

Induction Training Programme for Newly Recruited Secondary Teacher Educators of Tamil Nadu and Pondicherry

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[National Council of Educational Research & Training, New Delhi]

January 2010

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Acknowledgement

I greatly acknowledge the contributions of the following resource persons :

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About the Programme

The present era is a knowledge era and the nation progresses if it has an active knowledge based societies within it. As there is knowledge explosion in science and technology, its impact is seen in terms of - modernization, industrialization etc. As every individual through constructivist approach is constructing knowledge, there is always scope for change, in every aspect of knowledge acquisition and knowledge utility. This dynamic aspect of knowledge makes us to re-look into all the existing practices of knowledge acquisition.

The training program for teacher-educators and teachers has become more necessary, as there is new thrust being emphasized in NCF-2005 and the new role of teacher as facilitator of knowledge construction in conducive teaching-learning environment, adopting to-

1. Existing school learning environment
2. Acquiring knowledge about the current trends in teaching-learning patterns
3. Inter-linking all the mastered knowledge in classroom environment, to facilitate better learning by learners
4. Taking pride in working as a profession in the field, using the modern technologies like- ICT and Computer assisted Instruction, etc make the teachers to upgrade themselves through their in-service training programs.

Though teacher educators undergo professional training course, we notice wide gap existing between theory and practical realities. Experiences in practice of teacher education does not go hand in hand with instructional models of teaching of specific subjects and also empowering trainees as "agents of change"-NCF-2005.

The major shifts in teacher education program as envisaged in NCF-2005 are

- Understanding that the learner needs to be given priority
- Learning should be appreciated as a participatory process that takes place in the shared social context of learners immediate peers as well as the wider social community or the nation as a whole
- Teacher role must be a facilitator/supporter in enhancing learning activities
- Knowledge is multidisciplinary in nature within the context of education
- Providing adequate scope for viewing a theoretical understanding and its practical aspects in more integrated manner
- Understanding learning as social activity taking place in social environment
- It must address Indian society in pluralistic view, gender equity, etc
- Use different appraisals to reflect of learning process
- In-service training as tool of professional development.

Keeping above views, the induction-training programme attempts to address some of the major areas relevant to present educational system like- Inclusive education, Integration of educational technology, Multiple intelligences, Psychological testing, Action research. Evaluation procedures and grading system etc are included in the training package.. The different nodes of transactions like- panel discussion, expository methods, hands on experiences and reflective practices; will adopted in the training program.

Dr T.V.Somashekar
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About the Training Modules

The present program aims at providing academic induction training to teacher-educators. After having consultation with the state personnel, the following areas were identified as training inputs and presented as modules.

The module “**Salient features of NCF-2005**” discusses about the procedure adopted in developing the curriculum, the thrust curricular and co-curricular areas; the envisaged systemic reforms, at school level.

The module “**Constructivist Approach for Classroom Transactions**” gives brief details about the theories of constructivism, the role of- learner, teacher & social learning environment, the strategies for constructivist teaching, lesson planning and evaluation procedure adopted in constructivist approach.

The module “**Inclusive Education**” highlights the need, importance and ways of converting existing school into inclusive school; categories of children in inclusive school, ways to identify such children and support services that must be available in such schools are discussed.

The module “**Learning Disabilities and Gifted Children**” discusses the significant group of children who come under this

category. The causes of LDs, identification of children with LDs, ways to overcome LDs, different teaching approaches to deal with such children are discussed. Though the gifted children forms less than 1% of total population, their contribution to nation's growth is enormous. The specific behaviours of such children; enrichment activities for gifted are discussed.

The module "**Life Skills Education**" discusses about some of the major essential life skill components like- problem-solving ability, Coping with the stress, Interpersonal relationships, in detail. These skills components and techniques are presented in detail.

The module "**Guidance and Counseling**" discuss about the importance, need and types of guidance. Its present relevance in school situation and the role of teacher as counselor.

The module "**Integration of Educational Technology in Classrooms**" discusses about the role of ICT, its different types/forms, usage of multimedia in teaching-learning process, virtual reality, challenges to technology integration.

The module "**Action Research**" focuses on the role of teacher as practioner of research in classroom situation. It gives detail about the steps of action research, preparation of action research proposal, action plan and report writing.

The module “**Multiple Intelligence**” discusses about the theory of multiple intelligences, its components, and its usage in educational field.

The module “**Psychological testing**” discusses about psychometric test, its nature, its selection, and administration, scoring and interpreting procedure in detail.

The module “**Education for Peace**” discusses about difference between education for peace and peace education, importance of peace education and ways to promote peace among learners through inter-disciplinary approach.

The module “**Evaluation Procedures and Grading System**” discusses about the current practices of evaluation, need for grading system and different forms of grading are presented.

List of Resource Persons

I. Planning Meeting on 31.7.2009, Venue: RIE, Mysore

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II. Workshop for Development of Training Modules, 22-25 Sept. 2009, Venue: RIE, Mysore

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III. Training Programme, 4-8 January 2010, Venue: RIE, Mysore

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Salient Features of NCF 2005

The National Curriculum Framework (NCF) opens with a quotation from Rabindranath Tagore's essay, *Civilisation and Progress*, in which the poet reminds us that a 'creative spirit' and 'generous joy' are key in childhood, both of which can be distorted by an unthinking adult world. The opening chapter discusses curricular reform efforts made since Independence. The National Policy on Education (NPE, 1986) proposed the National Curriculum Framework as a means of evolving a national system of education, recommending a core component derived from the vision of national development enshrined in the Constitution. The Programme of Action (POA, 1992) elaborated this focus by emphasising relevance, flexibility and quality. Seeking guidance from the Constitutional vision of India as a secular, egalitarian and pluralistic society, founded on the values of social justice and equality, certain broad aims of education have been identified in this document. These include independence of thought and action, sensitivity to others' well-being and feelings, learning to respond to new situations in a flexible and creative manner, predisposition towards participation in democratic processes, and the ability to work towards and contribute to economic processes and social change. For teaching to serve as a means of strengthening our democratic way of life, it must respond to the presence of first generation school-goers, whose retention is imperative owing to the Constitutional amendment that has made elementary education a fundamental right of every child. Ensuring health, nutrition and an inclusive school environment empowering all children in their learning, across differences of caste, religion, gender, disability, is enjoined upon us by the Constitutional amendment.

The fact that learning has become a source of burden and stress on children and their parents is an evidence of a deep distortion in educational aims and quality. To correct this distortion, the present NCF proposes five guiding principles for curriculum development:

- connecting knowledge to life outside the school;
- ensuring that learning shifts away from rote methods;
- enriching the curriculum so that it goes beyond textbooks;
- making examinations more flexible and integrating them with classroom life; and
- nurturing an overriding identity informed by caring concerns within the democratic polity of the country.

