the students' ability to transfer or integrate this knowledge. Instruction may focus on narrow content and skills instead of broader areas, such as critical thinking and problem solving (Miller and Legg, 1993). In addition, many think multiple-choice tests emphasize the wrong behaviors given that few people are faced with multiple-choice situations in their home or work lives (Wiggins, 1989).

Table 2: Features of Selected- and Constructed-Response Measures

	Selected Response			Constructed Response		
	Rarely	Sometimes	Usually	Rarely	Sometimes	Usually
Easy to develop			*	*		
Easy to administer			*		*	
Easy to score			*	*		
Similar to real world in performance demands ("authentic")	*					*
Efficient (requires limited time)			*	*		
Credible to stakeholders			*		*	
Embodies desired learning activities	*					*
Sound basis for determining quality of scores			*		*	
Effective for factual knowledge			*			*
Effective for complex cognitive skills (e.g., problem solving		*				*

CONCLUSION

During the past few years, constructed-response assessment approaches have gained popularity as tools for classroom assessment and large-scale use. Proponents of alternative forms of assessment believe they will alleviate some of the problems presented by multiple-choice tests. It is easier to measure a broader range of skills and ability using constructed-response approaches than selected response approaches. To measure writing ability, one asks students to write; to test oral communication, one has students give oral reports. In addition, alternative assessments permit the use of complex, realistic problems instead of the narrow or decontextualized problems that appear on many multiple-choice tests. Because of this, teaching to alternative assessments is desirable, because good test preparation will be good instruction However, alternative assessments are not without problems. In fact, they may have many of the same flaws cited for multiple-choice tests. Critics argue that poorly designed alternative assessments can also be very narrow, so that teaching to them may also be undesirable. For example, mathematics portfolios may overemphasize "writing about mathematics" at the expense of learning mathematical procedures. In addition, alternative assessments have practical problems, including high cost, administrative complexity, low technical quality, and questionable legal defensibility (Mehrens, 1992). These flaws are of

greatest concern when assessments are used to certify individuals for work or to reward or sanction people or systems.

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TECHNOLOGICAL AND PSYCHOMETRIC INNOVATIONS IN ASSESSMENT

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Introduction: Assessment sits at the heart of the learning process, as it provides observable evidence of learning, determines student progress and demonstrates understanding of the curriculum. More broadly, it could be said that an institution, culture, or society depicts its conceptualization of learning and ideal future citizens by how it creates and uses assessment. Recently, many scholars in the field have been warning that current assessment practices have forgotten their core purpose: to support learning. Rather, assessment is often seen to be preoccupied with qualifications and narrow achievements, and critiques of current assessment systems abound, from both scholars and dissatisfied students (Schwartz and Arena, 2009; Attwood and Radnofsky, 2007; Broadfoot, 2007; Gee and Shaffer, 2010). These critiques have propelled an imperative for reform, which is backed by a growing understanding of what constitutes effective feedback and how to track and measure learning.

A number of developments in learning sciences have contributed to a deeper understanding of the relationship between feedback processes and effective learning (Whitelock and Watt, 2008; JISC, 2010). Such developments have particularly acknowledged the importance of learner self-regulation and peer-assessment in deeper engagement and effective learning (Nicol and Macfarlane-Dick, 2006; Sadler, 2010).

'There is an interesting and powerful confluence among theory, research, technology, and practice, especially when it comes to the integration of curriculum, instruction, and assessment'. The increasing influence of digital worlds means that young people are seen to be taking on new participatory and collaborative roles in learning online and outside the classroom, and there is a growing interest in incorporating these roles and practices inside education. Combine this with an unswerving enthusiasm from many in politics and education about the transformative potential of 'e-learning' and it's unsurprising that the use of technology for purposes of assessment – commonly known as 'e-assessment' or more recently

technology enhanced assessment (TEA) – is under pressure to help facilitate assessment reform.

Current scope of 'technology enhanced assessment'

Technology enhanced assessment is often simply associated with on-screen testing or automated marking and responses to student tests (often known as 'computer-assisted assessment' or CAA). Indeed, the most commonly used and technically developed form is onscreen testing, most of which uses multiple choice questions (MCQ's) and automated marking. Seen as efficient and increasingly reliable, on-screen testing has existed in professional environments for many years and has begun to appear in the education sector over the last decade (Winkley, 2010). This presence is mostly felt in the FE and HE sectors; despite the hopes outlined in the 2004 QCA blueprint, on-screen testing is still not commonly used for GCSE's or A-levels exams in the UK. Though rarer, there are also other types of on-screen assessment tools that demonstrate a wider range of learning and feedback than standardized MCQ's and involve interactive or rich media elements (Winkley, 2010).

Computer-based testing is only one area of technology-enhanced assessment. While these early tools remain highly visible, new practices are expanding both the use and purpose of technology enhanced assessment that include management and processing of results, learning analytics, and tools that enable instant formative feedback and collaboration on feedback processes (Beevers et al, 2011). Many of these align with the recognition that feedback and assessment should become more deeply embedded within the teaching and learning process (Whitelock and Warburton, 2011; Pellegrino and Quellmalz, 2010).

Similar tools can be used for measuring more complex thinking skills and learning processes, such as immersive learning environments like simulations and serious games, Web 2.0 tools, use of mobile and handheld devices, learning portfolios and electronic voting systems or learner response units (particularly found in HE) (Pellegrino &Quellmalz, 2010). Web 2.0 tools also provide opportunities for collaboration and new forms of connectivity and communication in the teaching and learning processes though the demonstration of their use is not yet wide-ranging in the literature. These tools can be seen to have contributed to some shifts in assessment that combine formative and summative purposes, such as use of portfolios to track learning, an increase in self and peer assessment and more assessment of group work and performance (Whitelock, 2010).

Finally, technology enhanced assessment practices have not tended to be spread evenly across subjects or levels of education. Historically focused on subjects with 'questions with well defined answers' such as maths and science, technology enhanced assessment's breadth and scope across subjects is also now increasing (Whitelock and Watt 2008). Additionally, much of the research identified in this review focused on higher education environments and seemed to suggest that HE is currently where technology enhanced assessment uptake or innovative practice happens more regularly than in school environments.

Using digital technologies for different types of assessment

Research has shown that formative assessment (or assessment for learning), as distinct from summative assessment (or assessment of learning), is a powerful tool that benefits learning and student achievement (Black and Wiliam, 1998; Nicol and Macfarlane-Dick, 2006; Sadler, 1989). Nicol and Macfarlane-Dick (2006) developed further ideas about the importance of 'self-regulated learning,' which identified an important role for students in their own assessment. However, even as evidence grows on the benefits of feedback through formative assessment and more teachers employ these methods, it still remains in the shadow of high stakes summative assessment's level of influence and unshakeable prioritization on national and international stages.

Both formative and summative assessment is deeply embedded within current educational systems. Recognizing that both types serve distinct educational purposes, it is also important to note they are not necessarily exclusive processes and are often intertwined in teaching and learning activities. Technology enhanced assessment may offer some alternatives to suggestions that these types of assessment may be coordinated to provide more useful feedback (e.g., using summative assessment for formative purposes) (Black and Wiliam, 2009). Technology enhanced assessment has been used for both summative and formative assessment activities, though it is particularly suitable for formative assessment purposes, as it provides mechanisms for sharing immediate feedback, diagnosing and testing skills and knowledge, peer- and self-assessment, as well as offering private and non-judgmental feedback.

It is important to consider both types of assessment in the discussion on digital technology's potential to support changes in assessment innovation and reform, particularly in how the risks and complexities of change differ for each (Winkley, 2010). Digital technologies may appear to offer more potential to formative assessment because innovation within this

purpose attracts less scrutiny and seems less risky. The use of digital technologies for summative assessment purposes is less straightforward, as changes to more standardized assessments face a number of constraints. However, recent projects and initiatives attempting to merge formative assessment within multi-level summative assessment processes are emerging (See section 7.2).

What do digital technologies offer assessment? The good and the bad

The possible benefits that digital technologies offer to learning and specifically to assessment are well documented. Becoming equally apparent are the challenges and threats that they may also bring. This is particularly the case with their use in assessment, which relies upon the collection and analysis of data, plays a critical role in determining learners' futures and raises a number of ethical issues. This section briefly outlines both the possible benefits and dangers associated with the use of digital technologies, though some of these areas will be investigated again in more detail in subsequent sections of the paper.

A list of possible affordances or benefits that technology may offer assessment is outlined below, as amalgamated from a number of sources (JISC, 2010; Pellegrino &Quellmalz, 2010; Winkley, 2010; Schwartz and Arena, 2009; Angus and Watson, 2009; Whitelock and Watt, 2008; Whitelock et al, 2006). Assessment with the use of digital technologies has been seen to:Provide immediate feedback – Can offer 'real-time', learner-led feedback that diagnoses and reduces misconceptions quickly (e.g., multiple choice questions in a lecture) and provides more opportunities to act on feedback from a range of audiences (teacher, peers, or large community via blog or web site). This can also lead to useful and new forms of teacher and learner dialogue, improvements of the assessment experience and increased student engagement.

Potentially increase learners' autonomy, agency and self-regulation – Could support more personalized responses to work and progress and can facilitate self-evaluative and self-regulated learning through diverse collections of evidence, immediate formative feedback, better tracking of progress to learning outcomes and reflection on achievements. The visualization of data is particularly relevant here.

Support for collaborative learning – Offers opportunities for peer assessment, undertaking and tracking knowledge building and sharing activities, co-evaluation and social interaction.

Provide authenticity – Could present challenging problems and ways to assess complex skills like problem-solving, decision making, and testing hypotheses, which is argued to be more

authentic to future work experiences and what skills and knowledge will be required after formal education.

Widen range of measurement – Via the ability to create and visualize complex data sets and models that consider multiple factors, digital technologies can elicit and measure multi-faceted skills, sets of knowledge and cognitive processes that have previously been difficult to assess. For example, simulations can simultaneously measure technical computer skills, decision-making and strategy processes as well as subject specific skills like scientific enquiry. These also include tracking cognitive processes that can be developed into patterns showing levels of expertise.

Flexible and appropriate responses – May offer choice in approach, format and timing of assessment for students, who can access assessment at a time and place of their own choosing, with no constraints due to time or location. Additionally, digital tools like simulations provide multiple modalities and could offer more accessible assessment than text-based tests for students with varied learning styles or language backgrounds. Regular feedback can also make students feel less anonymous and more personally connected to their learning and courses, particularly in HE settings. These possibilities can also challenge traditional methods of assessment and require a rethink of old practices.

Increase efficiency and reduce teachers' workloads – Potentially improves efficiency of data management such as marking, moderating and storing information by helping teachers use their time and resources better; offers more environmentally friendly administration of assessment. Improve student performance- Evaluations show that e-feedback can improve student performance and demonstrates other benefits, such as better student engagement (see Whitelock and Watt, 2008; Angus and Watson, 2009).

Integrate formative and summative assessments – Summative assessments tend to be retrospective, in that they test knowledge previously acquired without leaving an opportunity for ongoing learning. Digital technologies can integrate assessment and instruction, as in immersive learning environments or programmes that monitor how students solve problems on the computer and provide immediate feedback.

Improve assessment validity and reliability – Can help track assessment validity (if the activity is a fair measure of skill and understanding) through use of rich media rather than just text. Also provides improvements in reliability of scoring and robust data sets for deeper analysis.

Of course these affordances do not guarantee benefits, and a look at the possibilities technologies offer to assessment must also consider some of the more concerning issues and outcomes. Many of the possibilities offered by technology are tempered by the practical or educational difficulties of implementing them to a high level of effectiveness. For example, successful use of computer-assisted assessment for multiple choice testing involves significant institutional commitment, technical infrastructure, and high levels of quality assurance practices.

There has also been an increasing awareness of challenges and threats presented by the growing use of digitized information and data for education and assessment, despite common assumptions that collecting and measuring data is a good thing and automatically leads to objectively determined and deeper understandings.

Barriers and enablers in technology enhanced assessment adoption

A significant body of literature outlines the challenges related to educational reform and innovation, and a similarly robust set of research has outlined why successfully harnessing or exploiting the potential of technology can be difficult. Innovation in assessment is a delicate matter whether technology is involved or not, and it is seen to be particularly risky in the area of summative assessment, which is publicly accountable, heavily controlled and has important consequences on the cohort of students undergoing assessment. The obstacles specific to the wider adoption or spread of technology enhanced assessment in particular have been documented by many scholars, and are briefly mentioned here:

Potential barriers to the adoption of technology enhanced assessment practices:

Practitioner concerns about plagiarism detection and invigilation issues

Difficulties in scalability and transferability of practices, particularly in HE when different departments often have autonomous, separate working practices and cultures

Concerns over reliability and validity of high-stakes assessment (such as how to ensure all students receive equivalent tests if questions are selected at random from a question bank)

User identity verification and security issues

Lack of staff time and training for rethinking assessment strategies and how to use new technologies, from a technological and pedagogical perspective

Cost of investment - Implementing new technology systems requires significant investment in training, support and interoperability. Additionally, some tools require large capital

investment and infrastructure that many institutions do not want to prioritize (e.g. having enough computers for those taking exams for on-screen testing)

Exam boards are highly concerned with ensuring standards are not affected

Lack of policy leadership and system-wide imperatives

Constraints within the exam system, particularly in secondary and FE sectors

Lack of suitable physical spaces for technology enhanced assessment, which have not developed for the needs and purposes of technology enhanced assessment

Despite the large number of challenges facing those promoting technology enhanced assessment, other studies have identified characteristics of projects and implementation that have enabled successful implementation and engagement. Many educational innovations using technology have thrilled with potential and disappointed in reality. This and the deep entrenchment of the current assessment system may encourage a gloomy outlook when considering the potential for digital technologies to help reform current assessment processes. However, such a track record should not discourage a deeper look at the possibilities such tools offer for assessment.

Conclusions : These educational challenges seem daunting but also present a prime opportunity to consider how to develop an assessment system that responds to these changes and reflects broader educational goals. In other words, nearly everything.' While it is clear that technology has the potential to be a force for change across a spectrum of optimistic and challenging responses related to assessment, perhaps its most effective role is as a prompt to rethink the way assessment happens now and in the future.

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A GLIMPSE ON CURRENT TRENDS IN WORLDWIDE EVALUATION SYSTEM IN EDUCATION

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Abstract

This paper tries to describe relatively current worldwide trends within educational evaluation system. It is obvious that evaluation and assessment are progressively being regarded as devices of change, administering quality improvement in education, responsibility, institutional planning and policy making within educational framework. At the present time, countries are developing more inclusive evaluation and assessment structure, giving more stress on scholastic measurement, giving increasing importance to responsibility for using of results, and depending increasingly on set of educational standards. The paper reviews the related factors giving shape to the development of evaluation and assessment in educational systems. Evaluation and assessment have achieved momentum as a result of increasing levels of school devolution, a strong corporate-type mechanisms in education, the rise of New School Management, the growing command of an effective implementation of public assets, the urgency to concentrate upon "quality for all" and the increasing significance of education world-wide.

***Key Words**:Four AssessmentTrends**,** Digital assessment, Multiple Measures, Growth and Current Status, andDifferentiating Roles.*

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What is Evaluation?

The word Evaluation derived from French evaluation, noun of action from évaluer "to find the value of," from Latin valere "be strong, be well; be of value, be worth". www.etymonline.com

According to Vedung (1997) "Evaluation is a careful retrospective assessment of the merit, worth and value of administration, output and outcome of government intervention, which is intended to play a role in future practical situations." In the words of ASEAN Australia Development Cooperation Program, "The assessment of how well a project/activity achieved its objectives. Ongoing evaluation (during project implementation) is referred to as 'review' and is linked closely with monitoring." From these definitions, it signifies that evaluation embraces vast area from judging any individual to scrutinize any activity to ascertain the accountability of respective objectives. It is to protect or facilitate the interests of all the

stakeholders involving in the process of evaluation which is obviously revolves around some predetermined set of rules. Hence the main aim of this paper is to answer the following questions:-

Why do we evaluate?

To evaluate the evaluation function.

To get acquainted with the status of the evaluation strategies worldwide.

How to Evaluate?

Evaluation culture: a new approach to learning and change.

Democratic approach to evaluation.

Assessing and Addressing Students' Skills and Weaknesses.

Where is evaluation theory now?

From the brief summary of the previous paragraphs, it is crystal clear, "The field of evaluation practice has diversified, evaluators have a more diverse set of tools to tackle evaluations, and the days of the one-type-fits-all approach to evaluation are past. Moreover the role of the evaluator, as well as other variables, changes according to the evaluation approach. However the "paradigm war" is, nowadays, still open and the debate has not yet been settled." Federica Calidoni-Lundberg, ITPS Östersund, Sweden.

Current Trends in Evaluation world-wide.

The NZQA(the New Zealand Qualifications Framework (NZQF)) website expresses a number of illustrations of assessment approaches in which they differentiate between 'task assessment' and 'evidence assessment'. NZQA have also identified that the growing access to and implementation of digital technologies by students adopts significant ways for evaluating in different manners. Digital assessment is defined by NZQA on their website as "the use of technology for assessment purposes rather than the traditional pen and paper". The use of technology for teaching and learning programmes in New Zealand schools is on the increase and NZQA has developed a digital assessment programme as a response. **Canadian educational researcher** and blogger, Stephen Downes, "We need to be focusing more on measuring what learners contribute rather than what they collect. Today's students leave lots of data trails - from demographic information, to how they read and highlight e-books and interact online. The greater use of analytics tools to capture and process this data may provide even greater opportunities to tailor next-steps suggestions for learners, and to

understand where the difficulties are occurring so that we can address them in our planning and teaching."

In its historical roots, the concentration on assessment has been summative to check what the learner can demonstrate or what he or she has acquired through the teaching-learning procedures. There is a saying in education that "the pedagogy of assessment drives the pedagogy of instruction", meaning that the main aim is on what is being evaluated will occasionally drive what and how we teach. Over the next few years there will be scopes for schools to allow the students to complete summative assessments using the digital assessment techniques as they come on stream.

President Obama's signature education grant program Race to the Top has brought significant changes to the US education system. Race to the Top centres on four major reforms designed to dramatically improve the way school systems function:

Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy

Building data systems that measure student growth and success and informing teachers and principals about how they can improve instruction

Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most

Turning around our lowest-achieving schools.

It will facilitate the structure needed to revolutionize the American education system to be one that leads in international benchmarking assessment results such as the Programme for International Student Assessment (PISA), rather than one that continues to stagnate. Under Race to the Top, the concept of next-generation assessment systems fundamentally changes the way schools and government agencies view and utilize assessments. There are four trends that occur as the nation moves to next-generation assessment systems.

1. Using Multiple Measures

One shift in thought demands that multiple forms of assessment become an integral part of the learning process. Assessment systems designed to include formative, interim, and summative components, along with technological innovations to evaluate more complex applications of learning, are being embraced by states and local school districts. Next-generation assessments have gained tremendous popularity in the blended classroom technology because they provide teachers with resources to benefit the formative assessment

process. The policy group Formative Assessment for Students and Teachers (FAST) has created the State Collaborative on Assessment and Student Standards (SCASS).

2. Increasing the Use of Technology

Each consortium leverages the use of technology to deliver computer-based assessments that evaluate a broader range of knowledge and skills at a deeper level as defined by the rigorous Common Core State Standards (CCSS). The computer-based assessments can also deliver more timely results. Educators utilize tools, such as Webb's Depth of Knowledge (DOK), to understand the cognitive demands of the standards and assist them in designing the most beneficial learning activities and assessment tasks. In Webb's DOK tasks increase in complexity at each level, moving from basic fact recall in Level 1 up through synthesis and application of information in Level 4. This requires students to become more thoughtful and creative when applying their knowledge. Dr. Jim Pelligrino, a member of the Technical Advisory Committees for both consortia, states, "Much of what is new, different, and important in the Common Core State Standards cannot be adequately assessed by conventional methods, items, and measurement models." The complexity of the standards pushes the item-development process to evidence-centered design (ECD). Students successfully completing items based on ECD demonstrate competency in critical thinking—a key indicator of college and career readiness.

3. Focusing on Growth and Current Status

However, as part of the commitment to Race to the Top, states have expanded how educator effectiveness is measured beyond the summative test. Part of the new system is to include more emphasis on the professional practice of education and multiple assessment points as evidence of student growth.

Value-Added Models (VAM) — There are many ways to construct VAMs, but they typically rely on two or more years' data from state assessments administered in consecutive grades. Two states that are currently working to implement VAMs are New York and Colorado.

Student Learning Objectives (SLO) — An SLO is a process in which teachers and principals set a specific learning goal and a specific measure of student learning used to track progress toward that goal. Progress can be measured in different ways: an end-of-course exam given by teachers, a portfolio of student work, or even a state test. There is great variation in how states implement SLOs as part of the evaluation process. Some states

develop SLOs based on teams of teachers or grade levels or utilize schoolwide SLOs. Other states require individual teachers to develop SLOS, including Ohio, Georgia and Rhode Island.

4. Differentiating Roles

The synergy between components of next-generation assessment systems is rooted in the clear delineation of roles and responsibilities of the government in order to reach desired goals.

Federal Role — To enact legislation and provide funding

State Role — To develop a plan and build the infrastructure to meet reform efforts in partnership with local education agencies

Local Role— To develop a plan and provide guidance to:

Implement standards

Provide resources (curriculum, technology, professional development, etc.)

Set expectations for learning

If you are interested in learning more about the roles of the different levels of government in education, this policy statement from the National Governor's Association is a great resource. Race to the Top and its four major reforms have shaken up the educational landscape in USA in a big way. Amidst the political upheaval around standards and assessments, policymakers are keenly aware that excellence in education is fuelled by raising expectations and working toward common goals. With that in mind, the most important thing for educators to do is stay informed. Utilize these resources to familiarize oneself with standards, assessment practices, and emerging technology, and then navigating the Race to the Top transitions will be a successful experience.

According to Nirmal Singh, (December 2017), in India the schools are adopting following technologies for evaluation:-

Adaptive Learning through Artificial Intelligence- Artificial intelligence-based assessment provides constant feedback to teachers, students and parents about how the student learns, the support they need and the progress they are making towards their learning goals.

Learning Analytics: The emergence of Little Data- It is often said, "What gets measured is what gets done". The focus is shifting from big data to 'little' data. Little data is personal activity data which when analyzed by intelligent systems, is able to provide key insights into

the way students learn. It may well become an important source of information and insight for decision-making for educators.

Virtual and Augmented Reality- Educators, who earlier had print or digital images/animations for teaching support, now can leverage these high-fidelity educational experiences to achieve better learning outcomes.

Remote Proctored Assessments- They work across multiple platforms (mobile included) and offer detailed interactive dashboards to analyse performance from various aspects. The ability to store historical assessment data and compare progress over time can be used to establish a trend and also draw inferences on the learners' progress in the context of learning. Online testing also brings in the benefits of anytime testing, remote proctoring, real-time audio-video integration and also more personalized testing.

Gamification in Learning: Hackathons in Learning- Instead of traditional education methods like step-by-step or rote learning, using video games and incorporating other game elements in education can motivate students to understand better and do well in their exams. Compared to the traditional classroom learning set up, gamification cuts down boredom and increases the overall productivity. Here, students are made to work in teams, collaborate and get connected to many learners in the same virtual space. Evaluation is also done through video games on different difficulty levels.

Conclusion- In this century, evaluation has become more of an independent stream that has struck a deep root in many disciplines and turns out to be a useful device for understanding and implementing learning objectives, performance assessment, and institutional performance and so on. Notwithstanding the large amount of theories, models and objectives of evaluation programmes, it is explicit, and widely participates in the educational community that evaluators succeed to participate to social betterment and this could only be achieved if evaluation findings are fed back to inform programme administrators, policymakers and other stakeholders and to improve the programme structure and operations. One of the main tasks is to develop evaluation methods and use them.

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ASSESSMENT FOR QUALITY EDUCATION

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Introduction: The quality of education is depends on learning process. But the student's way of learning is also depends upon teaching process. Hence the teaching and learning processes are important for quality education. Now it is necessary to check whether teaching and learning processes are on the right track to achieve preset goals and to improve quality education. That means evaluation or assessment of any educational process will focuses on the level of quality education achieved. In short good assessment will help to govern quality education. In education system many synonyms word are used for 'assessment' like measurement, evaluation, test etc. so for that we must understand the relation between this terms.

Relation between Test / Measurement / Assessment and Evaluation:

If we observe below figure1 we understand the relationship between the terms test, measurement, assessment and evaluation. From figure1 it is clear that circle of each term from 'test' to 'evaluation' is increased which indicates the scope of each term and its place in the process of evaluation. The figure also indicates that though each circle shows different term like test, measurement, assessment and evaluation but still each circle is interconnected with each other that means all this different terms are complimentary to each other. We can define these terms shortly as follows-

Test- Test is a tool or method to determine students ability, knowledge, skill etc. how much student learn will find out by using test. So we can say test is a form of assessment. For example we make questionnaire or question paper that is nothing but test.

Measurement- Measurement is nothing but a form of evaluation in quantitative terms. Measurement is a process by which attribute or dimensions of objects will be determine. It express attributes in numeric terms. For example when we express someone's attitude or interest etc in numeric terms its call measurement. For the measurement preparation of

questionnaire (that is test) is necessary. That means we can't separate the terms, test and measurement.

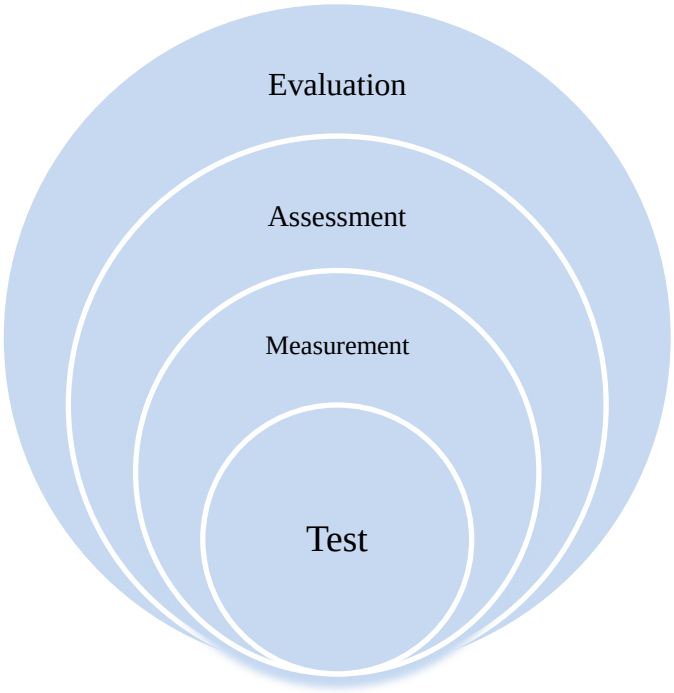

Fig 1- Relation between Test / Measurement / Assessment and Evaluation:

Assessment – It is a procedure or activity that is designed to collect information about knowledge, skill or attitude etc. In assessment we diagnose the outcomes and to diagnose something again test is must. In assessment test as well as the methods of testing are also important. For the assessment the methods like observation, interview etc may be used. Assessment give us answer of how well learning is going on (It may be excellent, good, satisfactory etc) or how much objectives were achieved.

Evaluation - The process of evaluation tell us about either we achieve our preset goal or not. Evaluation may be subjective judgment. For example in exam either one passes or fails or gets distinction. It's a decision making process.

Purpose of Assessment:

The importance of assessment process in quality education will be understand from its purpose

Assessment for learning: From this teacher will come to know what student understand from his teaching? Whether student perceive what he wan to convey or not. That means it provide feedback on instruction to teachers.

Assessment as learning: Assessment process makes students aware about how much they learn. It provides feedback to students on their learning. That means it Motivating and directing student's learning.

Assessment of learning: It also gives feedback to students; teachers, principals, parents and all the stakeholder of education system that whether they met standards of progress or not.

The Why, What, How, Who, & When of Assessment Approach:

One can implement the assessment process successfully by using Biggs and Tang (2007) assessment approach. Simply think the answer of following questions – Why, What. How, Who and When. It will make assessment easy and effective.

Why – why to do assessment (It focuses on purpose/ objective or goal of assessment)

What – what to assess or what to measure (Focuses on knowledge, skill, attitude etc)

How – What the techniques or methods should be used for assessment (Focuses on term exam, observation, interview etc)

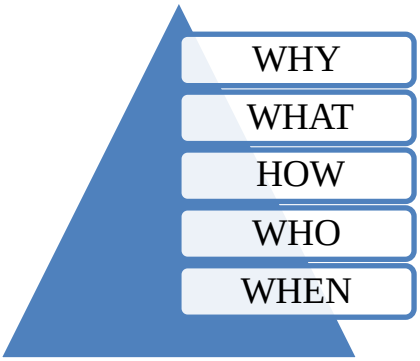

Fig 2 - Source- Biggs and Tang (2007) Approach

Who – Its shows who will be under process of assessment (It may be self, peer or employee assessment)

When – It will focuses on time period of assessment. (It may include assessment at the end, mid-term or continuous etc)

Cycle of Assessment for Quality Education:

Though the assessment may be in formative or summative form but it's a continuous process which is well explained by following fig 3 – cycle of assessment.

Stage 1-Plan: In the first stage we should write the learning outcomes or objectives or goal that one want to achieve after teaching learning process.

Stage 2-Do: On this stage teacher must think and apply effective teaching learning methods to achieve planned outcomes.

Stage 3- Check: At this stage teacher must evaluate students work on the basis of preset objectives by using different tests and methods of assessment.

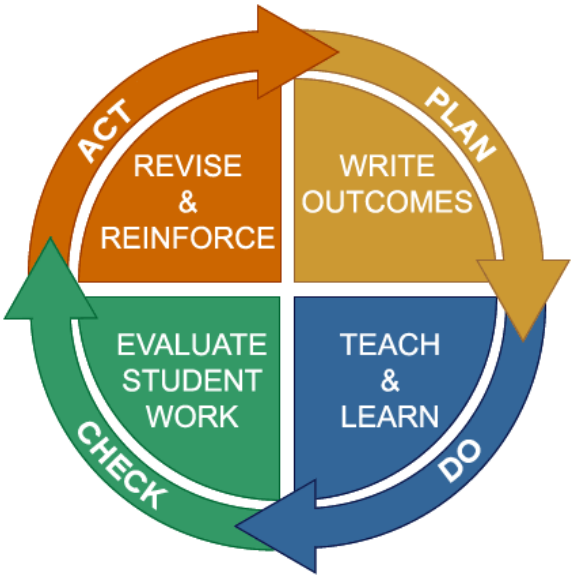

Fig 3- Source- https://www.westminster.edu/about/accreditation-assessment/cycle.cfm

Stage 4- Act – In previous stage if you found that the way of teaching learning process used is effective to achieve planned outcomes then reinforce that practices and if in evaluation stage it is found that set outcomes were not achieved then one should revise the process of teaching-learning. In short the above four stages in the cycle of assessment are very important for quality of education.

Innovative Practices of Assessments for Quality Education:

There are multiple practices and techniques are used worldwide for the assessment. Some traditional practices like essay and objective tests are used for the assessment and that are essential too. We can't neglect these traditional practices but along with it some innovative practices of assessment also used worldwide and which are proved to be successful through various researches. Some of these innovative practices of assessment are performance assessment, portfolios, exhibitions, technology supported assessment, rubrics, reflective journals etc. These innovative practices are more student centric as compare to traditional practices of assessment. So teacher must use these innovative practices of assessment for the quality education. Teachers also must do research and find out new innovative methods or techniques of assessment which is need based and which will make assessment process interesting rather than stressful.