All our pedagogic efforts during the primary classes greatly depend on professional planning and the significant expansion of Early Childhood Care and Education (ECCE).

Indeed, the revision of primary school syllabi and textbooks needs to be undertaken in the light of the well-known principles of ECCE. The nature of knowledge and children's own strategies of learning are discussed, which formulates a theoretical basis for the recommendations made in the different curricular areas. The fact that the child constructs knowledge implies that curricula, syllabi and textbooks should enable the teacher in organising classroom experiences in consonance with the child's nature and environment, and thus providing opportunities for all children. Teaching should aim at enhancing children's natural desire and strategies to learn.

Knowledge needs to be distinguished from information, and teaching needs to be seen as a professional activity, not as coaching for memorisation or as transmission of facts. Activity is the heart of the child's attempt to make sense of the world around him/her. Therefore, every resource must be deployed to enable children to express themselves, handle objects, explore their natural and social milieu, and to grow up healthy. If children's classroom experiences are to be organized in a manner that permits them to construct knowledge, then our school system requires substantial systemic reforms and reconceptualisation of curricular areas or school subjects and resources to improve the quality of the school ethos. In all the four familiar areas of the school curriculum, i.e. language, mathematics, science and social sciences, significant changes are recommended with a view to making education more relevant to the present day and future needs, and in order to alleviate the stress with which children are coping today. This NCF recommends the softening of subject boundaries so that children can get a taste of integrated knowledge and the joy of understanding. In addition, plurality of textbooks and other material, which could incorporate local knowledge and traditional skills, and a stimulating school environment that responds to the child's home and community environment, are also suggested. In **language**, a renewed attempt to implement the three-language formula is suggested, along with an emphasis on the recognition of children's mother tongues, including tribal languages, as the best medium of education. The multilingual character of Indian society should be seen as a resource to promote multilingual proficiency in every child, which includes proficiency in English. This is possible only if learning builds on sound language pedagogy in the mother tongue. Reading and writing, listening and speech, contribute to the child's progress in all curricular areas and must be the basis for curriculum planning. Emphasis on reading throughout the primary classes is necessary to give every child a solid foundation for school learning.

The teaching of **mathematics** should enhance the child's resources to think and reason, to visualise and handle abstractions, to formulate and solve problems. This broad spectrum of aims can be covered by teaching relevant and important mathematics embedded in the child's experience. Succeeding in mathematics should be seen as the right of every child. For this, widening its scope and relating it to other subjects is essential. The infrastructural challenge involved in making available computer hardware, and software and connectivity to every school should be pursued.

The teaching of **science** should be recast so that it enables children to examine and analyse everyday experiences. Concerns and issues pertaining to the environment should be emphasised in every subject and through a wide range of activities involving outdoor project work. Some of the information and understanding flowing from such projects could contribute to the elaboration of a publicly accessible, transparent database on India's environment, which would in turn become a most valuable educational resource. If well planned, many of these student projects could lead to knowledge generation. A social movement along the lines of Children's Science Congress should be visualised in order to promote discovery learning across the nation, and eventually throughout South Asia.

In the **social sciences**, the approach proposed in the NCF recognises disciplinary markers while emphasising integration on significant themes, such as water. A paradigm shift is recommended, proposing the study of the social sciences from the perspective of marginalised groups. Gender justice and a sensitivity towards issues related to SC and ST communities and minority sensibilities must inform all sectors of the social sciences. Civics should be

recast as political science, and the significance of history as a shaping influence on the child's conception of the past and civic identity should be recognised.

This NCF draws attention to four other curricular areas: work; the arts and heritage crafts; health and physical education; and education for peace. In the context of **work**, certain radical steps to link learning with work from the primary stage upwards are suggested on the ground that work transforms knowledge into experience and generates important personal and social values, such as self-reliance, creativity and cooperation. It also inspires new forms of knowledge and creativity. At the senior level, a strategy to formally recognise out-of-school resources for work is recommended to benefit children who opt for livelihood-related education. Such out-of-school agencies need accreditation so that they can provide 'work benches' where children can work with tools and other resources. Craft mapping is recommended to identify zones where vocational training in craft forms involving local craft persons can be made available to children.

Art as a subject at all stages is recommended, covering all four major spheres, i.e. music, dance, visual arts and theatre. The emphasis should be on interactive approaches, not instruction, because the goal of art education is to promote aesthetic and personal awareness and the ability to express oneself in different forms. The importance of India's heritage crafts, both in terms of their economic and aesthetic values, should be recognized as being relevant to school education.

The child's success at school depends on nutrition and well-planned physical activity programmes; hence resources and school time must be deployed for the strengthening of the midday meal programme. Special efforts

are needed to ensure that girls receive as much attention in health and physical education programmes as boys from the pre-school stage upwards.

Peace as a precondition for national development and as a social temper is proposed as a comprehensive value framework that has immense relevance today in view of the growing tendency across the world towards intolerance and violence as a way of resolving conflicts. The potential of peace education for socialising children into a democratic and just culture can be actualised through appropriate activities and a judicious choice of topics in all subjects and at all stages. Peace education as an area of study is recommended for inclusion in the curriculum for teacher education.

The school ethos is discussed as a dimension of the curriculum as it predisposes the child towards the aims of education and strategies of learning necessary for success at school. As a resource, school time needs to be planned in a flexible manner. Locally planned and flexible school calendars and time tables which permit time slots of different lengths required for different kinds of activities, such as project work and outdoor excursions to natural and heritage sites, are recommended. Efforts are required for preparing more learning resources for children, especially books and reference materials in regional languages, for school and teacher reference libraries, and for access to interactive rather than disseminative technologies. The NCF emphasises the importance of multiplicity and fluidity of options at the senior secondary level, discouraging the entrenched tendency to place children in fixed streams, and limiting opportunities of children, especially from the rural areas.

In the context of **systemic reforms**, this document emphasises strengthening Panchayat Raj institutions by the adoption of a more streamlined

approach to encourage community participation as a means of enhancing quality and accountability. A variety of school-based projects pertaining to the environment could help create the knowledge base for the Panchayati Raj institutions to better manage and regenerate local environmental resources. Academic planning and leadership at the school level is essential for improving quality and strategic differentiation of roles is necessary at block and cluster levels. In **teacher education**, radical steps are required to reverse the recent trend towards the dilution of professional norms as recommended by the Chattopadhyaya Commission (1984). Pre-service training programmes need to be more comprehensive and lengthy, incorporating sufficient opportunities for observation of children and integration of pedagogic theory with practice through school internship.

Examination reforms constitute the most important systemic measure to be taken for curricular renewal and to find a remedy for the growing problem of psychological pressure that children and their parents feel, especially in Classes X and XII. Specific measures include changing the typology of the question paper so that reasoning and creative abilities replace memorisation as the basis of evaluation, and integration of examinations with classroom life by encouraging transparency and internal assessment. The stress on pre-board examinations must be reversed, and strategies enabling children to opt for different levels of attainment should be encouraged to overcome the present system of generalized classification into 'pass' and 'fail' categories.

Finally, the document recommends partnerships between the school system and other civil society groups, including non-governmental organisations and teacher organisations. The innovative experiences already available should be mainstreamed, and awareness of the challenges implied in the

Universalisation of Elementary Education (UEE) should become a subject of wide-ranging cooperation between the state and all agencies concerned about children.

Constructivist Approach for Classroom Transaction

Dr.T.V.Somashekar¹

Objectives

After going through this module, you will be able to

1. acquire knowledge about constructivism
2. use constructivist approach of lesson planning
3. selecting an appropriate teaching strategies in constructivist approach
- 4 create varieties of learning experiences during teaching-learning process
5. adopting reflective practices
6. using appropriate evaluation procedures

Rationale

Constructivism is basically a theory – based on observation and scientific study – about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. When we encounter something new, we have to reconcile it with our previous ideas and experience, maybe changing what we believe, or maybe discarding the new information as irrelevant. In any case, we are active creators of our own knowledge. To do this, we must ask questions, explore, and assess what we know.

Meaning

Constructivism has evolved from Cognitive Psychology. Constructivism paradigm is based upon the contribution of Piaget, Lev Vygotsky, Bruner,

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Howard Gardner and Nelson Goodman. The Reflective thinking of John Dewey has influenced Constructivism. Thus, Constructivism is a synthesis of many dominant perspectives on learning. It is not entirely new. It is believed that key element of Constructivist theory is that people learn by actively constructing their own knowledge, comparing new knowledge with their previous understanding and using all these to come to new understanding.

In the classroom, the constructivist view of learning can point towards a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The teacher makes sure he/she understands the students' preexisting conceptions, and guides the activity to address them and then build on them.

Constructivist teachers encourage students to constantly assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become "expert learners." This gives them ever-broadening tools to keep learning.

Students construct their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying them to new situations and integrating new knowledge gained with pre-existing intellectual constructs.

Theoretical Background of the Constructivist Approach

The Constructivist approach has emerged from the Theories of Learning by Psychologists like Dewey, Piaget, Vygotsky, Skinner, etc.

John Dewey, an American Philosopher and Educator who established the Experimental Laboratory School at the University of Chicago, is regarded as the Father of Progressive Education in America. His theory states that students learn by '**Directed Living**' with an emphasis on workshop type project so that learning is combined with concrete activity and practical relevance. He rejected the practice of rote learning which was a common mode of instruction in those days.

B.F. Skinner, an American psychologist who was the primary exponent of behaviourist approach explored the application of Operant Conditioning. His theory is that humans are trainable with Stimulus-Response techniques. Changes in behaviour are the result of an individual responding to events in the environment (stimuli). A response involves some action on the part of the learner. When a desired Stimulus-Response pattern is reinforced (rewarded), the individual is conditioned to respond in a particular manner.

Jerome S. Bruner, an American Psychologist whose theory says that learning is an active, social process in which students construct new ideas or concepts based on current knowledge. The students select information and makes decisions in the process of integrating experiences into their existing mental constructs.

Robert Gagne, an American Psychologist and Educator, Co-developer of "Instructional Systems Design" theorized that instruction can be analysed and broken down into component parts which can then be taught sequentially as Reception, Expectancy, Retrieval, Selective perception, Semantic encoding, Responding, Reinforcement, Retrieval and Generalization.

David P. Ausubel's Meaningful Reception Theory of Meaningful Verbal Learning is concerned with how material is learned in classroom presentation and self-study. Ausubel argued that learning new materials depends greatly on the existing cognitive structure or what the person already knows. New information is more meaningful if it is related to existing knowledge.

Jean Piaget, who is best known for his research on the development of Cognitive functions in children, laid the foundation for Constructivism. His theory says that children evolve through specific stages in which Cognitive structures become progressively more complex. There are four levels of Cognitive Development – Sensorimotor, Preoperational, Concrete operational and Formal operational. Learning occurs through adaptation to interactions with the environment. Disequilibrium (mental conflict which demands resolution) give rise to assimilation of a new experience, which are added to existing knowledge, or accommodation, which is modification of existing understanding to provide the new experience.

Lev Vygotsky is a Russian Psychologist whose theory is that Social interaction plays a fundamental role in the development of Cognition. He believed that everything is learned at two levels. First through interaction with others, and then integrated into the individual's mental structure. Another aspect of Vygotsky's theory is the idea that the potential for Cognitive development is limited to a "zone of proximal development". This 'zone' is the area of exploration for which the student is cognitively prepared, but requires help and social interaction to fully develop.

Constructivism is a blend of all these theories of learning, which makes the learner to make use of mental abilities with given social environment of learning to the maximum extent.

Types of Constructivism

a) Piaget's Cognitive Constructivism – Jean Piaget's work is the basis of Cognitive Constructivism, which discusses the mechanism of accepting intellectual structures as an individually constructed approach. This approach emphasizes individual meaning making. In this model, individuals derive meaning. Teachers should facilitate cognitive change by presenting difficulties through specific tasks, that pose dilemmas to students.

Social Constructivism – Social Constructivism has accepted that there are two parts of knowledge: Individual and the Society. It cannot be seen independently in any meaningful way. Social Constructivism takes two approaches- Situated Cognition and Socio-cultural Cognition. Both of these forms highlight the importance of meaningful, integrated learning in the context of the environment. Situated Cognition recognized that individuals transform knowledge in the context of the social environment, both the individual and environment change as a result of the interaction. The Socio-cultural form of Constructivism focuses on meaningful integrated learning. This approach advocates the development of meaningful integration in which a variety of subject areas are incorporated and used.

Activity-1

1. Describe the different theoretical approaches of constructivism.

2. Mention the types of constructivism.

Role of constructivism in classroom

- Learning is constructed:- student possesses innate knowledge/ experiences
- Learning requires active participation.
- It provides scope for reflection
- It is collaborative (Learning is a social activity).
- It is inquiry based (develops problem-solving ability)
- It provides much scope for evolving new knowledge.

Simple ways to implement constructivism in classroom

- Encourage and accept student autonomy and initiate
- Use raw data and primary sources, along with manipulative, interactive, and physical materials.
- While designing tasks, use cognitive terminologies like classify; analyze; predict; create etc. This opens up the opportunities for students to explore learning.
- Allow student responses to drive lessons, shift instructional strategies and alter content.
- Inquiry about students' understanding of concepts before sharing your own understanding.
- Encourage students to engage in dialogue/discussion with others and with teacher.
- Prompt student inquiry by asking thoughtful, open-ended questions and encouraging students to ask questions to each other.
- Seek elaboration of students' initial responses.
- Allow, "Wait time" for responses.
- Provide time for student to construct relationships and create metaphors.