Conclusion: Assessment perform vital role in improving quality education. It gives insight to students about their learning process and outcomes of learning and it also guide teachers about their way of teaching and level of goals achieved. In short assessment improve student's learning as well as it will enhance teacher's teaching. Ultimately the assessment of teaching learning process makes the education more meaningful.

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ASSESSMENT STRATEGIES IN MULTILINGUAL CLASSROOM

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Abstract

The study was conducted on Teacher Educators and students in College of Education at Silvassa with a purpose to find out different assessment strategies applied by Teacher Educators in multilingual B.Ed. classroom. Teacher Educators were selected by purposeful sampling; qualitative data was collected by open-ended questionnaires (for teachers and students) which were further qualitatively analyzed. The findings revealed that assessment strategies applied in multilingual B.Ed. classroom by Teacher Educators were referring books in English and Marathi, translate and prepare glossary of key terms, construct question paper referring university question papers,prepare answer key in English and regional language,translate very frequently used remarks/feedback from English to Marathi,internal assessment mostly done by activity based method or objective test instead of essay test.

Keywords: *Assessment strategies, Teacher Educators, Multilingual, Classroom.*

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INTRODUCTION:

English is ruling in academic institutions of India before and after its beginning on the globe and plays key role at tertiary level which is principally perceived to be the channel to impart knowledge and skill to graduates. For teachers teaching at tertiary level it becomes rather more important because they are expected to teach by adopting it as medium of instruction. But it also obstructs the teaching of those who are not well versed in English language and are to teach teacher education programs pertaining to content through English language. A combination of two languages, English and some other regional language could be appropriate way to enable prospective teachers understand concepts and terminologies of teacher education. (Iqbal, 2012). Different multilingual approaches like code switching and/or code mixing could be seen as a real, specific discourse strategy for bilinguals especially in multicultural environment of India, remembering that we can use the word "bilingual" to define someone who is able to communicate, to various extents, in a second language. (Gumperz, 1982)

Silvassa is a capital city of Union territory of Dadra and Nagar Haveli witnesses strong multiculturalism and therefore multilingualism due to, blend of Dhodia, Dubla, Kathodi, Kokna, KoliDhor, Naikda, Varli, Portuguese, Gujarati and Marathi culture, located in the western region of the India bounded by Valsad district of Gujarat and Palghar (earlier Thane) district of Maharashtra, near and well connected to megalopolis like Mumbai and migration of people from different states of India due rapid industrialization.

Certainly this multilingualism is also reflected in B.Ed. classroom of Education college of Silvassa. Students are not that proficient in English even though their medium of instruction is English as their mother tongue is either Gujarati, Marathi,Varli, Kokna or Dhodi in addition to this majority of them have done their schooling in Hindi, Gujarati or Marathi medium school. If classroom teaching is carried throughout in English students face difficulty in understanding concept and at same time Teacher Educators find it difficult to conduct lecture in one language i.e. English in multilingual classroom, certainly in order to cater needs of multilingual classroom Teacher Educator teaches in a multilingual manner. But ultimate objective of teaching is learning of students. But the way to measure how much learning is done students is assessment. In multilingual classroom mode of assessment cannot be same as in monolingual classroom. As teachers adapt themselves in teaching process in multilingual classroom same they have to do during assessment.

Based on this, researchers tried to find out various assessment strategies applied by teacher educators in multilingual B.Ed. classroom.

Theoretical Background –

I. Typology of Bilingual Education

Du Plessis, 2003 adapted Baker's, 1993 typology of bilingual education to distinguish between three forms of bilingual education as follows.

I**. Monolingual Education (ME)** is a situation in which the minority language is completely replaced by the majority language.

2. **Weak Bilingual Education (WBE)** is when the schools aim to transfer language minority students to use the majority language almost in their schooling. He equates weak bilingualism to subtractive bilingualism, a situation in which a second language is learnt at the expense of the first language, and gradually replaces the first language.

3**. Strong Bilingual Education (SBE)** is when the schools aim to give students full bilingualism whereas two languages and cultures are seen as mutually enriching. He equates

strong bilingualism to additive bilingualism, a situation where a second language is learnt by an individual or a group without detracting from the maintenance and development of the first language.

II. Approaches in Multicultural Education (Banks, 1999)

The Contributions Approach

This approach reflects the least amount of involvement in multicultural education approaches. This is incorporated by selecting books and activities that celebrate holidays, heroes, and special events from various cultures. For example, spending time reading about Dr. Martin Luther King in January is a common practice that falls into this category. In this approach, culturally diverse books and issues are not specified as part of the curriculum (Banks, 1999).

The Additive Approach

In this approach content, concepts, themes, and perspectives are added to the curriculum without changing its basic structure. This involves incorporating literature by and about people from diverse cultures into the mainstream curriculum without changing the curriculum. For example, examining the perspective of a Native American about Thanksgiving would be adding cultural diversity to the traditional view of Thanksgiving. However, this approach does not necessarily transform thinking (Banks, 1999).

The Transformation Approach

This approach actually changes the structure of the curriculum and encourages students to view concepts, issues, themes, and problems from several ethnic perspectives and points of view. For example, a unit on Thanksgiving would become an entire unit exploring cultural conflict. This type of instruction involves critical thinking and involves a consideration of diversity as a basic premise (Banks, 1999).

The Social Action Approach

This approach combines the transformation approach with activities to strive for social change. Students are not only instructed to understand and question social issues, but to also do something about important about it. For example, after participating in a unit about recent immigrants to North America, students may write letters to senators, Congress, and newspaper editors to express their opinions about new policies (Banks, 1999).

Dimensions of Multicultural Education (Banks, 2002)

According to Banks (2002), schools with a rich multicultural focus share five characteristics.

1) **Content Integration**which is referring to expanding the curriculum acknowledge the experiences and contributions of diverse groups

2) **Knowledge construction** is about helping students understand how people create beliefs based on their own cultural biographies.

3) **Equity Pedagogy**is referring to use strategies that lead to higher achievement for students of all races.

4) **Prejudice reduction**is helping students develop more positive attitudes about people of different races and ethnicities.

5) **Empowering school culture**is about examining the impact of school policies, such as academic tracking and discipline referrals on students from different backgrounds

The present research is based on Krashen's second language acquisition theory and Bloom's Mastery Learning.Krashen's theory comprises of five main hypotheses, namely, the Acquisition-Learning, Monitor, Input, Natural order and Affective Filter. Among these hypotheses Acquisition-Learning emphasize that acquisition is more important than learning and input hypothesis simply refers to words, phrases and sentences, which a language student may understand due to using the context of the language s/he is hearing from a speaker of the second language or reading a text and his/her knowledge of the world around him/her. According to this theory teacher may code switch/code mix to make students understand the language (here particular concept). (Krashen, 1994 in Nolan, 2001).Bloom's Mastery Learning theory advocates that any individual who desires to learn can learn and have mastery on learning, if learning conditions are modified according to the individual need of the students. (Bloom, 2000)

OPERATIONAL DEFINITIONS

Assessment strategy- Different strategies applied by Teacher Educator to assess internal work of multilingual B.Ed. classroom students.

Teacher Educator – Teacher Educator can be operationally defined for present research as Assistant Professors teaching multilingual B.Ed. classroom of 2013-14 batch, SSR College of Education, Silvassa.

Multilingual classroom –Multilingual classroom is defined as B.Ed. classroom 2013-14 batch of SSR College of Education, Silvassa, DNH whose students have come with aim to learn Teacher Education(B.Ed.) consisting of students speaking different languages like Varli,

Kokna, Dhodi, Portuguese, English, Hindi, Gujarati, Marathi, Malyalam, Urdu, Oriya, Bengali and Bhojpuri.

OBJECTIVES: To find out different assessment strategies applied by Teacher Educators in multilingual B.Ed. classroom.

RESEARCH QUESTIONS: What are different assessment strategies applied by Teacher Educators in multilingual B.Ed. classroom?

MATERIAL AND METHOD: Researcher applied descriptive method with survey design for this study. 7 B.Ed. teachers were selected by purposeful sampling from SSR College of Education, Silvassa which is affiliated to Savitrbai Phule Pune University, Pune. Open ended questionnaire for Teacher Educators was used as data collection tool to generate qualitative data which was later qualitatively analyzed. (Creswell, 2014)

DELIMITATION: Teacher Educators of SSR College of Education, Silvassa, DNH, affiliated to Savitrbai Phule Pune University, Pune teaching in year 2013 -14 year only.

This study was delimited to internal assessment of B.Ed. course only.

LIMITATION: The outcomes of the research are based on responses given by B.Ed. Teacher Educators to open-ended questions.

FINDINGS:

Various assessment strategies in addition to regular assessment tools and techniques, applied on multilingual B.Ed. students by Teacher Educators are as follows;

Teacher Educators should themselves **refer books of author available in English and Marathi** so that s/he can get well verse with key terms which shall them aid while assessing the answers as an assessor.

Translation of key terms/words with the help of subject oriented dictionary, online dictionary or subject expert which assists in teaching as well as assessing internal work of students.

Prepare glossary of key terms in English and Marathi and keep beside during assessment which shall provide immediate help and save time during assessment process.

Teacher Educator should **construct internal question paper referring university English and Marathi question papers** so as to use language as per university standards even internal question papers.

Teacher Educator **prepare answer key in regional language** with the help of expert which can further improve assessment.

Teacher Educator can also **translate very frequently used remarks/feedback** from English to Marathi.

Try to do **internal assessment mostly by activity based method** instead of essay test. For e.g. different modes of assessment can be by discussion. Quiz, concept map, etc.

Internal assessment through objective test can best suitable method.

If teacher is unable to check answer books written in regional language s/he should **take help of experts for assessing answer scripts**. But this is not suggested much as it can add load to expert.

CONCLUSION: Research concluded that assessment strategies applied by Teacher Educators in multilingual B.Ed. classroom are referring books in English and Marathi, translate and prepare glossary of key terms, construct question paper referring university question papers,prepare answer key in regional language,translate very frequently used remarks/feedback from English to Marathi.,internal assessment mostly by activity based method or objective test instead of essay test.

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ASSESSMENT FOR 21ST CENTURY LIFE SKILLS: A COMPARATIVE STUDY OF EMOTIONAL MATURITY OF STATE BOARD PRIMARY TEACHERS AND CBSE BOARD PRIMARY TEACHERS.

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Abstract

The purpose of this study was to investigate Emotional maturity of primary school teachers of CBSE & State Board. The sample for the study composed of 60 teachers selected random from of Thane City. The investigator has used descriptive survey method. Descriptive analysis and differential analysis had been utilized for this study. Null hypothesis were framed and tested by the researcher. Emotional maturity scale developed and validated by Dr.Yashvir Singh and Dr. Mahesh Bhargava was adopted for the study. This tool consists of 48 questions on emotional maturity with a self-reporting Five point Scale. It was hypothesized that there is no significant difference between the groups of different types of variables. T-test was used to analyze the data collected from the sample. The findings of the study are there is no significant difference between the CBSE Board & STAE Board Primary School teachers on Social adjustment but there is significant difference between the CBSE Board & STAE Board Primary School teachers on Emotional stability. So overall it means more number of State Board Primary teachers are Extremely Emotionally Mature than the CBSE Board Primary teachers.

Keywords: *Emotional maturity, Primary teachers, Thane City, null hypothesis*

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Introduction

Emotional maturity is the most essential component of every human being. There are lot of troubles and problems caused because of lack of emotional maturity. Emotional Maturity is not only the effective determinant of personality pattern but also helps to control the growth of individual development. According to Walter D. Smitson, "Emotional Maturity is a process in which the personality is continuously striving for greater sense of emotions, health, both intra-psychically and intra-personally." People who are emotionally mature tend to be responsible, self-disciplined, and realistic, and therefore better able to meet genuine needs and achieve worthwhile goals. It is generally agreed that the main function of education is to promote a balanced development of physical, moral, mental and spiritual aspects of a student to promote a responsible citizen who strive to promote national

development and growth. The 21st century learners have come a long way. Today's learner is self-motivated who has access to unlimited information, and hence in this scenario, it becomes crucial for educators to aware of the exponential growth of Emotional maturity of which education and teaching learning have become an unchallengeable part. A simple and major problem for schools is to provide a safe environment that is emotionally healthy and academically challenging. This is not possible without an emotionally mature teacher. A truly emotionally mature teachers control the emotions not only of him/her but also of his students. An effective teacher is described as one who is able to successfully perform tasks expected of him/her. Teachers influence students not only through the content they teach, but also through their personality traits and the communication of these traits through behaviour. Kucukahmet (1999) points out that; teachers have the potential to influence students, both positively and negatively, through their professional qualifications and personality traits. For teachers, these skills are essential not only for their personal well-being but to improve student learning. For example, instead of quickly resorting to punishments, teachers with Emotional skills recognize their students' emotions and have insight into what's causing them, which then helps teachers respond with compassionate understanding when a student is acting out and re-direct the students' behavior appropriately. This sort of response promotes caring and supportive relationships between teachers and students.

Need and Importance of the Study

Emotional maturity is a need for starting and maintaining relationships and empathy. It is a requirement for long-term happiness and success. A teacher is considered as backbone around which a whole educational process revolves. Without a mature and competent teacher, educational system would crumble. Therefore a sound programme of professional education of teachers is essential for the best qualitative improvement of the education system. No educational programme can be a success without the quality and need-based education of the teachers. A successful teacher is one who has the quality in terms of behaviour and the mental pre-requisites of effectiveness, competency, knowledge, skills, attitudes and maturity. Teachers are considered an important individual to facilitate students in the classroom. Developing student's potential, creativity and capability is possible only through teaching. In the contemporary times, teacher's work comprises of a complex role of various factors besides teaching and learning. These include imbibing knowledge, information and skills keeping abreast of technological innovations and dealing with students, parents, and their

community. All these are demanding roles and so there is a demanding concern about the teachers' well-being and emotional maturity. Researchers suggest that emotions tend to be enveloping within the service of teaching (Meyer & Turner, 2007). Hence, the investigator felt necessary to measure the emotional maturity of teachers at primary level of CBSE & STATE Board School in and around Thane city. This study will help the teachers to handle his or her negative feelings in genuine, real and healthy way and can develop positive attitude, patience and confidence so that they can interact and impart knowledge very effectively to their future nation builders.

Scope of the Study

The study aims to find out a study on emotional maturity of State Board Primary teachers and CBSE Board Primary teachers. Nowadays, the students' posses more emotions such as fear, anger, love and guilt. They are not in a good mental health. A person who possesses good mental health will have very high emotional maturity. So, the teachers who were the role model of the students should develop emotional maturity among the students. This will help the students to adjust with the peer group, family, relations and to the society. This will enhance a good society in the future. This study will help the teachers to her/his emotional maturity. The entire educational administrator should develop emotional maturity so as to handle the institution. Since the institutions possess the students of adolescent stage, they might undergo some mischievous things. The educational administrations should adjust with the students and maintain a good relationship with both students and also with the teachers.

Significance

Teachers are considering being an important person to facilitate students in the classroom. Through, transacting curriculum in the school, it is the sole responsibility of the teacher how and through what Activity and kind of experience he/she wants to give to the students. Hence, It is strongly envisaged that this study will really be helpful for teachers educators, teacher trainees, students, parents, school administration as well to ponder upon various factors in fact they can find the possibilities of introducing those factors in their educational system, which could eventually lead to enhance the students' maturity level and this will keep students refrain from those unwanted situations which could be proved a barrier in his growth and social adjustment.

Objectives

1. To find out the level of Emotional maturity of CBSE Board primary teachers and State Board Primary teachers.

2. To study whether there exist any significant difference in Emotional Stability between CBSE Board Primary teachers and State Board Primary teachers.