- Nurture students' natural curiosity through frequent use of three step learning cycle models.

There are **three models** of constructivist approach that can be used for classroom transactions.

I Learning cycle: It has three phase.

1. **Discovery phase:-** Encouraging students to generate questions and hypotheses from working with various materials.
2. **Concept introduction:-** teacher focuses the student's questions and helps them create hypotheses and design experiments
3. **Concept application:-** student work on new problems using learnt concept.

II George W Gagnon Jr and Michelle Collay's Model

It has six steps.

- **Develop:-** Develop situation for students to explain
- Select process of **Groupings** of materials and students.
- **Bridge** between what teachers wants to teach and what students want to learn.
- Anticipate **questions** to ask and answer without explaining
- Encourage students to **exhibit** a record of their thinking by sharing it with others.
- Solicit students' **reflections** about their learning.

III Robert o McClintock and John B Black developed Information Construction (ICON) model having seven steps. They are:-

1. **Observation:** Use observation as primary source material embedded in natural context or simulation.

2. **Interpretation construction:** Students interpret their observations and explains with reasons.
3. **Contextualization:** Students construct contexts for their explanation.
4. **Cognitive apprenticeship:** Teacher helps in student's observation, interpretation and contextualization.
5. **Collaboration:** Students collaborates observation, interpretation and contextualization.
6. **Multiple interpretations:** Students gain cognitive flexibility by being exposed to multiple interpretations from other students and from expert examples.
7. **Multiple manifestations:** Students gain transferability by seeing multiple manifestations of the same interpretations.

Ways of students constructing new knowledge

Students can construct additional knowledge by following ways.

- By figuring out
- By analyzing
- By writing
- By making/ inventing/ designing/ drawing
- By performing/ presenting.

Ways of reflecting on learning process by students may be by adopting any one of these or may be in combination of these.

- Journals
- Dairies
- Audio tapes
- Video recordings
- E-mails
- Online conferences
- Knowledge maps.

Activity-2

1. Mention the role of constructivism in classroom.
2. List the models of learning on constructivism & explain any one, in detail.
3. Explain the ways in which the students learn.

The **instructional strategies** like:- Problem-solving; experiential learning; investigatory approach; social inquiry; and concept mapping; enhances the constructivist approach for classroom transactions and facilitates constructing and validating new ideas by the learner.

Activity-3

Mention the instructional strategies of constructivist approach.

Instructional model

The Biological Science Curriculum Study (BSCS), headed by Roger Bybee developed an instructional model for constructivism, called the five “Es”. The following are its steps.

Step 1: Planning for Engage

In the stage Engage, the students first encounter and identify the instructional task. Here they make connections between past and present learning experiences, lay the organizational groundwork for the activities ahead and stimulate their involvement in the anticipation of these activities. Asking a question, defining a problem, showing a surprising event and acting out a

problematic situation are all ways to engage the students and focus them on the instructional tasks.

Step 2: Planning of Student Exploration

In the Exploration stage the students have the opportunity to get directly involved with phenomena and materials. Involving themselves in these activities they develop a grounding of experience with the phenomenon. As they work together in teams, students build a base of common experience, which assists them in the process of sharing and communicating. The teacher acts as a facilitator, providing materials and guiding the students' focus. The students' inquiry process drives the instruction during an exploration.

Step 3: Planning for Explain

The third stage, Explain, is the point at which the learner begins to put the abstract experience through which she/he has gone/into a communicable form. Language provides motivation for sequencing events into a logical format. Communication occurs between peers, the facilitator, or within the learner himself. Working in groups, learners support each other's understanding as they articulate their observations, ideas, questions and hypotheses. Language provides a tool of communicable labels. These labels, applied to elements of abstract exploration, give the learner a means of sharing these explorations. Explanations from the facilitator can provide names that correspond to historical and standard language, for student findings and events.

Step 4: Planning for Elaborate

In stage four, Elaborate, the students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them.

Step 5: Planning for Evaluation

Evaluate, the fifth "E", is an on-going diagnostic process that allows the teacher to determine if the learner has attained understanding of concepts and

knowledge. Evaluation and assessment can occur at all points along the continuum of the instructional process. Some of the tools that assist in this diagnostic process are: rubrics (quantified and prioritized outcome expectations) determined hand-in-hand with the lesson design, teacher observation structured by checklists, student interviews, portfolios designed with specific purposes, project and problem-based learning products, and embedded assessments.

Teachers Activity in 5 E model

Engage	Capture the students' attention, stimulate their thinking and help them access prior knowledge.
Explore	Give students time to think, plan, investigate and organize collected information.
Explain	Involve students in an analysis of their explorations. Use reflective activities to clarify and modify their understanding.
Elaborate	Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.
Evaluate	Evaluate throughout the lesson. On-going process by both instructor and learner, to check for understanding.

Activity-5

1. Explain the 5E model of lesson planning in constructivist approach.
2. Describe the role of teacher in constructivist approach.

Evaluation

1. Describe the different theoretical perspectives on constructivist approach.
2. How does constructivist approach helps the learner?
3. Explain the ICON model of learning.
4. Discuss how Concept mapping as an instructional strategy helps in learning.
5. Explain the steps of lesson plan used in constructivist approach.

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Inclusive Education

Dr.T.V.Somashekar

Objectives

After going through this module, you will be able to

1. acquaint with the concept and principles of Inclusive education.
2. categorising and identifying children with special needs
3. List the types of disabilities and the matching curriculum adaptation.
4. analyse the strategies in meeting the special needs of children
5. describe the role of teacher in inclusive education
6. acquaint with various support system needed for inclusive education at school level.

Rationale

Inclusion is about school change to improve the educational system for all students. It means changes in the curriculum, changes in how teachers teach and how students learn, as well as changes in how students with and without special needs interact with and relate to one another. Inclusive education practices, reflect the changing culture of contemporary schools with emphasis on active learning, authentic assessment practices, applied curriculum, multi-level instructional approaches, and increased attention to diverse student needs and individualization. The claim is that schools, centers of learning and educational systems must change so that they become caring, nurturing, and supportive educational communities where the needs of all students and teachers are truly met.

Inclusive schools no longer provide "regular education" and "special education". Instead, inclusive schools provide an inclusive education and as a result students will be able to learn together. In other words, it is open to all students, and that ensure that all students learn and participate. For this to happen, teachers, schools and systems may need to change so that they can better accommodate the diversity of needs that pupils have and that they are included in all aspects of school-life. It also means identifying any barriers within and around the school that hinder learning and participation, and reducing or removing these barriers. Inclusive education is a process of enabling all students, including previously excluded groups, to learn and participate effectively within mainstream school systems.

Meaning

Inclusive Education is a system to provide a favourable setting for achieving equal opportunities, and full participation for ALL. It ensures quality education for ALL through appropriate curriculum, teaching strategies, support services and partnership with the community.