3. To study whether there exist any significant difference in social adjustment between CBSE Board Primary teachers and State Board Primary teachers.

4. To find out the significant difference in Emotional Maturity between CBSE Board Primary teachers and State Board primary Teachers.

Hypothesis

Ho-1 There is no significant difference between the level of Emotional maturity of CBSE Board primary teachers and State Board Primary teachers.

Ho-2 There is no significant difference in Emotional Stability between CBSE Board Primary teachers and State Board Primary teachers.

Ho-3 There is no significant difference in social adjustment between CBSE Board Primary teachers and State Board Primary teachers.

Ho-4 There is no significant difference in Emotional Maturity between CBSE Board Primary teachers and State Board primary Teachers.

Methodology

The investigator used "Survey Method" for this research work.

1. Sampling Technique

30 State Board primary teachers and 30 CBSE Board primary teachers were selected from Thane west by simple random sampling. The samples of the study were selected from four different types of Institution. From each institution 15 samples were selected.

2. Tool

Emotional maturity scale by Dr.Yashvir Singh and Dr. Mahesh Bhargava was used to Study the Emotional Maturity of the students.Data analysis was done using average, standard deviation, and Inferential statistic t-test.

3. Validity, Reliability and Usability of the Instruments

As the tool is derived from a Recognized Institute on Psychological Laboratory, Agra, the tool posses' reliability, validity and usability also, fit well for the purpose of the study.

4. Statistical Techniques used in the study

Treatment of data by applying appropriate statistical measure is must to justify the Objectives of the study. The investigator followed the appropriate procedure in applying
the proper statistical treatment such as Mean, Standard deviation and t test for the analysis of the data.

5. Delimitations

The present study being exploratory in nature has following delimitations:

i. The geographical area of the study was delimited to the CBSE & STATE Board schools of Thane city.

ii. Primary teachers have been selected on stratified random bases.

6. Variables

The following are the variables which the investigator has taken for this study.

Dependent Variables

Emotional Maturity Level

Independent Variables

Following are the independent variables considered for the present study, type of teachers, Locality and type of Institution.

ANALYSIS AND INTERPRETATION OF DATA

The essential step in the process of research, after the collection of data, is the organization, analysis and interpretation of the data and formulation of conclusions and generalization to get a meaningful picture out of the raw information thus collected. The mass of data collected needs to be systemized and organized, i.e., edited, classified and tabulated before it can serve the purpose. Data are meaningless heaps of material without analysis and interpretation. The purpose of analysis is to find out the relationship between the variables, which lead to the verification of hypothesis. This is achieved by logical organization of data and use of relevant statistical techniques. After analysis, interpretation has to be done carefully, logically and critically by examining the results obtained, keeping in view limitation of the sample chosen, tools selected and used in the study.

Objective (i): 1.To find out the level of Emotional maturity of Baseboard primary teachers and STATE Board Primary teachers.

Hypothesis (i): There is no significant difference between the level of Emotional maturity of CBSE Board primary teachers and State Board Primary teachers.

Figure 1& Figure 2: Showing Emotional Maturity Level of CBSE Board primary School Teachers & STATE Board primary school teachers.

The Researcher administered Emotional Maturity scale upon CBSE & STATE Board School teachers. She administered this scale on 30 CBSE Board Primary teachers & 30 STATE Board Primary teachers. Following figures are the pie chart which shows the Emotional Maturity level of CBSE & STATE Board Primary School Teachers of Pokhran from Thane City, Maharashtra.

Out of 60 Primary Teachers 23 teachers were Extremely Emotionally Mature whereas 21 teachers were Moderately Emotionally Immature. The Number of Emotionally Immature teachers were 12 out of 60 and only 4 teachers were Extremely Emotionally Immature.

Emotional Maturity Level of CBSE Board primary School Teachers (N-30)

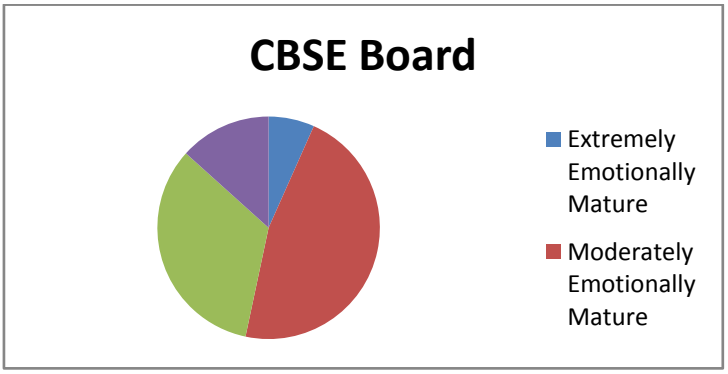

Fig-1

Emotional Maturity Level of State Board primary School Teachers (N-30)

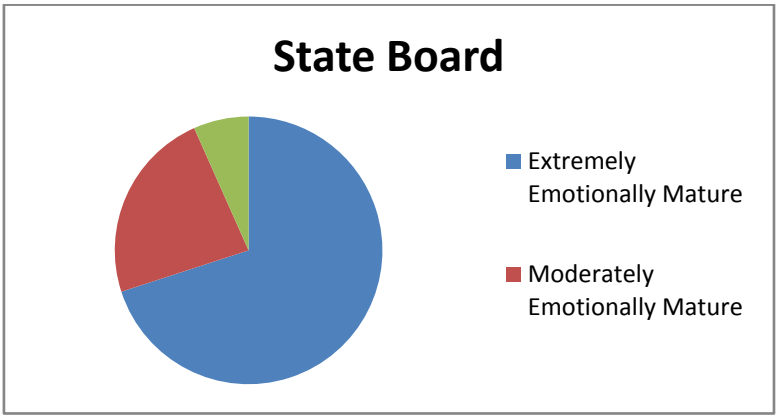

Fig-2

When Researcher segregated the teachers of these two Boards (CBSE & STATE) only 6.67% of teachers from CBSE Board and 70% of teachers from State Board were Extremely

Emotionally Mature. It means more number of State Board Primary teachers are Extremely Emotionally Mature than the CBSE Board Primary teachers.

46.67% of teachers from CBSE & 23.33 % of teachers from State Board were Moderately Emotionally Mature. It means more teachers of the CBSE Board have Moderate Emotional Maturity.

The result showed that 33.33 % of teachers of CBSE Board and 6.67% of teachers of State Board were Emotionally Immature.

13.33% of teachers of CBSE Board were found Extremely Emotionally Immature whereas No teachers were found Extremely Emotionally Immature from State Board.

Objective (ii): To study whether there exist any significant difference in Emotional Stability between CBSE Board Primary teachers and State Board Primary teachers.

Hypothesis (ii): There is no significant difference in Emotional Stability between CBSE Board Primary teachers and State Board Primary teachers**.**

Table 1 Showing the Mean, S.D ,'t' Value and Level of Significance of 30 CBSE & 30 STATE Board school Primary teachers on Emotional Stability.

	N- Size of sample	Mean	SD	t-value
CBSE Board	30	26.67	16.65	10.54 (s)*
STATE Board	30	18.9	5.3	

* Significant at 0.01 level of significance

Interpretation: Table 1 shows that mean scores of CBSE Board teachers for Emotional Stability is 26.67 ± 16.65 and Sate Board is 18.9 ±5.3. The calculated t-value is 10.54 which are significant at 0.01 level of significance. It indicates that there is significant difference between the CBSE and STATE Board teachers on their level of Emotional Stability. Thus our hypothesis that, "There is no significant difference in Emotional Stability between CBSE Board Primary teachers and State Board Primary teachers**"**

Is rejected at 0.01 level of significance.

Objective (iii): To study whether there exist any significant difference in Social adjustment between CBSE Board Primary teachers and State Board Primary teachers.

Hypothesis (iii): There is no significant difference in Social adjustment between CBSE Board Primary teachers and State Board Primary teachers**.**

Table 2 Showing the Mean, S.D, 't' Value and Level of Significance of 30 CBSE & 30 STATE Board school Primary teachers on Social adjustment .

	N- Size of sample	Mean	SD	t-value
CBSE Board	30	16.17	5.5	2.409
STATE Board	30	13.7	1.1	(s)*

* Significant at 0.01 level of significance

Interpretation: Table 2 shows that mean scores of CBSE Board teachers for Social adjustment is 16.17 ± 5.5 and Sate Board is 13.7 ± 1.1. The calculated t-value is 2.409 which are minor non significant at 0.01 level of significance but the tabulated value is little bit more than the calculated value.It indicates that there is no significant difference between the CBSE and STATE Board teachers on their level of Social adjustment . Thus our hypothesis that, "There is no significant difference in Social adjustment between CBSE Board Primary teachers and State Board Primary teachers**"** Is accepted at 0.01 level of significance.

Objective (iv): To study whether there exist any significant difference in Emotional Maturity between CBSE Board Primary teachers and State Board Primary teachers.

Hypothesis (iv): There is no significant difference in Emotional Maturity between CBSE Board Primary teachers and State Board Primary teachers**.**

Table-3 showing Comparison between mean scores of CBSE Board Primary Teachers and STAE Board Primary Teachers of Emotional Maturity

	N- Size of sample	Mean	SD	t-value
CBSE Board	30	83.2	24.7	10.99
STATE Board	30	72.5	3.85	(s)*

* Significant at 0.01 level of significance

Interpretation: Table 3 shows that mean scores of CBSE Board teachers for Emotional Maturity is 83.2 ± 24.7 and Sate Board is 72.5 ± 3.85. The calculated t-value is 10.99 which are significant at 0.01 level of significance. It indicates that there is significant difference between the CBSE and STATE Board teachers on their level of Emotional Maturity. Thus our hypothesis that, "There is no significant difference in Emotional Maturity between CBSE Board Primary teachers and State Board Primary teachers**"**

Is rejected at 0.01 level of significance.

FINDING

Major findings of the present study are as under:

There is significant difference between the CBSE Board & STAE Board Primary School teachers on emotional maturity.

There is significant difference between the CBSE Board & STAE Board Primary School teachers on Emotional stability.

There is no significant difference between the CBSE Board & STAE Board Primary School teachers on Social adjustment.

CONCLUSIONS : From the above said findings we can conclude that the CBSE Board School teachers are different on emotional maturity as compared to STAE Board. The CBSE Board & STAE Board Primary School teachers show similarity on social adjustment but there is difference in Emotional stability. 46.67% of teachers from CBSE & 23.33 % of teachers from State Board were Moderately Emotionally Mature. It means more teachers of the CBSE Board have Moderate Emotional Maturity. Also the result showed that 33.33 % of teachers of CBSE Board and 6.67% of teachers of State Board were Emotionally Immature. 13.33% of teachers of CBSE Board were found Extremely Emotionally Immature whereas No teachers were found Extremely Emotionally Immature from State Board. Teachers are the persons who could develop and mould the students as good citizen and make them emotionally matured and self confident to hold the responsibility on their shoulders for developing their nation. Teacher's Emotional Maturity either State Board or Cbse Board, who has high Emotional Intelligence, can teach effectively and live in society with better Understanding. The findings of this study may also be helpful to the principals of schools of CBSE Board. They should provide Opportunities to teachers to participate in decision-making process, collaboration and Expression of ideas for enhancement. If such atmosphere is created, teachers are sure to drive higher teaching effectiveness, which in turn, is likely to lead to their greater identification with their institution and its various activities. Thus, the findings of the present investigation have implications for the teachers, principals, policy planners, parents and well-wishers of the society.

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ASSESSMENT IN TEACHING LEARNING PROCESS ACROSS DIVERSECONTEXTS

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Abstract

Assessment happens every day in our classrooms, so it's got to be as simple and effective as possible. One of the highest goals of education is the achievement of understanding. We live in a world of online information. This has transformed our students' expectations not only of learning, but also how it is assessed. Educator Andrew Churches reminds us that today's learners "expect and demand transparency, adaptability, contextual and collaborative learning, and the opportunity to use technology. These changes shape the pedagogy we need to employ to engage and motivate our learners." In today's world, the only constant is change. It is a world of adaptation, continuous adjustments, and incremental improvements. That's precisely what the daily assessment strategies below are designed to enable teachers to do with their assessments. Assessment: The Bridge between Teaching and Learning

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INTRODUCTION

The ultimate goal of teaching is to understand.

But sometimes it's easier to talk than to teach, as we all know, especially when we need to cover a lot of material in a short amount of time. We hope students will understand, if not now then before test time, and we keep our fingers crossed that their results will indicate we've done our job.

Defining Assessment

Assessment can be defined as the systematic collection, interpretation and use of information about learning. It gives teachers a better awareness of what pupils know and understand, what their learning experiences enable them to do and what their skills and personal capabilities are

Why assessment is important in education

Assessment is a common tool used is education. Why do teachers need to take assessment to improve their instruction? This article will tell you why assessment is important in education. When you start creating instruction (lesson material) for your students, you will have to evaluate your instruction. The teacher set goals to achieve at the end of each chapter or/and at

the end of instruction. Assessment determines whether or not the goals of education are being met. Continuous questions that come to your mind when taking assessment are: "Are we teaching what we are supposed to be teaching?" "Are we reaching the goals we set for the instruction?" "Is there a way to improve your instruction, and promote better learning?" These questions don't have to be asked at a certain stage of developing your instruction. You have to ask these questions throughout the whole instruction and even after you have implemented it. Assessment affects decisions on different domains: grades, advancement, instructional needs, placement and curriculum.

Assessment, teaching, and learning are the three legs upon which pedagogy stands, and that these are symbiotic and dialectically related processes that are as interdependent as they are reciprocally essential. Teaching cannot proceed — nor can it be fully understood — without assessment. It is questionable that teaching has occurred if learning does not result. Improved learning should be the primary purpose behind assessment and teaching. Assessment should be informed by the needs, ends, and processes of teaching and learning.

Purposes of Assessment are central to successful teaching and learning. To determine the effectiveness of a sequence of instruction, teachers need to gauge pupils' progress in understanding what they want them to learn.

Assessment is the link between teaching and learning. It is important because without it there is no way to anticipate what pupils will actually take from their classroom experiences and this might be quite different from what was intended. Assessment helps teachers find out what has actually taken place in pupils' developing understanding during a sequence of teaching and learning.

Teachers may use a range of strategies that can provide information about pupils' progress, including:

teacher observation of pupils engaging in classroom activities;

teacher observation of pupils' performances;

teacher checking of pupil work;

pupils checking each other's work and similar forms of peer assessment;

questioning to check for understanding;

end of topic tests;

exams; and

other tasks, projects and assignments.

Types of Assessment

1. Diagnostic Assessment (as Pre-Assessment)

One way to think about it: Assesses a student's strengths, weaknesses, knowledge, and skills prior to instruction.

Another way to think about it: A baseline to work from

2. Formative Assessment

One way to think about it: Assesses a student's performance during instruction, and usually occurs regularly throughout the instruction process.

Another way to think about it: Like a doctor's "check-up" to provide data to revise instruction.

This occurs in the short term, as learners are in the process of making meaning of new content and of integrating it into what they already know. Feedback to the learner is immediate (or nearly so), to enable the learner to change his/her behavior and understandings right away. Formative Assessment also enables the teacher to "turn on a dime" and rethink instructional strategies, activities, and content based on student understanding and performance. His/her role here is comparable to that of a coach. Formative Assessment can be as informal as observing the learner's work or as formal as a written test. Formative Assessment is the most powerful type of assessment for improving student understanding and performance

Examples: *a very interactive class discussion; a warm-up, closure, or exit slip; a on-the-spot performance; a quiz.*

3. **Summative Assessment**

One way to think about it: Measures a student's achievement at the end of instruction.

Another way to think about it: It's macabre, but if formative assessment is the check-up, you might think of summative assessment as the autopsy. What happened? Now that it's all over, what went right and what went wrong?