In an Inclusive school Children With Special Needs (CWSN) neither lose services nor support but gain the opportunity to grow in functional and meaningful way. It allows CWSNs to stay with their family and go to the nearest normal school. Inclusive education follows student-centered pedagogy and is flexible in terms of methods and materials, and considers the CWSN are an integral part of the regular classroom.

Principles of Inclusive Education

1. Every student has an inherent right to education on basis of equality of opportunity.

2. No student is excluded from, or discriminated within education on grounds of race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, disability, birth, poverty or other status.
3. All students can learn and benefit from education.
4. Schools adapt to the needs of students, rather than students adapting to the needs of the school.
5. The student's views are listened to and taken seriously.
6. Individual differences between students are a source of richness and diversity, and not a problem.
7. The diversity of needs and pace of development of students are addressed through a wide and flexible range of responses

Practice

The practice of developing inclusive schools involves:

- Understanding inclusion as a continuing process, not a one-time event.
- Strengthening and sustaining the participation of all students, teachers, parents and community members in the work of the school.
- Restructuring the cultures, policies and practices in schools to respond to the diversity of pupils within their locality. Inclusive settings focus on identifying and then reducing the barriers to learning and participation, rather than on what is "special" about the individual student or group of students, and targeting services to address the "problem".
- Providing an accessible curriculum, appropriate training programs for teachers, and for all students, the provision of fully accessible information, environments and support.
- Identifying and providing support for staff as well as students.

It is general practice that students in an inclusive classroom are with their chronological age-mates. Also, to encourage a sense of belonging, emphasis is placed on the value of friendships. Teachers often nurture a relationship between a student with special needs and a peer without need. Another common practice is the assignment of a buddy to accompany a student with special needs at all times (for example in the cafeteria, on the playground, on the bus and so on).

In principle, several **factors** can determine the success of inclusive classrooms:

- Family-school partnerships
- Collaboration between general and special educators
- Well-constructed Individualized Education Program plans
- Team planning and communication
- Integrated service delivery
- Ongoing training and staff development

Children With Special Needs (CWSN)

An exceptional child Or a child with special need, may be defined as one differs so much from his/her peer average in respect of physical, mental or social characteristics that he/she is unable to develop to his/her fullest potential under normal condition in the ordinary class and for whom some special environment or organization has to be created within or without the normal school.

OR

Any individuals whose physical, mental or behavioural performance is so different from the norm-either higher or lower and that the additional services are needed to meet the individual's needs, can be termed as an exceptional individual or an individual with special needs.

Characteristics of CWSN

- They deviate markedly from the normal children.
- Deviation may be physical, intellectual, emotional or social.
- They need a special environment.
- Special environment may be provided in the normal school.

Type and levels of Disabilities

The disabilities can be broadly classified into the following categories. These categories can be further classified on the basis of level of problems and type of problem.

(i) Visual Impairment

Refractive errors-short sight or long sight; Partial vision or low vision-who have difficulty in reading print even after wearing spectacles; Totally blind.

(ii) Hearing Disabilities

Slight hearing loss - (26-40db) decibels; Mild hearing loss - (41-55 db) decibels; Moderate hearing loss (56-70 db) decibels; Severe hearing loss (71-90 db) decibels; Profound hearing loss (91db or more) - Hearing aid does not help

(iii) Mentally Retarded/ Children with low Intellectual functioning

Slow learners - (I Q 75 to 89 IQ); Mild mentally retarded (IQ 60-65 to 70-75 IQ); Moderate Mentally Retarded. (IQ 35-40 to 60-65 IQ); Severely retarded (IQ 20-25 to 30-35 IQ); Profoundly retarded (IQ 20-25 and below).

(iv) Physically Handicapped or Orthopedic Handicap

Polio of hands or legs (Upper or lower limbs); Central nervous system disorder (cerebral palsy, Epilepsy); Congenital malformations of limbs (e.g. Spinal bifida, or Club foot, or bow legs); Diseases of the muscular skeletal system; Muscular dystrophy or wastage of muscles in arms or legs; Rigidity of joints - due to Rheumatoid arthritis.

(v) Learning Disabilities

Reading disabilities (dyslexia); Disability to comprehend or speak – Dysphasia; Writing disabilities – Dysgraphia; Arithmetic disabilities (dyscalculia); Disability to express orally – aphasia; Disability to read or write printed matter – Alexia.

(vi) Speech Disabilities

Stammering - Difficulty in pronouncing certain Sounds; Stuttering - Fluency in speech lacking; Voice Disorders - Cannot control pitch, loudness; Articulations - Problems, Omissions, and Substitution of words.

(vii) Chronic Health Problems

Congenital heart problems - viz Mitral stenosis; Chronic bronchitis and asthma; Juvenile diabetes; Tuberculosis .

(viii) Emotional Disturbance leading to Behavior Problems

Attention deficit disorder (hyper activity); Aggressive/Violent behavior; Hyper active - or Hypoactive; Anxiety disorder ; Shy and withdrawal tendencies; Depression; Conduct disorders; Obsessive-compulsive disorder; Phobia-fear of darkness, heights or depths; Psychosis.

Activity-1

1. What do we mean by Inclusive Education?
2. Mention the catagorises of Children under Inclusive education.
3. What are the principles of Inclusive Education?

Ways of Identification of children with disabilities

Catagorises	• Ways/Means of identification
Hearing impaired	<ul style="list-style-type: none"> • Identification checklist • Audiometric Test • ENT surgeon
Visual Impaired	<ul style="list-style-type: none"> • Identification checklist • Shellen chart • Ophthalmologist for refractive errors and correction
Mentally retarded Learning Disability	<ul style="list-style-type: none"> • Identification checklist • Progress in school • IQ Test administered by a clinical psychologist • Developmental Pediatrician & Neurophysician
Speech problems	<ul style="list-style-type: none"> • ENT Surgeon • Speech pathologist/Therapist • Audiologist
Health problems	<ul style="list-style-type: none"> • Physician • Chest physician • Pediatrician
Emotional Problems	<ul style="list-style-type: none"> • Psychologist/child psychiatrist
Physical or Orthopedic problems	<ul style="list-style-type: none"> • Orthopedic surgeon • Physiotherapist • Neuro surgeon

Special Needs of Children with Disabilities

Disability	Medical Need	Educational Need	Social Need
1. V.I. (as per degree of Visual Impairment) - Surgery	- Correct - Glasses or corrective - Seating arrangement - Vitamin supplements - Medication etc.	- Big print - Proper lighting - Use of lens - Cassettes, tapes (recorded) - Braille - Abacus - Adaptations in teaching - Use of Scribe	Participation in all school activities
Total Blind	Consult ophthalmologist for a advice	Orientation and mobility or cane training	
2. Physically Handicapped	- Consult orthopedic surgeon for corrective appliances for mobility - Physiotherapy - Neurologist for neurological problem	- Auditory aids, - Seating arrangements, - Prevention of barriers adapted	Participation in all social activities
3. Learning disability	Consultant psychologist and neurologist	Special or remedial reading, writing	Participation in all social activities
4. Mentally Retarded or Intellectually impaired	Psychologist and special education	- Special teaching technique. - Individualized educational planning - Seating arrangement	Participation in all social activities

Activity- 2

1. List the needs of each type of disabled.

2. Discuss how their needs can be met in a regular classroom

Strategies of meeting the Special Needs of Children With Disabilities

The following strategies are useful in meeting the special needs of children with disabilities.