This takes place at the end of a large chunk of learning, with the results being primarily for the teacher's or school's use. Results may take time to be returned to the student/parent, feedback to the student is usually very limited, and the student usually has no opportunity to be reassessed. Thus, Summative Assessment tends to have the least impact on improving an individual student's understanding or performance. Students/parents can use the results of Summative Assessments to see where the student's performance lies compared to either a

standard (MEAP/MME) or to a group of students (usually a grade-level group, such as all 6th graders nationally, such as Iowa Tests or ACT). Teachers/schools can use these assessments to identify strengths and weaknesses of curriculum and instruction, with improvements affecting the next year's/term's students.

Examples*:* *Standardized testing (MEAP, MME, ACT, Work Keys, Terra Nova, etc.); Final exams; Major cumulative projects, research projects, and performances.*

4. Norm-Referenced Assessment

One way to think about it: Compares a student's performance against other students (a national group or other "norm") another way to think about it: Group or "Demographic" assessment

5. Criterion-Referenced Assessment

One way to think about it: Measures a student's performance against a goal, specific objective, or standard. Another way to think about it: a bar to measure all students against

6. Interim/Benchmark Assessment

One way to think about it: Evaluates student performance at periodic intervals, frequently at the end of a grading period. Can predict student performance on end-of-the-year summative assessments. Another way to think about it: Bar graph growth through a year. This takes place occasionally throughout a larger time period. Feedback to the learner is still quick, but may not be immediate. Interim Assessments tend to be more formal, using tools such as projects, written assignments, and tests. The learner should be given the opportunity to re-demonstrate his/her understanding once the feedback has been digested and acted upon. Interim Assessments can help teachers identify gaps in student understanding and instruction, and ideally teachers address these before moving on or by weaving remedies into upcoming instruction and activities.

Examples: *Chapter test; extended essay; a project scored with a rubric.*

Assessment Strategies

1. An open-ended question that gets them writing/talking

Avoid yes/no questions and phrases like "Does this make sense?" In response to these questions, students usually answer 'yes.' So, of course, it's surprising when several students later admit that they're lost.

To help students grasp ideas in class, ask open-ended questions that require students that get students writing/talking. They will undoubtedly reveal more than you would've thought to ask directly.

2. Ask students to reflect

During the last five minutes of class ask students to reflect on the lesson and write down what they've learned. Then, ask them to consider how they would apply this concept or skill in a practical setting.

3. Use quizzes

Give a short quiz at the end of class to check for comprehension.

4. Ask students to summarize

Have students summarize or paraphrase important concepts and lessons. This can be done orally, visually, or otherwise.

5. Hand signals

Hand signals can be used to rate or indicate students' understanding of content. Students can show anywhere from five fingers to signal maximum understanding to one finger to signal minimal understanding. This strategy requires engagement by all students and allows the teacher to check for understanding within a large group.

6. Response cards

Index cards, signs, whiteboards, magnetic boards, or other items are simultaneously held up by all students in class to indicate their response to a question or problem presented by the teacher. Using response devices, the teacher can easily note the responses of individual students while teaching the whole group.

7. Four corners

A quick and easy snapshot of student understanding, Four Corners provides an opportunity for student movement while permitting the teacher to monitor and assess understanding.

The teacher poses a question or makes a statement. Students then move to the appropriate corner of the classroom to indicate their response to the prompt. For example, the corner choices might include "I strongly agree," "I strongly disagree," "I agree somewhat," and "I'm not sure."

8. Think-pair-share

Students take a few minutes to think about the question or prompt. Next, they pair with a designated partner to compare thoughts before sharing with the whole class.

9. Choral reading

Students mark text to identify a particular concept and chime in, reading the marked text aloud in unison with the teacher. This strategy helps students develop fluency; differentiate between the reading of statements and questions; and practice phrasing, pacing, and reading dialogue.

10. One question quiz

Ask a single focused question with a specific goal that can be answered within a minute or two. You can quickly scan the written responses to assess student understanding.

11. Socratic seminar

Students ask questions of one another about an essential question, topic, or selected text. The questions initiate a conversation that continues with a series of responses and additional questions. Students learn to formulate questions that address issues to facilitate their own discussion and arrive at a new understanding.

12. 3-2-1

Students consider what they have learned by responding to the following prompt at the end of the lesson: 3) things they learned from your lesson; 2) things they want to know more about; and 1) questions they have. The prompt stimulates student reflection on the lesson and helps to process the learning.

13. Ticket out the door

Students write in response to a specific prompt for a short period of time. Teachers collect their responses as a "ticket out the door" to check for students' understanding of a concept taught. This exercise quickly generates multiple ideas that could be turned into longer pieces of writing at a later time.

14. Journal reflections

Students write their reflections on a lesson, such as what they learned, what caused them difficulty, strategies they found helpful, or other lesson-related topics. Students can reflect on and process lessons. By reading student work–especially —types of learning journals that help students think–teachers can identify class and individual misconceptions and successes. (See also

15. Formative pencil–paper assessment

Students respond individually to short, pencil–paper formative assessments of skills and knowledge taught in the lesson. Teachers may elect to have students self-correct. The teacher

collects assessment results to monitor individual student progress and to inform future instruction.

Both student and teacher can quickly assess whether the student acquired the intended knowledge and skills. This is a formative assessment, so a grade is not the intended purpose.

16. Misconception check

Present students with common or predictable misconceptions about a concept you're covering. Ask them whether they agree or disagree and to explain why.

17. Analogy prompt

Teaching with analogies can be powerful. Periodically, present students with an analogy prompt: "the concept being covered is like ____ because ____."

18. Practice frequency

Check for understanding at least three times a lesson, minimum.

19. Use variety

Teachers should use enough different individual and whole group techniques to check understanding that they accurately know what all students know. More than likely, this means during a single class the same technique should not be repeated.

20. Make it useful

The true test is whether or not you can adjust your course or continue as planned based on the information received in each check. Do you need to stop and start over? Pull a few students aside for three minutes to re-teach? Or move on?

21. Peer instruction

Perhaps the most accurate way to check for understanding is to have one student try to teach another student what she's learned. If she can do that successfully, it's clear she understood your lesson.

22. "Separate what you do and don't understand"

Whether making a t-chart, drawing a concept map, or using some other means, have the students not simply list what they think they know, but what they don't know as well. This won't be as simple as it sounds–we're usually not aware of what we don't know.

They'll also often know more or less than they can identify themselves, which makes this strategy a bit crude. But that's okay–the goal isn't for them to be precise and complete in their self-evaluation the goal is for you to gain insight as to what they do and don't know.

And seeing what they can even begin to articulate on their own is an excellent starting point here.

Role of the Teacher : Consideration needs to be given to the setup and organization of the physical space to foster individual and small group work, engage in some activities anonymously, display ongoing projects and finished work, accommodate learning centers and encourage creativity. The teacher plays a critical role in structuring and managing an effective and efficient learning environment. The primary role of the teacher is to guide and facilitate learning and to assist students with the acquisition of the skills and abilities required to demonstrate outcomes. In contributing to the learning process, the teacher can

• assist students in the attainment of skills and abilities that enable them to take responsibility for and make reasoned decisions about food as it relates to health

• provide direction and encouragement to students as they engage in individual and collaborative learning activities

• act as a mentor and as a resource person as students make decisions about their own learning and the kinds of activities that will assist them in that process

• recognize and plan for diversity in students' backgrounds, learning styles, personal assets and abilities

• gage students' awareness of issues related to nutrition and assist them to build on this awareness

• Help students establish and negotiate codes of conduct regarding individual and group behaviors that promote learning

• Help students set limits and establish parameters for individual, class and lab behavior

• provide opportunities to integrate knowledge, skills, attitudes and behaviors related to nutrition and health and to life-long learning

• Record and report on student progress.

To promote effective assessment, teachers need to: Explain the learning aims to learners and check their understanding demonstrate the standards learners are required to achieve and help them recognize when they have achieved that standard give effective feedback on assessment decisions, so that learners know how to improve demonstrate high expectations and make it obvious to learners that they believe that they can improve on their past performance

provide regular opportunities for teachers and learners to reflect on the last performance and review learners' progress Develop learners' self-assessment skills, so that they can recognise

what aspects of their own work need to improve. The quality of assessment is based on the teacher's professional ability to use a range of assessment methods that produce accurate results. Good assessment practice involves teachers applying the five principles to every assessment approach they choose.

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ASSESSMENT OF AFFECTIVE DOMAIN: RETROSPECT OF PAST AND PROSPECT FOR FUTURE

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Abstract

Affective Domain assessment is ignored or can say overlooked by educationalists, experts. Most of us think that we don't have a concrete tool for the measurement of affective domain .Some qualitative tools are available if we deeply think about it. The purpose of this paper is to present a taxonomy of affective domain, to describe basic terms, to provide examples of methods commonly used to measure affective domain, and to provide information that may further assist persons seeking more in-depth knowledge of affective Domain..

Key words: *test, measurement, affective qualities*.

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WHAT IS THE MEANING OF ASSESSMENT?

what in education, the term **assessment** refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students is assessment.

There are 3 main Domains of assessment

1. COGNITIVE DOMAIN
2. AFFECTIVE DOMAIN AND
3. PSYCHOMOTOR DOMAIN

Meaning of Affective Domain

Affective development education is no exception to this purposefulness. Indeed much of it is fueled by the intention to achieve desirable social behaviour. The earlier definition of affective development is: "affective development is a process through which individuals come to harness their feelings and emotions so that their predispositions to action come to serve the best interests of the individual and society." To put it simply, the person who has become fully developed affectively, is able to judge what ought to be done in the light of what is good for others - and do it.

Objectives of Affective Domain Taxonomy

Receiving is being aware of or sensitive to the existence of certain ideas, material, or phenomena and being willing to tolerate them. Examples include: to differentiate, to accept, to listen (for), to respond to.

Responding is committed in some small measure to the ideas, materials, or phenomena involved by actively responding to them. Examples are: to comply with, to follow, to commend, to volunteer, to spend leisure time in, to acclaim.

Valuing is willing to be perceived by others as valuing certain ideas, materials, or phenomena. Examples include: to increase measured proficiency in, to relinquish, to subsidize, to support, to debate.

Organization is to relate the value to those already held and bring it into a harmonious and internally consistent philosophy. Examples are: to discuss, to theorize, to formulate, to balance, to examine.

Characterization by value or value set is to act consistently in accordance with the values he or she has internalized. Examples include: to revise, to require, to be rated high in the value, to avoid, to resist, to manage, to resolve.

Several assessment tools designed for measuring some aspect of the affective domain are listed below. For each assessment tool, you will find information about what the assessment measures and how the author uses it.

Evaluating in affective development education all delivered or deliberate educational undertakings are purposeful - they set out to achieve desired purposes.

They may be more or less explicit about these purposes but nevertheless at the end of the day whoever has been the subject of the undertaking is expected to be better. They are expected to have acquired greater knowledge, deeper knowledge, deeper understanding, more skills and healthier attitudes. They are also expected to behave better - mentally, morally, physically and socially.

Subscales for teaching learning strategies of affective domain at Higher Education

Encourage students to set their own learning goals. Assign authentic tasks that incorporate students' personal interests and that show how to interpret the familiar world around them. Emphasize understanding rather than memorization of a topic. Highlight situational interest by displaying enthusiasm for a topic, featuring novelty, variety, creativity or controversy in

lessons, have students role play within the context of lesson, or have students manipulate physical models.

Tools of Affective Domain assessment

Student survey hand out.

Survey of Student Comfort Levels with Math & Science

Submitted by Lee Ann Srogi, West Chester University of PA

What does this assessment measure?

Students' self-reported experiences and comfort level with previous math and science courses.

Getting to know you

We would appreciate your answers to some questions, to help us plan delivery of course material. Thanks!

Name: _____

What's your favorite color?

What science courses have you taken in high school and college?

What is your comfort level with science, in general or specific courses or topics?

What math courses have you taken in high school and college?

What is your comfort level with math, in general or specific courses or topics?

Are there any other courses or experiences you have had that might be relevant to this course?

Are there any aspects of this course that you particularly want to learn more about?

Perception of Instrumentality Scale.

This measure concerns your feelings or beliefs about the relationship between **this course** and your future. Using the following scale, indicate your agreement or disagreement with each of the following statements.

1	2	3	4	5
stronglydisagree	disagree	neutral	agree	strongly agree

I will use the information I learn in the class selected above in other classes I will take in the future. (Endogenous Instrumentality)

What I learn in the course selected above will be important for my future occupational success. (Endogenous Instrumentality)

The grade I get in the class selected above will not affect my ability to continue on with my education. (Exogenous Instrumentality) Negatively worded

I will not use what I learn in the class selected above. (Endogenous Instrumentality) Negatively worded

What grade I get in the course selected above will not be important for my future academic success. Exogenous Instrumentality) negatively worded

I will use the information I learn in the class selected above in the future. (Endogenous Instrumentality)

I must pass the course selected above in order to reach my academic goals. (Exogenous Instrumentality)

The grade I get in the class selected above will affect my future. (Exogenous Instrumentality)

Techniques of Affective Domain Assessment.

Observation

Case Studies

Self-Evaluation

Self-Report

Summative evaluation of pupils behaviour

1. Observation: By far, the most universal technique used for evaluation in this area is observation and judgement. Given that all scientific understanding starts from observation, this is entirely reasonable. However, what is at issue here is how efficient the observation is. It is probably true to say that inspectors, supervisors, and advisors who visit classrooms quite briefly have time to accumulate very little data and therefore, rely heavily on their experience. They virtually get a clue or two and then extrapolate (often quite extensively) to draw general conclusions about the class, the pupils in it, the teacher and the school. Most are more confident in the validity of their judgements than is really justified. Teachers, on the other hand, because of their lengthy exposure to the class have much more data available. For them the problem becomes whether they have accumulated it systematically enough and whether the data are representative of the whole domain. In reality, teachers often tend to form opinions based on episodes that are particularly salient to them, when for example, a child does something particularly ‘nice’ or particularly ‘nasty’. Third-party observers familiar with the classroom observational research that has established a strong tradition since its early experiments in the 1960’s, can often approach observation quite systematically. They employ conventions for various aspects of observation. For example, they may have ‘schedules’ or checklists that specify the exact kinds of behaviour being looked for. They

may also have strictly controlled time periods when they focus only on the teacher or on each specific child. They may also have 'protocols' that determine their behaviour as observers and their 'roles' in the classroom. In recent years, some very useful and informative work has been done by combining the observations of an independent observer with the perceptions of the teacher and the pupils. This process, called 'triangulation' requires all three parties to interpret how they perceive the situation (in the classroom or with respect to a particular group or pupil) to each other. They then set out to reconcile differences so that all those involved have an agreed upon understanding of the situation. How effective the whole observation process can be depends also on the kind of records that are kept. In many countries few precise records are kept. Indeed when the teacher comes to write (annual) reports on their pupils they often dredge their memories, relying on overall impressions, rather than carefully collected data. Some teachers keep casual records, noting occasional incidents as they occur. Some rely on Anecdotal Records. These usually consist of brief notes made from time to time and are incorporated into the student record.

2. **Case Studies**, which comprise more in-depth study of a given pupil over a longer period can be very informative. Unfortunately they are very time consuming to do and require specialized skills. Anecdotal Records and Case Studies both benefit when:

The actions of the (target) pupil and those around him or her become the focal point. - The description is objective. - -

The description is brief, to-the-point, and includes all relevant details. - Description and interpretation are both separated from Anecdotal Records and Case Studies may be complemented (though ideally not replaced) by Ratings or Rating Scales as they are sometimes called.

The ratings in these cases consist of stated characteristics regarded as desirable,

e.g. judgements,

proposals and recommendations,

- Co-cooperativeness –

Dependability –

Industry –

Initiative

Self-control –

Honesty –

Integrity

If a scale is used for rating, there are several alternatives possible,

It can consist of an arbitrary numerical scale with, for example; 1 meaning the highest quality and 10 the lowest.

It can also be stated in frequency terms, e.g. all of the time; most of the time; sometimes; rarely; never.

It can also be stated as a comparison with class standards, e.g. well above average; above average; average; below average; well below average.

Sometimes the ratings can themselves reflect the teacher's value judgements, though this is less desirable than the more objective ones above. In this type, two judgmental extremes provided the starting point, e.g. superior-inferior; excellent-poor; good-bad; and then various intermediate positions are added.

A number of factors can limi1 the effectiveness of ratings,

e.g.: namely: - - - - ill personal bias error or what is sometimes referred to as error of leniency or severity.

Basically, this occurs when the observer rates all pupils too high or too low. This error can be minimized by statistical procedures in which each observer rating is scaled to an arbitrary mean and standard deviation.

When individual teachers are involved, one possible solution is to tabulate teachers' ratings, and calculate means. A comparison of the means will indicate particular teacher(s) who are consistently overrating or underrating students. Sometimes raters become personally committed to the pupils being rated especially when "poor" or "unsatisfactory" ratings will disadvantage the pupils in the future. (There are statistical procedures for coping with this phenomenon too.) Efficient observation-based evaluation occurs when:

Observation is accurate;

- The 'incidents' observed are representative of the domain being assessed

; The incidents observed are sufficient in number to compare an adequate sample;

Recording systems are precise and concise but with enough detail for the purposes;

- Judgments made are unquestionably derived from the observational information;

- Ratings are made against clear and objective criteria.

2. Self-evaluation A number of countries use self-evaluation as an evaluative technique. The Philippines has “My Achievement Monitor” as a means of self-evaluation of progress in

academic performance, personality, and character development. This helps the pupil develop awareness of strengths and weaknesses and desired directions for improvement. Sometimes, observations or remarks of peers, parents or members of the family are suitably recorded. The significant features of the scheme include the following:

Training in objectivity (fairness) in rating or analyzing one's own performance.

- Developing the idea of accountability for one's own development and actions.

Engaging as partners with the school in the development of their own children.

An example taken from the 'Teachers Handbook on Affective Development' appears on the following page.

Such self-report instruments have some inherent weaknesses. Those most commonly discussed include: semantics, fakability, self-deceptiveness, and validity.

Seniaiitics: when interpretation hangs on the precise meanings of words and there is confusion over what key words mean, then the information provided will be unreliable.

Fakabili~: respondents (and their co-respondents) may wish to create a good (or bad) impression and may be astute enough to understand the strategy of the test.

They then 'fake' their answers to give the desired impression.

Self-deception: respondents may genuinely think they are telling the truth but their perception of 'reality' may be different from others.

SUMMATIVE EVALUATION OF PUPIL'S BEHAVIOUR

Instruction: For each statement put a check under the column which best describes your action or behaviour.

Statement A.	**EX 5**	**vs 4**	**S 3**	**F 2**	**NI 1**	**Remarks**
In School						
1. I go to school with clean and neat clothes						
2. I go to school on time						
3. I do my assignment/homework by myself						
4. I listen attentively and participate in the discussions						
5. I am courteous in talking with people						
6. I am helpful not only to my classmates but also to others						
7. I am sincere with what I say						
8. I spend my money wisely. and do I practice thriftiness especially in using my						

things like paper, pencil and even in the food I eat						
9. 1 believe in God, I pray to him not only for myself but for other people						
10.1 am proud of being a Filipino						
B. At home						
1. I keep my body clean and neat						
2. I keep my things at home						
3. I am very respectful and daily in order courteous when talking to my parents, brothers and sisters						

5 --- Excellent (If you are able to do or perform the act always)

4 --- Very satisfactory (If you perform the act almost always)

3 --- Satisfactory (If you do it from time to time)

2 --- Fair (If you do it rarely)

1 --- Needs improvement (If you can hardly do or perform the act)

Observations/Remarks

By a Classmate ----------

By a Family ----------

Member Signature

Comment

Because of the evolving nature of affective development evaluation whether learning outcomes should best be evaluated separately

, i.e. by subject, or whether evaluation should run across learning areas;

¡i) what criteria should be used to differentiate between learners from different socio-economic levels?

iii) since the development of values takes place in many formal and informal situations, in home, in school and in the community, should they not all be involved in the evaluation process?

iv) given that not everyone will always agree that any given set of values applies universally to everyone all of the time, who should decide on the objectives of affective development education? V)how deliberate and controlled should affective development education be? Should it be virtually a process of inculcation or indoctrination, or should it be completely non-directive, or should it fall sometimes in between?

Despite the dilemmas above, some form of evaluation appears both logical and desirable. If it is desirable, then the question becomes how can it be made most efficient and effective? Whatever the answer may be, it is apparent that teachers will be at the centre of the action. For that reason, attention turns in the next chapter to the larger question of teacher education. there are a number of issues as yet unresolved.

Thus we can assess objectives of affective domain through some techniques.

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TECHNOLOGICAL & PSYCHOMETRIC INNOVATIONS IN ASSESSMENT

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Abstract

In many ways, educational assessment is still being done the way that it was done so many years ago. Many organizations& Institutions provide linear test forms of multiple-choice items or other traditional formats and score them with traditional methods. While the advent of the computer has most definitely affected how tests are delivered, in many cases, it is still a traditional test with conventional scoring, just shown on a computer screen rather than paper. With the coming of The Cloud, invention is becoming stronger and faster, offering us more avenues to improving student assessment & attention – and therefore student learning academic skills. In fact, there are three conferences in late 2017 devoted specifically to this topic: the International Association of Computerized Adaptive Testing, the MARCES conference at the University of Maryland, and the ACTNEXT symposium on computational psychometrics. The rapid increase in computing power and availability of other technological resources is powering this change, impacting nearly every aspect of assessment from the writing of the first item to the reporting of the final student score. This paper synthesizes how Technology and Psychometric innovations are used in assessment.

Keywords: *Technological, Psychometric, educational assessment, organizations, Institutions, academic skills,*

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Introduction:

Definitions:

Technology: -Technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes. Technology is changing day by day and there are many prospects for whole world. Technology has its various characteristics, as per todays contest, technology is playing vital role in academics as well in assessment.

Technology in different term

Technology is generally defined as "science or knowledge applied to a definite purpose." Technology assessment has been defined as a form of policy research that examines short- and long-term consequence

Technology assessment assumes a global perspective and is future-oriented, not anti-technological. It considers its task as an interdisciplinary approach to solving already existing

problems and preventing potential damage caused by the uncritical application and the commercialization of new technologies.

Technology as below;

Computers

OHP

LCD

Digital Black board

Television

Mobile

List of Top 10 Most Popular Search Engines in the World (Updated 2019)

- Google.
- Bing.
- Yahoo.
- Ask.com.
- AOL.com.
- Baidu.
- Wolframalpha.
- Duck Duck Go.

The above all devices as well as search engines are being used in various academic assessments.

Technology assessment institutions around the world:

Many TA institutions are members of the European Parliamentary Technology Assessment (EPTA) network, some are working for the STOA panel of the European Parliament and formed the European Technology Assessment Group (ETAG).

- Centre for Technology Assessment (TA-SWISS), Bern, Switzerland.
- Institute of Technology Assessment (ITA) of the Austrian Academy of Sciences, Vienna
- Institute for Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology, Germany
- (former) Office of Technology Assessment (OTA)
- The Danish Board of Technology Foundation, Copenhagen
- Norwegian Board of Technology, Oslo
- Parliamentary Office of Science and Technology (POST), London

- Rathenau Institute, The Hague
- Science and Technology Options Assessment (STOA) panel of the European Parliament, Brussels
- Science and Technology Policy Research (SPRU), Sussex
- Department of Science, Technology and Policy Studies, University of Twente
- TBc.

Definitions:

Psychometric tests are designed to test a person's intellectual state, behavior, and thought processes. **Psychometric** testing is simply a way of measuring people's individual talents and competences.

Sigmund Freud and Carl Jung had very different styles to psychology, but both are considered to be the founders of the modern psychoanalytic drive. Their efforts in a dynamic field have made psychology school a popular choice of study—and students are getting online psychology degrees in record numbers.

1. Aptitude or ability tests

These aim to measure your competence and intellectual capabilities as well as your logical and logical reasoning abilities in a very precise area. They aim to assess your abilities to use specific job related skills and to predict subsequent job performance.

The most commonly used tests assess verbal and numerical logical cognitive skills:

Verbal reasoning - Although these tests may appear in different setups, verbal reasoning typically involves reading a passage of text and then selecting the most appropriate of perhaps four or five answers.

Alternatively, you may be asked to fill in blank spaces in a sentence with a given choice of words.

Numerical reasoning - Again, although these tests may appear in different formats, you may typically be asked questions relating to information provided in the form of numerical charts, or you may be required to calculate the responses to various problems.

Aptitude tests are very often paper and pencil exercises (though they are sometimes computer-based) and are usually time-limited. Your results are measured against those of others who have taken the test in the past in order to make a similar assessment of your level of ability.

2. Personality and occupational questionnaires

These explore:

- The way in which you do things,
- How you behave in certain circumstances,
- Your preferences and attitudes.

In assessment they are often used to see if you would suit a particular environment and can be used to assess aspects of your individual behavior, attitudes and opinions, as well as your motivation, interests and values. Your results may then be compared to the characteristics considered essential for the job on offer. They are usually paper-based questionnaires where a profile is drawn from your responses to a number of questions or statements, concentrating on a variety of personality factors.

Another type of personality form involves exploring your interests and values and these are designed to help you clarify what fields of work interest you and are not normally used for selection purposes. They can, however, provide a useful starting point for people who are hesitant about the type of effort they might want to do.

For all types of personality forms there are no right and wrong answers.

Motivation Test

In psychological terms, motivation is the force that initiates, guides, and upholds goal-oriented behavior. A motivator, on the other hand, is the reason why we do what we do. With these definitions, it is clear that motivation is a psychological trait – so, wouldn't it make sense to measure it using psychological tools? The answer: it certainly does!

Cognitive assessment

A cognitive assessment is an examination conducted to determine someone's level of cognitive function. There are a number of reasons to perform such an exam, and this test can be administered by a mental health professional, neurologist, or education professional, depending on how it is to be used. Several standardized assessments have been published, and people can also develop their own, mixing and matching elements of various tests that can be used to measure cognitive function.

In this type of assessment, the subject will be asked to complete a series of tasks that require cognitive skills. Exams may be broken up into several different components to test things like reasoning, understanding language, and so forth. Each section is scored separately,

and the results can be compared with those of other people who have taken the test to see where someone falls on a scale of cognitive performance.

One reason to perform a cognitive assessment is if a medical professional is concerned that someone may be experiencing a cognitive impairment. This may be the result of a brain injury or stroke, or it may be congenital in nature, as in a child with suspected intellectual disabilities. Neurologists and pediatricians use these tests to check on patients they are concerned about, and to establish a baseline that can be used for comparison in the future.

Following are the cognitive assessments.

- Occupational Therapy Cognitive Assessment
- Cognitive Training
- Cognitive Assessment Children
- Cognitive Assessment
- Cognitive Behavioral Assessment
- Cognitive Skills Assessment
- Cognitive Ability Assessment

Test for leadership

Leadership positions require a set of behavioral and interpersonal skills that drive employee satisfaction and positive business results. If you are applying for a leadership role in an organization a leadership assessment test will most likely be your first step in the hiring process. You can prepare for your assessment test

Types of Leadership Styles

- Autocratic Leadership
- Democratic Leadership
- Strategic Leadership Style
- Transformational Leadership
- Team Leadership

Conclusion: Current paper highlights various types of technology used in academic and administrative assessment. With this technology identify the authenticity of assessment. Technology always helps academicians for assessment as well evaluation. In today's contest technology is very important aspect. In this paper we are highlighting all parameters with the

various authors and references. In this connection psychometric innovation test also plays vital role while doing assessment. Innovations always affects on teaching methodology. For the same purpose teacher should use new pedagogy with help of technology as well psychometric innovations, while teaching.

Even Government is also introducing new technologies in education sector. Our Prime minister initiated digitalization in each area.

Recommendation:

- Every organization should explore innovative approaches that utilize new technology and psychometric models to gear up knowledge.
- Proper Procedures should be used to systematically obtain quantified descriptions of the persons to be assessed.
- Appropriate Techniques should be used for measuring the effectiveness of the advanced technology and psychometric innovations in order to understand its impact and for further improvements.
- Various workshops should be arranged and attained in same field.

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वज्ञान वषयाच्या मूल्यमापनाकरिता माईंडमॅप कार्यनीतीचा वापर करणे आ ण त्याची परिणामकारकता अभ्यासणे

श्रीमती. स्पृहा सुरेश इंदू **(Pg 70 – 81)**

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Abstract

संशो धकेने इयत्ता चौथीच्या वज्ञान वषयाच्या अभ्यासाच्या मूल्यमापनासाठी साठवण पाण्याची, पण्याचे पाणी, घरोघरी पाणी हे तीन पाठ निवडले. प्रस्तुत संशोधनाकरिता चेंबूर एज्युकेशन सोसायटीची प्राथ मक शाळेतील चौथी 'क' चे ४० वद्यार्थी सहभागी झाले. संशो धकेने त्यांचे दोन समान गट करताना इयत्ता तिसरीच्या वज्ञान वषयीचे प्राप्तांक लक्षात घेतले. दोन्ही गटाची पूर्वचाचणी घेण्यात आली. एका गटाला पारंपारिक पद्धतीने व दुसऱ्या गटाला माईंडमॅप ह्या कार्यनीतीचा तंत्राचा वापर करून अध्यापन केले. दोन्ही गटांचे मूल्यमापन करताना पहिल्या गटाची उत्तरचाचणी पारंपरिक पद्धतीने व दुसऱ्या गटाची उत्तरचाचणी माईंडमॅप कार्यनीतीच्या साहाय्याने घेतली. प्रश्नपत्रिकेतील प्रश्न दोन्ही गटाकरिता सारखेच होते. त्यांचे मूल्यांकन करून संख्याशास्त्रीय वश्लेषण केले. संख्याशास्त्रीयपरिमाणांचा वापर करून मध्यमान व प्रमाण वचलन काढण्यात आले. दोन गटांचा तुलनात्मक अभ्यास करण्यासाठी 'टी' परि क्षकेचा उपयोग केला गेला. ह्या सर्व प्र क्रयेत वद्यार्थ्यांच्या व वध कृतींचे निरीक्षण, त्यांची माहिती संकलन करण्याची पद्धती व माहिती प्रस्तुतीकरीता माईंडमॅप तंत्राचा कंवा पारंपारिक रीतीचा वापर कश्या रीतीने करत आहे, याबाबतच्या नोंदीघेतल्या. वद्यार्थ्यांची आकलनशक्ती, निरीक्षणशक्ती, समस्यापूर्तीची क्षमता, सामान्यज्ञान, भाषा वकास, लेखन, मौ खक सादरीकरण, श्रवण कौशल्य, सवांद संभाषण कौशल्य, माहिती प्रस्तुतीकरणाचे तंत्र, गटकार्यातील वर्तणूक अश्या क्षमतांचे मूल्यमापन केले गेले. वद्यार्थ्याला प्रत्याभरणाद्वारे (फीडबॅक) पुढे जाण्यास मदत करणे, हे या उप वषयाच्या अंतर्गत देण्याचा जाणीवपूर्वक प्रयत्न केला गेला. प्रस्तुत

संशोधनातून वज्ञान वष्याचे मूल्यमापन माईंडमॅप साधनतंत्राचे आधारे घेणे अ धक परिणामकारक आहे असे अधोरे खत झाले.