(a) Reducing the deviation

This can be achieved in two ways - reducing the defect/disability and reducing the visibility of the defects.

(b) Reducing the disability

This is possible through the following strategies.

- (i.) Practice - copy writing, speech training, remedial instruction etc.
- (ii) Substitute learning-use of left hand if right hand becomes deformed. Lip reading if unable to develop speech, Braille learning, type writing, if unable to write by hand etc. (Devices which help in improving functioning)
- (iii.) Functional prosthetics – magnifying glasses for the children with partial sight, hearing aid calculators, if unable to compute, Braille type writer, alphabetic chart for those who forget the shapes of the letters etc.

(c) Reducing the visibility of the defect

This is helpful in developing positive attitude towards the children with physical defect. The visibility of the defect can be reduced through the following strategies.

Use of the cosmetic prosthetics; Use of artificial limbs which are not functional, wearing black glasses by blind person, transparent hearing aid. Etc. Compensatory learning; proper body posture control learning appropriate social manners etc.

(d) Changing the environment: Manipulation of the environment is also very much essential in meeting the special needs of children with disability. this involves

1. Alteration of physical environment, and,
2. Alteration of the social environment.

Alteration of the physical environment has two important objectives

1. Improving responses-Removing architectural barrier so that mobility is eased, adaptation in the house hold articles so that day to day activities can be carried out without much difficulty, adaptations in the communication devices. like videophone for the deaf, talking machine for the blind etc.
2. Improving stimulus large print book for the partially sighted, proper placement in the class for the deaf avoiding distraction for a child with concentration problems etc.

Alteration of the social environment - through parental guidance and Counselling Orientation to the peers, public awareness programmes teacher training programmes.

Activity-3

What orientation that all teachers would require in an inclusive school?

Role of teachers in meeting the special needs of children disabilities in the inclusive schools

The role of teachers in meeting the special needs of children with disabilities vary from one disability to other. How ever there are certain common roles. They are listed below.

1. Identification of the children with disabilities in the classroom.
2. Referring the identified to the experts for further examination and treatment.
3. Accepting the children with disabilities.
4. Developing positive attitude between normal children and disabled children.
5. Placing the children in the classroom in proper places so that they feel comfortable and are benefited by the classroom interaction.
6. Enabling the children with disabilities to avail the facilities provided for them under IED scheme.
7. Removing architectural barriers wherever possible so that children with disabilities move independently.
8. Involving the children with disabilities in almost all the activities of the classroom.
9. Making suitable adaptation in the curriculum transaction so that the children with disabilities learn according to their ability.

10. Preparation of teaching aids/adaptation of teaching aids which will help the children with disabilities learn.
11. Parental guidance and Counselling and public awareness programme through school activities.
12. Acquiring competencies which are essential in meeting the needs of the children with disabilities.
13. Cooperating with resource teachers if resource rooms are available.
14. Collaborating with medical and physiological personnel social workers, parents and special teachers.
15. Providing scope for cooperative learning among disabled and normal children.
16. Conducting case studies and action research related to the specific problem of children with special needs.
17. Construction of achievement and diagnostic tool.
18. Adaptation in evaluation for children with special needs.
19. Nurturing the talent among children with disabilities.
20. Providing remedial instruction to the children who require it.

The teachers can perform the above roles only when essential competencies are developed among them. This calls for intensive training of the teachers with adequate practical component.

What **competencies** do general education teachers and special education teachers need to be competent inclusive teachers?

- Ability to problem solve, to be able to informally assess the skills a student needs (rather than relying solely on standardized curriculum).
- Ability to take advantage of children's individual interests and use their internal motivation for developing needed skills.

- Ability to set high but alternative expectations that are suitable for the students; this means developing alternative assessments.
- Ability to make appropriate expectations for EACH student, regardless of the student's capabilities. If teachers can do this, it allows all students to be included in a class and school.
- Ability to determine how to modify assignments for students; how to design classroom activities with so many levels that all students have a part. This teaching skill can apply not just at the elementary or secondary level, but at the college level as well. It will mean more activity-based teaching rather than seat-based teaching.
- Ability to learn how to value all kinds of skills that students bring to a class, not just the academic skills. In doing this, teachers will make it explicit that in their classrooms they value all skills, even if that is not a clear value of a whole school.
- Ability to provide daily success for all students. Teachers have to work to counteract the message all students get when certain students are continually taken out of class for special work.

Other competencies that will help general education teachers in an inclusive environment include:

- A realization that every child in the class is their responsibility. Teachers need to find out how to work with each child rather than assuming someone else will tell them how to educate a child.
- Knowing a variety of instructional strategies and how to use them effectively. This includes the ability to adapt materials and rewrite objectives for a child's needs.
- Working as a team with parents and special education teachers to learn what skills a child needs and to provide the best teaching approach.

- Viewing each child in the class as an opportunity to become a better teacher rather than a problem to be coped with or have someone else fix.
- Flexibility and a high tolerance for ambiguity.

Activity-4

1. Describe the strategies available in meeting the special needs of children with disabilities.
2. What are the essential competencies required for teacher of inclusive school?

Support services needed in Inclusive Schools

Trained staff and appropriate support services are essential in providing meaningful education to children with special needs in inclusive school. The following minimum support services and devices would be required in an inclusive school, if having:

Children with seeing problem (Visually impaired)

Teacher sensitization, Peer sensitization, orientation and mobility skills training, Braille kit, Abacus, Taylor frame, Geo-board, embossed maps, models for concept building (blocks), trained teachers (as per the required model), low vision aids (magnifying glasses, large print book etc), Snellen chart, Tape recorder, sensory and vocational training.

Children with hearing problems

Teacher sensitization, Peer sensitization, training in speech and language development, hearing aids, training in communication skills, audiometric

assessment, use and maintenance of hearing aids, appropriate teaching strategies and techniques, visual TLM, concept building techniques, total communication etc.

Children with neuro-muscular problems

Teacher sensitization, Peer sensitization, physiotherapy, speech therapy (CP cases), need based aids and equipments (Wheel chair, trolley, crutches, sticks, orthosis, artificial legs), access facilities, adapted games and sports, and about ALIMCO.