कळीचे शब्द: १. वज्ञान २.संवाद-संप्रेषण ३. माईंडमॅप ४.मूल्यमापन

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प्रस्तावना: राष्ट्रीय अभ्यासक्रम आराखडा २००५ अनुसार ज्ञानरचनावाद (Constructivism) ही एक मध्यवर्ती संकल्पना स्वीकारली आहे. कोणतीही गोष्ट शकताना करावा लागणार वचार हा वद्यार्थ्याने स्वतःच करायचा आहे. ह्या दृष्टिकोनातून अध्यापनाच्या दिशा बदलणे गरजेचे आहे. शक्षक म्हणून अशी संधी उपल्बध करून देणे गरजेचे आहे. म्हणून माईंडमॅप सारखे तंत्र जे वद्यार्थ्याला अध्ययन करताना उपयुक्त ठरू शकते तर मूल्यमापन म्हणून साधन तंत्र वापरता येऊ शकण्याची शक्यता अजमावण्याचे संशो धकेने निश्चित केले. मूल्यमापन ही एक सर्वसमावेशक स्वरूपाची प्र क्रया असून तीत वदयार्थ्यांच्या वर्तनामध्ये घडलेला मापनीय बदल व त्याचा अन्वय या दोन्ही गोष्टी समा वष्ट होतात. वद्यार्थ्यांना पाठ्यांशातील संबोध व संकल्पनांचे आकलन व त्याचे दृढीकरण होण्यास मदत होण्यासाठी, परिसरातील निरीक्षण करण्यास उद्युक्त करणे, कालानुरूप आ ण आशयसुसंगत स्वयंअध्यनाला गती देणे, सातत्यपूर्ण सर्वंकष मूल्यमापन घडवून आणणे एक छोटे आव्हान शक्षकांसमोर असते. वर्गातील अध्ययन अध्यापनातून वद्यार्थ्यांमध्ये नेमका कोणता बदल अपे क्षत आहे याची जाणीव संशो धकेने ठेवली व त्याप्रमाणे माईंडमॅप हे तंत्र वर्गात वापरण्याबाबतचे नियोजन केले. माईंड में पंग तंत्राच्या वापरामुळे सृजनशीलता, संपादणूक, स्मरणशक्ती, व वध घटकांची पुनरावृत्ती, समस्या सोड वण्याचे तंत्र, स्वयंअध्ययनाची प्रेरणा क्रमशः वक सत होते.टोनीबुझानयांनी माईंडमॅपकार्यनीतीला पर्वावलोकनआ ण पुनरावलोकन असे संबोधले. वद्यार्थी रूपकदृष्ट्या अ भव्यक्त होतो.माईंडमॅप हे प्रभावी ग्रा फक तंत्र आहे मनातील आपल्या . माहितीचे .आहे माध्यम उत्तम एक दर्श वण्याचे पारदर्शक व अचूक चत्रण यतार्थ आकलन जलद आ ण अ धक चांगल्या रीतीने आत्मसात करण्यास मदत करते. येथे भा षकौशल्येफार

महत्त्वाची नसतात. वद्याथ्यांच्या एकत्रित ज्ञानाचे यथार्थ चत्रण दिसण्यास निश्चित मदत होते. वद्याथ्यांनाइतर वषयांच्या आ ण त्यांच्या उप वषयांमधील संबंध जोडण्यासाठी खोल अंतदृष्टी आवश्यक असते.ती ह्या कार्यनीतीतून मळू शकते. वद्याथ्यांना प्रस्तुत प्र क्रयेतून आनंद मळतो.प्रस्तुत पद्धती सोपी व कमी गुंतागुंतीची आहे. वद्याथ्यांचा सुलभ सहयोग मळू शकतो. मानवी मेंदू माहितीचा साथ ९०% चत्ररूपात तर १०% पाठांतराने लक्षात ठेवण्याचा प्रयत्न करतो. माईंडमॅप ह्या कार्यनीतीचा वापर करून मुलांना माहिती चत्ररूपात मांडण्यात, लक्षात ठेवण्यात आ ण उपयोजन करण्यात मदत करण्याचा प्रयत्न या संशोधन अभ्यासातून करण्यात आला.

गृहीतके:

या पार्श्वभूमीच्या आधारे संशो धकेने पारंपारिक मूल्यमापन पद्धती आ ण माईंडमॅप हे साधन तंत्राच्या आधारे केलेल्या मूल्यमापनातला फरक तपासण्याचा निर्णय घेतला. ह्या दोन बाबींचा वद्याथ्यांच्या संपादणुकीत फरक तपासून पाहण्याचे निश्चित केले.

संशोधनापूर्वी संशो धकेने वद्याथ्यांचे वज्ञान वषयाचे पारंपरिक पद्धतीने केलेले मूल्यमापन आ ण माईंडमॅपच्या आधारे मूल्यमापनात लक्षणीय फरक नाहीअसे गृहीतक मांडले. संशोधनाअंती शून्य परिकल्पना स्वीकारायची की नाही संख्याशास्त्रीय परिमाणांवर अवलंबून राहील.

उद्दिष्ट :

१) वद्याथ्यांच्या वज्ञान वषयाच्या मूल्यमापनाकरिता माईंडमॅप साधनतंत्राच्या उपयुक्तेचा शोध घेणे.

२) वद्याथ्यांच्या वज्ञान वषयाच्या मूल्यमापनाकरिता माईंडमॅप साधनतंत्राच्या उपयुक्तेच्या दृष्टीने कार्यक्रम वक सत करणे.

३) वद्याथ्यांच्या मूल्यमापनाकरिता माईंडमॅप साधनतंत्र वक सत कार्यक्रमाची परिणामकारकता अभ्यासणे.

४) माईंडमॅप साधनतंत्राचा वापराच्या वक सत कार्यक्रमात अध्ययन अनुदेशनात्मक बदलांचा स्वीकार करणे.

संशोधन पद्धती :

प्रस्तुत संशोधनाकरिता प्रायो गकपद्धत वापरण्यात आली.

चेंबूर एज्युकेशन सोसायटीची प्राथ मक शाळेतील चौथी 'क' चे ४० वद्यार्थी यांची नमुना म्हणून निवड करण्यात आली. यादृच्छिक पद्धतीने२० चे समान दोन गट करण्यात आले.१ जुलै २०१८ ते १० ऑक्टोबर २०१८ह्या कालावधीचे स वस्तर नियोजन केले. प्रस्तुत कालावधीचे पहिल्या व दुसऱ्या गटाकरिता अध्यापन कृतीचे आ ण मूल्यमापन घेण्याच्या पद्धतीचे नियोजन करण्यात आले. पहिल्या गटाला पारंपरिक पद्धतीने अध्यापन करण्यात आले आ ण आकारिक व संक लत मूल्यमापनाचा समावेश केला. तत्सम नोंदी ठेवण्यात आल्या. तर दुसऱ्या गटात वद्यार्थ्यांच्या सहभागाने माईंडमॅप कार्यनीती वर्गात बन वण्याचे नियम ठर वण्यात आले. गटकार्य करतानाचे नियम, गटातील सदस्यांची संख्या, नेतृत्व कसे बदलणार तसेच माईंडमॅपच्या सहाय्याने सादरीकरणाची पद्धती. हे सर्व सर्व घडत असतानाचे शक्षक म्हणून आकारिक आ ण संक लत मूल्यमापनाच्या नोंदी ठेवण्यात आल्या. त्यामध्ये अंतर्भूत असलेल्या घटकांचा माईंडमॅप बन वण्यासाठी खालीलपायऱ्यांचा उपयोग केला.

१) साहित्य- वद्यार्थ्यांना पाठयपुस्तक आ ण वही त्यांना सोबत तयार ठेवण्यास दिली. तसेच प्रत्येकाला रंगीत पेन/पेन्सिल/स्केच पेन आ ण एक कोरा कागद पुरवण्यात आला.

२) घटक- कोऱ्या कागदांच्या मध्यभागी एका चौकोनात कंवा गोलात निवडलेला घटक/ मुख्य कल्पना/ संकल्पना लहिण्यास सां गतली. वद्यार्थ्यांच्या लहान कल्पनेला लहान चत्रात दाखवण्यास सां गतले.

३) शाखा- घटक काळजीपूर्वक वाचून ४ ते ६ मुख्य मुद्दे कसे ओळखायचे याबाबत चर्चा केली आ ण त्यांना मुख्य कल्पना म्हणून शाखांमध्ये लहिण्यास सां गतले. त्याबाबतची माहिती वद्यार्थ्यांनी कवर्डमध्ये लहिली.

४) उपशाखा- वद्यार्थ्यांनी अ धक उपशाखा समा वष्ट करून त्यापैकी प्रत्येक उपशाखेला शीर्षक देऊन मुख्य शाखेशी जोडले. बाण चन्हांचा वापर करून उपगुणमधील संबंध मुख्य शाखेच्या माहिती सोबत जोडली आ ण स्पष्ट केली. माहिती कंवा वाक्य अगदी थोडक्यात लहिले.

५) दृश्यमान प्रतिनि धत्व- जिथे जिथे शक्य झाले तिथे तिथे उपशीर्षक देऊन, चन्हे, आलेख कंवा आकृती या स्वरूपात वद्यार्थ्यांनी माहिती सादर केली.

६) अ धक चत्रे- वद्यार्थ्यांनी जिथे शक्य होते तिथं ल खत माहिती समोर एक लहान प्रतिमा काढली. ह्यामुळे माहितीचा संबंध चत्राशी जोडायला मदत झाली. त्यामुळे माहिती लक्षात ठेवायला सुद्धा मदत झाली.

७) रंग- वद्यार्थ्यांनी व वध शीर्षकांतर्गत माहिती दर्शवण्यासाठी व वध रंगाचा चपखल वापर केला. वद्यार्थ्यांनी माईंडमॅप तयार झाल्यानंतर मुख्य कल्पनेकडून सुरुवात करून शीर्षक आ ण उपशीर्षक याचे वाचन प्रथम गट केले. नंतर गटप्रमुखाने वर्गासमोर प्रस्तुत-सादरीकरण केले. संशो धकेने वद्यार्थी गटकार्यातील वर्तन, आलेख, समर्पक चन्हे, आकृती, रंगाचा आवश्यक तिथे वापर, माहिती संकलन करताना वचारात घेतलेले मुद्दे, माहिती सादरीकरण करतानाच आत्म वश्वास, गटात नेतृत्वाची संधी घेण्याची वारंवारता यासर्व मुद्द्यांचा वचार करून संशो धकेने चौथी 'क' च्या वद्यार्थ्यांचे मूल्यमापन केले.सर्वसमावेशक वर्गाचा मळून एक माईंडमॅप गटात बनवला. वद्यार्थी माईंडमॅप ही नवीन कार्यनीती आत्मसात करताना ना वन्याचा आनंद घेत होते. मोठ्या संकल्पना, मोठ्या नोट्स सं क्षप्त करता आल्या. मुलांची निरीक्षण क्षमता, आकलनशक्ती, ज्ञान, भा षक कौशल्य, गटकार्य, गटातील नेतृत्व, ना वन्यता, सृजन कौशल्य, मौ खक कौशल्य, सवांद संप्रेषण, रुची, अ भवृत्ती इत्यादी कौशल्यांचे मूल्यमापन संशो धकेला सातत्याने करता येणे शक्य

झाले. मूल्यमापन मूलतः केवळ वषयज्ञानाचे नसून ते वषयाच्या अभ्यासाची एकूण उद्दिष्टे वद्यार्थांनी कती संपादन केली आहेत याचे असते. या सगळ्या बाबतीतले वद्यार्थ्यांचे स्वतःचे स्थान वद्यार्थ्याला आ ण शक्षकाला कळणे महत्त्वाचे आहे. यादृष्टीकोनातून अ धकचे प्रयत्न करण्यात आले.

माहितीचे वश्लेषण व त्यापासून घ्यावयाचा बोध:

माहितीचे संकलन पूर्वचाचणी आ ण उत्तरचाचणी प्रश्नावलीतून करण्यात आले. चेंबूर एज्युकेशन सोसायटीची प्राथ मक शाळेतील इयत्ता चौथीच्या वद्यार्थ्यांकडून माहितीचे संकलन करण्यात आले. एका गटाला पारंपरिक पद्धतीने शकवण्यातआलेव मूल्यमापन पारंपारिक पद्धतीने घेतले. दुसऱ्या गटाला माईंडमॅपकार्यनीतीने शकवण्यात आले आ णमाईंडमॅपचा मूल्यमापन साधनतंत्र म्हणून वापर करण्यात आला.आकारीक मूल्यमापनाकरिता दैनंदिन निरीक्षण, प्रात्य क्षक प्रयोग, प्रकल्प, भाषण-संभाषण याकरिता प्रत्येकी ५ गुण निर्धारित केले होते व २५ गुणांची लेखी परीक्षा घेण्यात आली. प्राप्तमाहितीच्या नोंदी काळजीपूर्वकघेण्यात आल्या. त्यानोंदी खालील कोष्टकात नोंदण्यात आल्या. प्राप्त माहितीचे संख्याशास्त्रीय वश्लेषण करण्यातआले.

कोष्टक क्रमांक- **1** गट- पहिला वगट-दुसरा पूर्वचाचणीउत्तरचाचणीसंपादणुकीतला फरक

अनु . क्रमांक	पूर्वचाचणीगट-पहिला	उत्तरचाचणी गट-पहिला	संपादणुकीतला फरक	पूर्वचाचणी गट-दुसरा	उत्तरचाचणी गट-दुसरा	संपादणुकीतला फरक
1	5	23	18	5	50	45
2	8	29	21	8	48	40
3	11	38	27	7	45	38
4	9	40	31	6	43	37
5	7	46	39	8	49	41
6	8	37	29	11	47	36

7	6	39	33	12	41	29
8	3	26	23	13	43	30
9	2	24	22	6	50	44
10	1	38	37	9	50	41
11	5	32	27	8	50	42
12	8	42	34	6	37	31
13	7	47	40	5	29	24
14	6	31	25	3	43	40
15	8	30	22	4	42	38
16	11	27	16	0	38	38
17	6	24	18	1	50	49
18	13	28	15	5	50	45
19	2	17	15	9	50	41
20	0	12	12	8	50	42

कोष्टकक्रमांक- 2 पूर्वचाचणी व उत्तरचाचणी यांच्या समीकरणांची तुलना

	पूर्वचाचणी गट-पहिला	उत्तरचाचणी गट-पहिला	पूर्वचाचणीगट-दुसरा	उत्तरचाचणी गट-दुसरा
Mean	6.3	31.5	6.7	45.25
Standard Error	0.7749363	2.0844032	0.7472758	1.291419
Median	6.5	30.5	6.5	47.5
Mode	8	38	8	50
Standard Deviation	3.4656206	9.3217346	3.3419188	5.7754016
Sample Variance	12.010526	86.894737	11.168421	33.355263
Kurtosis	-0.409060	-0.393385	-0.000221	1.7834803
Skewness	-0.070135	-0.184749	-0.094760	-1.348643
Range	13	35	13	21
Minimum	0	12	0	29
Maximum	13	47	13	50
Sum	126	630	134	905

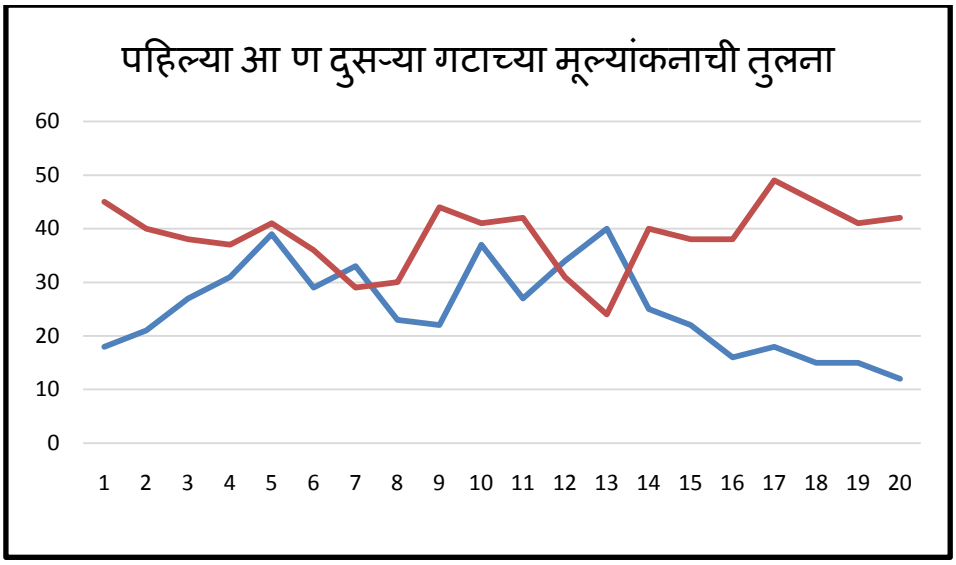
Count	20	20	20	20

दोन गटांचा तुलनात्मक अभ्यास करण्यासाठी टी ' परी क्षकेचा वापर केला जातो संशोधनामध्ये संदर .