Children with low intellectual functioning (MR)

Teacher sensitization, Peer sensitization, modification or adaptation of curriculum specific kinds of TLM and instructional strategies.

Children with learning disabilities

Teacher sensitization about learning disabilities, well structured environment, time out place in the classroom, kinesthetic modality, recognition of success of learning disabilities students, training in specific approaches.

Benefits

Inclusive education is claimed by its advocates to have many benefits for the students. Instructional time with peers without need helps the learners to learn strategies taught by the teacher. Teachers bring in different ways to teach a lesson for special needs students and peers without need. All of the students in the classroom benefit from this. The students can now learn from the lesson how to help each other. Socialization in the school allows the students to learn communication skills and interaction skills from each other. Students can build friendships from these interactions. The students can also learn about hobbies

from each other. A friendship in school is important for the development of learning. When a student has a friend the student can relate to a member of the classroom. Students' being able to relate to each other gives them a better learning environment. Involving peers without need with special needs peers gives the students a positive attitude towards each other. The students are the next generation to be in the workforce; the time in the classroom with the special needs and peers without need will allow them to communicate in the real world someday. Special needs students are included in all aspects of school-life. For example, homeroom, specials such as art and gym, lunch, recess, assemblies, and electives. Special needs students involved in these classrooms will give them the time they need to participate in activities with their peers without need. Awareness should be taught to students that will be in the classroom with the special needs peers. The teacher can do a puppet show, show a movie, or have the student talk to the class. The teacher could also read a book to help the student describe his or her special need. The class can ask questions about what they learned and what they want to know. This will help when the students are together in the classroom. Positive modeling is important for the students in the classroom. Positive modeling is the teacher showing a good example towards both special needs and peers without need this will help the students to get along more.

Activity-5

1. Which are the essential support systems needed for an inclusive school?
2. What are the benefits of inclusive education?

Evaluation

1. Explain Inclusive Education.
2. Mention the major categories of children with special needs.
3. Explain the strategies of meeting the special needs of children with disabilities.
4. Explain the role of teacher in inclusive school.
5. What are competencies needed to be an effective teacher in inclusive school?
6. Describe the benefits of Inclusive Education.

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Learning Disabilities and Gifted Children

Dr.T.V.Somashekar

After reading this module, you will be able to

1. Acquaint with meaning of- learning disability; gifted & talented child
2. identify children with learning disability
3. Analyse the causes of learning disability
4. Select suitable teaching strategies in dealing with children with learning disability
5. identify gifted and talented children in the class
6. provide suitable enrichment programs for gifted and talented children.

Rationale

The term learning disabilities (LDs) has become the most acceptable for educational purpose since it emphasizes on the educational characteristics of such disorders. A field that did not exist officially about 40 years ago, has now become the most important and largest category of special education. LD has experienced unprecedented growth and has significant impact on inclusive education in particular and education in general. Although such students had always existed, education did not have an appropriate classification for them.

A learning disability can't be cured or fixed; it is a lifelong issue. With the right support and intervention, however, children with learning disabilities can succeed in school and go on to successful, often distinguished careers later in life. Teachers can help children with learning disabilities achieve such success by encouraging their strengths, knowing their weaknesses, understanding the

educational system, working with professionals and learning about strategies for dealing with specific difficulties.

Gifted is one of the highest of human qualities. High intelligence in a child is a gift from the nature, which should not be allowed to go waste. Gifted children with wide range of creative intellect and talent are an asset to any society and development of society depends on these children.

Meaning

Learning disabilities are not a single condition but a wide variety of specific disabilities that are presumed to stem from some dysfunction of the brain or central nervous system. It is defined as follows: "Learning disabilities is a general term for a diverse group of disorders characterized by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or computing. These disorders stem from the individual and may occur across the life span. Problems in self-regulatory behaviours, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Learning disabilities may occur with other handicapping conditions but are not the result of those conditions".

The term "learning disability" describes a neuropsychological disorder in which a person's brain functions or is structured differently. These differences interfere with a person's ability to think and remember. Learning disabilities can affect a person's ability to speak, listen, read, write, spell, reason, recall, organize information, and do mathematics. Because learning disabilities cannot be seen, they often go undetected. Recognizing a learning disability is even more difficult because the severity and characteristics vary.

The other definitions of learning disabilities have specific references like:- dyslexia- a severely impaired ability to read; dysgraphia- an impaired ability to write; dyscalculia- an impaired ability to learn mathematics. The sources of these conditions in brain dysfunction can seldom be proved, however, and these terms must be used with caution (smith & Luckasson 1995)

Learning disabilities are not a single condition but a wide variety of specific disabilities that are presumed to stem from some dysfunction of the brain or central nervous system. It is defined as follows: "learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunctions and may occur across the life span. Problems in self-regulatory behaviours, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (For e.g. sensory impairment, mental retardation, serious emotional disturbances) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences" –National Joint Committee on Learning Disability, 1994.

The other definitions of learning disabilities have specific references like:

dyslexia- a severely impaired ability to read;

dysgraphia- an impaired ability to write;

dyscalculia- an impaired ability to learn mathematics.

The sources of these conditions in brain dysfunction can seldom be proved, however, and these terms must be used with caution (Smith & Luckasson 1995)

Types of learning disabilities

There are two types of LDs

1) Developmental learning disability

2) Academic learning disability

1) Developmental LD.

(i) primary dev. LDs

(ii) secondary dev. LDs.

(a) perceptual deficit

(a) thinking disorder

(b) memory deficit

(c) attention deficit

(b) language disorder

2) Academic LDs

(i) reading (ii) writing (iii) spelling (iv) arithmetic

Characteristics of children with LD

Children with LDs may be identified at any age and in any grade, but most are first noticed in primary grades. The regular classroom teachers and parents become concerned when their students' / child's school Performance reflects a discrepancy between expected and actual achievement. Teachers and parents also suspect LDs when a child is performing well in reading but very poorly in writing and math or on the other hand doing very well with written examinations but face difficulty while expressing ideas verbally. The discrepancy is reflected in the scores obtained in the examinations. (fourth grader performing at the second grade Level). In addition to this, there are some other characteristics of LDs, which are as follows:

Cognitive

Some children with LDs exhibit cognitive, thinking or psychological Processing problems. These include problems in remembering things, discriminating or differentiating visual or auditory perceptions and using cognitive strategies. The perceptual problems include problems in left right orientation, figure-ground differentiation, pattern discrimination, body image, symbol recognition, associating sounds with symbols. Children with LDs face difficulty in organizing learning tasks and learning how to learn.