तुलनात्मक यांचा मूल्यमापन केलेले वापरून साधनतंत्र माईंडमॅप आ ण पद्धती मूल्यमापन पारंपारिक

टी करण्यासाठी अभ्यास' परी क्षकेचा उपयोग केला गेला.

आकृती : १पहिल्या व दुसऱ्या गटाच्या मूल्यांकनाची तुलनेचा आलेख



कोष्टकक्रमांक- 3 पूर्वचाचणी व उत्तरचाचणी यांच्या समीकरणांची तुलना t-Test

t-Test: Two-Sample Assuming Unequal Variances		
	संपादणूक गट-दुसरा	संपादणूक गट-पहिला
Mean	*38.55*	*25.20*
Variance	*37.42*	*71.33*
Observations	*20.00*	*20.00*
Hypothesized Mean difference	*0.00*	
df	*35.00*	
t Stat	*5.73*	
P(T<=t) one-tail	*0.00*	
t Critical one-tail	*1.69*	
P(T<=t) two-tail	*0.00*	

t Critical two-tail	*2.03*	

निष्कर्ष:

परिकल्पनेचे सांख्यिकीय परीक्षण केले असता " वद्यार्थ्यांचे पारंपारिक पद्धतीने केलेले मूल्यमापन आ ण माईंडमॅप साधनतंत्राद्वारे केलेले मूल्यमापन यात कोणताही लक्षणीय फरक नाही"ह्या शून्य परिकल्पनेचा त्याग केलाआहे. म्हणजेच माईंडमॅप वज्ञान वषयाच्या मूल्यमापनाकरिता साधनतंत्र म्हणून उपयुक्त आहे.

१) वद्यार्थ्यांच्या मूल्यमापनाकरिता माईंडमॅप कार्यनीती तंत्र उपयुक्त साधन आहे. वद्यार्थ्यांचे पूर्व आ ण उत्तर अध्ययन संपादणुकीचे मोजमाप करण्याचे साधन म्हणून माईंडमॅप पाहता येणे शक्य आहे.

२) वद्यार्थ्यांच्या मूल्यमापनाचे साधनतंत्र म्हणून माईंडमॅप कार्यनीती उपयुक्त आहे.

३) वद्यार्थ्यांच्या सर्जनशील वचारांना चालना मळाली.

४) सर्वसमावेशक वर्गासाठी माईंडमॅपमूल्यमापन साधन तंत्र उपयुक्त आ ण पूरक आहे.

५) दीर्घोत्तरी उत्तरे लहिण्यापेक्षा माईंडमॅप वद्यार्थ्यांना जास्त रंजक वाटला त्यामुळे क्रयाशीलतेला वाव मळाला.

६) शक्षण आनंदायी होण्याच्या दृष्टीने माईंडमॅप मूल्यमापन साधनतंत्र महत्त्वाचे आहे.

७)दिव्यांग मुले उदा.अवनी कोंड वलकर, रितेश सकट, समाधान गोल्हार यांनी माईंडमॅपअत्यंत कमी वेळात व समर्पक बनवला.

८)ज्या मुलांना लहिण्याचा कंटाळा आहे त्यांनी माईंडमॅप काढताना बराच उत्साह दाखवला. पारंपरिक परीक्षा होणार नाही हे समजल्यावर त्यांनी जल्लोष केला.

९) वद्यार्थ्यांच्या उपस्थितीत लक्षणीय वाढ झाली.

१०)पारंपारिक पद्धतीच्या मूल्यमापन पद्धतीपेक्षा माईंडमॅप पद्धतीने मूल्यमापन वद्यार्थ्यांना अ धक रंजक, ताण वरहित, आनंददायी झाली.

भ वष्यातील कार्यासाठीचा वाव**:**

१) वज्ञान, इतिहास, भूगोल इत्यादी वषयांच्या मूल्यमापनासाठी ही कार्यनिती उत्तम आहे. त्यामुळे इतर वषयातही माईंडमॅप मूल्यमापनसाधनतंत्र म्हणून अभ्यास होणे गरजेचे आहे.

२) वद्यार्थ्यांनी माईंडमॅप ह्या कार्यनीतीची सवय वक सत केल्यास पुढील माध्य मक शक्षणात व उच्च शक्षणात स्वयंअध्ययन व कृतिशीलतेला वाव मळेल.आत्म वश्वास वाढीस लागेल.

३) सर्वसमावेशीत वर्गात दिव्यांग मुलांना मोठ्या नोट्सपेक्षा माईंडमॅप हे तंत्र अ धक सोपे व उपयुक्त आहे. गटकार्य व सहभागातून अध्ययन व स्वावलंबन याकरीता ह्या कार्यनीतीचा अ धक परिणामकारक उपयोग होऊ शकतो.

४) मूल्यमापनाकरितापॉवरपॉईंट डजिटलमाईंडमॅप साधनतंत्र वकसनाच्या शक्यता पाहता येतील.

५) माईंडमॅप पद्धतीने मुलांनी नेमके काय आत्मसात केले आहे त्याचे यथार्थ चत्रण शक्षकाला मळते. त्यामुळे मुलांमधील मार्कांची स्पर्धा संपुष्टात येऊ शकेल.

६) वद्यार्थ्यांनात्यांच्या व्यक्तिगतआयुष्यातह्या कार्यनीतीचा परिणामकारक व सकारात्मक उपयोग करून घेता येईल.

मर्यादा **:**

१) जास्त वद्यार्थी संख्या असलेल्या वर्गात प्रत्येक वद्यार्थ्याला शक्षक म्हणून मर्यादित असलेला वेळ माईंडमॅप कार्यनीतीला नेहमीच देता येण्याबाबत मर्यादा आहे.

२**)** सर्वच वषयांच्या सर्वच कंवा व वध संकल्पना ह्यापद्धतीने मूल्यमापन करण्याकरिता मर्यादा आहेत.

3) माईंडमॅप हे तंत्र वद्यार्थ्यांनी आत्मसात करण्याकरिता प्रथम शक्षकांनी स्वतः त्यावर प्रभुत्व मळ वणे गरजेचे आहे परंतु सर्वच शक्षकांना तशी आवश्यकता वाटेलच याबाबतही मर्यादा आहे.

आभार

माझ्या शाळेचे म्हणजेच चेंबूर एज्युकेशन सोसायटीची प्राथ मक शाळेचे सन्मा. मुख्याध्यापक श्री. व ल कांबळेसर जे नेहमीच प्रयोगशीलतेला, नावीन्यतेला, सृजनाला प्रोत्साहन देतात, या कार्याकरिता पूर्ण वश्वास ठेवला व त्यांनी संशोधनाकरिता परवानगी दिली याकरिता सरांचीमी सदैव ऋणी आहे.श्रीमती. श मका म्हात्रे, चौथी/'क'च्या वर्ग श क्षकायांनी त्यांच्या वर्गाध्यापनातून वेळ आनंदाने उपलब्ध करून दिला त्याबद्दल त्यांचेही मनापासून आभार. संशोधन कार्यात संदर्भ ग्रंथ आ ण पुस्तके यांचे अनन्यसाधारण महत्त्व असून ही संदर्भ ग्रंथ व पुस्तके उपलब्ध करून देणाऱ्या चेंबूर सर्वंकष शक्षणशास्त्र महा वद्यालयाच्या ग्रंथपाल श्रीमती. सुवर्णा परब यांचे मनापासून आभार. डॉ. वद्या नाईक व डॉ. कुसुम चौधरी यांनीमाझ्या संशोधन कार्यात मोलाचे मार्गदर्शनकेले आ ण त्यामुळेच संशोधनपूर्णत्वाला येऊ शकले, याकरिता दोघींचीहीमी सदैव ऋणी आहे. माझ्या शाळेतील चौथी 'क'चे वद्यार्थी, ज्यांच्या स क्रय योगदाना शवाय प्रस्तुत संशोधन पूर्ण होऊच शकले नसते त्यांचेहीमी शतशः ऋणी आहे. माझे कुटुंबीयांनी वेळोवेळी दाखवलेला सयंम व सहकार्याबद्दल त्यांचीही मी आभारी आहे. संशोधन कार्यात अनेक ज्ञात, अज्ञात मंडळींची प्रत्यक्ष व अप्रत्यक्ष सहकार्य लाभत असते ह्या सर्वांची संशो धका ऋणी आहे.

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ASSESSMENT FOR 21st CENTURY LIFE SKILLS

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Abstract

Since for many people life in the 21st Century has become more international, multicultural and inter-connected, new skills are needed to succeed in education and in the workplace. In this paper conceptualizations of so-called 21st Century skills are collated and explored. The question of how the development of such skills in young people can best be supported is considered in depth. "Because of rapid economic and social change, schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don't yet know will arise." Andreas Schleicher, OECD Education Directorate, 2010. There is a widening gap between the knowledge and skills students are acquiring in schools and the knowledge and skills needed to succeed in the increasingly global, technology-infused 21st century workplace. The current assessment landscape is replete with assessments that measure knowledge of core content areas such as language arts, mathematics, science and social studies. Possession of detailed facts and figures was once a passport to a professional job or a university place, there is now much more emphasis on what people can do with the knowle dge they can access (Silva, 2009) and on interpersonal skills.

Keywords: *21st century skills, scale development, life and career skills, learning environment.*

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21st Century Skills are the set of skills students need to succeed in learning, work and life in this century. To ensure success, students need both deep understanding of the major principles and facts in core subjects (such as math, language, arts, science, history, etc.) and also be able to apply this knowledge to important contemporary themes (such as global awareness, financial, health and environmental literacy, etc.) using a variety of skills, such as:
Learning and Innovation Skills (critical thinking and problem solving, creativity and innovation)
Digital Literacy Skills (information, media and technology literacy); and
Life and Career Skills (initiative and self-direction, leadership, adaptability, etc.).

Need for this skills:

These skills are vital for everyone's success in our times, and global competition, increased access to technology, digital information and tools are only increasing the importance of these 21st century knowledge-and-skills. Today, every student requires 21st century skills to succeed. Employers the world over say that recently hired workers, including postsecondary

graduates, are ill-prepared in a number of basic knowledge areas and in many of the key skills for successful work in the 21st century.

A number of leading education thinkers, such as Sir Ken Robinson, Daniel Pink, Howard Gardner (Harvard), Richard Murnane (Harvard) and Edgar Morin (UNESCO), agree that these skills are now critical for a country's economic success and advocate the learning of these skills as part of everyone's education.

Are these skills even new? It seems like Plato and Aristotle were imparting these skills.

➢ The skills are not new (with the exception of some of the Digital Literacy skills), but for centuries have been offered to only the privileged and gifted students. Yet all students need these skills to succeed.

➢ Other cultures besides the Greeks understood the importance of skills as well. Confucius recognized the need for learning by doing, quoted as: "I hear and I forget, I see and I remember, I do and I understand". Michel de Montaigne said "Rather a mind well-shaped than well-full".

➢ According to Christopher Dede, a professor at the Harvard Graduate School of Education, students are better engaged and learn more deeply when they are taught in the context and environment where that learning normally occurs, such as solving a real-world problem.

➢ According to Elena Silva, senior policy analyst at Education Sector, "the best learning happens when students learn core subjects and processes, such as the rules and procedures of arithmetic, at the same time that they learn how to think and solve problems."

➢ According to John Bransford of the University of Washington Professor of Education and Psychology, and author of How People Learn, the following characteristics are part of how we naturally learn:

- Context – Real-world learning
- Caring – Intrinsic motivation
- Construction – Mental & virtual model-building
- Competence – Multiple pathways to expertise
- Community – Learning socially in groups & teams

Important 21st century life skills are:

Critical thinking, problem solving, communications skills, innovation skills, technology skills and career and life skills will be needed far into the next century, yet many countries have not yet focused their resources on the best ways to teach and assess these skills. The countries that fully understand the link between students learning these skills and the future health and welfare of their economies will be the ones who invest and develop the best ways to do this. That is why the 21st century skills movement won't be short-lived. It is an economic and social imperative we all share now.

As schools invest more time teaching students critical thinking skills, the need to invest in technology to enable measurement of teaching methods will become increasingly important."Because 21st century skills are comparatively more complex, non-routine and dynamic, the measurement process needs to take into account their application in real-life and non-familiar situations," the report noted.Challenges can arise when it comes to assessment design owing to how these skills are interrelated and complex. Since the skills are also generic and transferable, problems also arise when it comes to adding "domain-specific knowledge."Validating the assessments can also prove difficult owing to the various interpretations involved in the measurement process. "Establishing construct validity — how well the assessment measures what it is intended to measure — is challenging when working with complex constructs, with no clear operational definitions of the skills. A related challenge is in establishing the set of standards which can be accepted as evidence for whatever inferences we make related to the target construct," the report found.

Assessment can be used by teachers to solve several problems:

1. Locate students along a learning progression and identify gaps in achievement.
2. Adapt instructional practices to individual needs and information instructional improvement.
3. Track and communicate student progress.
4. Inform data-driven decision-making at classroom and school levels.

SPECTRUM OF 21ST CENTURY ASSESSMENTS

• Rubrics • Checklists • Observations • Project Logs • Contracts • Formal/Informal Questions

ASSESSMENT IN THE 21ST CENTURY

∞ Core Knowledge is aligned with 21st Century skills

∞ Integrated with instruction: Embedded formative assessment guides teaching and learning, curriculum and planning

∞ Multiple measures provide numerical data and support informed judgment ∞ Feedback to help students progress towards targets; Flexible and responsive to students

∞ Skills and application are emphasized in the context of content knowledge.

∞ Embed knowledge and skills into demonstrations of learning: assess both

∞ Fair (without bias), Valid (measures intended targets), Reliable (consistent & error free)

Necessity for soft skills:

➢ According to Elena Silva, senior policy analyst at Education Sector, "the best learning happens when students learn core subjects and processes, such as the rules and procedures of arithmetic, at the same time that they learn how to think and solve problems." We now know that motivation and engagement are crucial to learning success. By integrating the learning of core knowledge, key 21st skills, the effective use of technology and applying this learning to relevant, real world problems and questions, in every classroom, we will help build a society of knowledgeable, responsible citizens, workers and leaders equipped to handle the challenges of our times and to continue learning lifelong. The learning of core subjects is amplified and strengthened by the integration of 21st century skills as these skills:

- Help bring theory, facts, questions and problems, and real world applications together in a powerful learning experiences
- Have a transformative potential to go beyond the walls of a classroom to connect students with global peers through the development of digital literacies
- Promote deeper understanding, more useful knowledge, and pro-social, responsible approaches to everyday life when students study core subjects as they learn how to think critically and creatively, research answers to questions, solve problems, and innovate.

Change almost never happens at once, especially in education. It is now important to focus on what are the essential themes and big ideas for 21st century skills and how it can be integrated with more focused set of learning goals. It is also important to move decisively. The future is not waiting; we need to be integrating 21st skills into the learning program, in every classroom, for every student today.

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