Academic

Children with LDs perform poorly in one or more school subjects. They are often behind their classmates in developing reading, writing or arithmetic skills. The diagnoses in this category includes:

- developmental reading disorder (Dyslexia)
- developmental writing disorder (Dysgraphia)
- developmental arithmetic disorder (Dyscalculia)

Physical

Physically children with LDs look like children who do not have LDs. Some children with LDs may demonstrate poor physical coordination and motor abilities. These children (LD) may have good gross motor coordination, but difficulties in fine-motor coordination

Behavioural

The following behavioural characteristics are commonly associated with LDs: inattentiveness, hyperactivity, impulsiveness, distractibility and daydreaming. Problems with social behaviours are low self-concept, lack of judgment in social situations, lack of social competence in school etc

Communication

Children with LDs may have difficulty in listening, speaking, defining words, and formulating linguistic constructions.

Activity-1

1. What do we mean by Learning disabilities?
2. Mention the types of Learning disabilities.
3. What are the characteristics of learning disabled students?

Causes of Learning Disabilities

The exact cause of learning disability is not known. However, the body of research in this direction has indicated the following causes:

Neurological Causes

Initially, scientists thought that all learning disabilities were caused by a single neurological problem. But research supported by national institute for mental health (NIMH) USA, indicate that the causes are more diverse and complex. New evidence seems to show that most learning disabilities do not stem from a single, specific area of the brain, but from difficulties in bringing together information from various brain regions.

Today, a leading theory is that learning disabilities stem from subtle disturbances in brain structures and functions.

Errors in Fetal Brain Development

Throughout pregnancy, the fetal brain develops from a few all-purpose cells into a complex organ made of billions of specialized, interconnected nerve cells called neurons. During this amazing evolution, things can go wrong that may alter how the neurons form or interconnect. If the disruption occurs during the last stages of pregnancy, when the cells are becoming specialized and are moving into their respective place - it may leave errors in the cell makeup, location, or connections. Some scientists believe that these errors may later show up as learning disorders.

Genetic Factors

The fact that learning disabilities tend to run in families indicates that there may be a genetic link. For example, children who lack some of the skills needed for reading, such as hearing the separate sounds of words, are likely to have a parent with a related problem. However, a parent's learning disability may take a slightly different form in the child. A parent who has a writing disorder may have a child with an expressive language disorder. For this reason, it seems unlikely that specific learning disorders are inherited directly. Possibly, what is inherited is a subtle brain dysfunction that can in turn lead to a learning disability.

There may be an alternative explanation for why LD might seem to run in families. Some learning difficulties may actually stem from the family environment. For example, parents who have expressive language disorders might talk less to their children, or the language they use may be distorted. In such cases, the child lacks a good model for acquiring language and therefore, may seem to be learning disabled.

Tobacco, Alcohol and Other Drug Use

Research shows that a mother's use of cigarettes, alcohol, or other drugs during pregnancy may have damaging effects on the unborn child. Scientists have found that mothers who smoke during pregnancy may be more likely to bear smaller babies. This is a concern because small newborns, usually those weighing less than 5 pounds(2.267 Kgs), tend to be at risk for a variety of problems, including learning disorders.

Alcohol also may be dangerous to the fetus' brain developing. It appears that alcohol may distort the developing neurons. Alcohol use during pregnancy may also influence the child's development and lead to problems with learning, attention, memory, or problem solving.

Drug abuse seems to affect the normal development of brain receptors. These brain cell parts help to transmit incoming signals from our skin, eyes, and ears, and help regulate our physical response to the environment. Because children with certain learning disabilities have difficulty understanding speech sounds or letters, some researchers believe that learning disabilities, as well as ADHD, may be related to faulty receptors. Current research points to drug abuse as a possible cause of receptor damage.

Problems During Pregnancy or Delivery

Other possible causes of learning disabilities involve complications during pregnancy.

Toxins in the Child's Environment

New brain cells and neural networks continue to be produced for a year or so after the child is born. These cells are also vulnerable to certain

disruptions. Researchers are looking into environmental toxins like Cadmium and Lead, which may cause learning disabilities, possibly by disrupting childhood brain development or brain processes.

Malnutrition

Some of the students have reported malnutrition as one of the causes of LDs. Lack of essential amino acids in the diet of child can make him a LD. The use of megavitamins therapy with LD children has been found successful.

Environmental factors

Some professionals believe that LDs are caused by environmental factors.(E.g. poor teaching, poor material, poor attitudes etc) This claim is hard to prove until we have a close look at the educational system.

Identifying Students with Learning Disabilities

Education professionals have the task of distinguishing students with LDs from the students who are nondisabled, low achievers and students with low intellectual functioning. Students who have normal range IQ and fails in their grade levels are likely to called as Learning disabled. Some of the characteristics of learning disabled students are as follows. Based on which they can be identified.

Normal intelligence or even giftedness.

Discrepancy between intelligence and performance.

Delays in achievement

Attention deficit or high distractibility

Hyperactivity or impulsiveness

Poor motor coordination and spatial relation ability

Difficulty in solving problems

Perceptual anomalies such as reversing letter, words or numbers
Difficulty with self motivated, self-regulated activities
Over reliance on teacher and peers for assignments
Specific disorders of memory, thinking or language
Immature social skills
Disorganized approach to learning
Low self-esteem

Activity-2

1. Explain the causes of learning disabilities.
2. Mention the ways of identifying children with learning disabilities.

Remediation/Treatment of Children With Learning Disability:

There are general treatment programmes for Learning disabled students. Majority of the professionals recognise the following approaches:

1. Process Training

In the process training the underlying processes involved in learning academic subjects are specified. There after training the student's processes themselves rather than working directly on academic materials. For example, a student believed to have reading problems because of difficulties in visual perception would receive visual perception training before any reading instruction.

2. Multisensory Approaches

The programmes classified as multi sensory are more likely to emphasize working with academic material directly. In the multisensory method a combination of student's sensory system in the training process are used. The assumption in this approach is that the student will be more likely to learn if more than one sense is involved in learning experiences.

3. Medication

There are certain drugs, which are used in reducing the learning disabilities among students. Some of the studies have put a question mark about the effectiveness of drugs on changing the behaviour of many learning disabled students. It is claimed that drug usage in childhood will automatically lead to drug abuse in the teenage years. Some drugs such as Ritalin is often successful in reducing hyperactivity and increasing attending skills.

4. Cognitive Training

This approach has gained wide spread popularity as an intervention approach for learning disabled students. The main focus of cognitive training is on changing convert thoughts. A variety of specific techniques come under the heading of cognitive training. Four techniques that are useful with LD students are:- Self monitoring; Mnemonic methods; Self instruction and Reciprocal teaching.

5. Behavioural Modification

For years practitioners have used behaviour modification techniques successfully to work with inattention and hyperactivity of LD students. It is also used to improve arithmetic performance and Linguistic skills of LD students.

6. Direct Instruction

It is similar to behavioural modification. It differs, however in that, it focuses specifically on the instruction process. In these programmes there is a heavy emphasis on drill and practice. The teacher teaches from a script and students follow the teacher. The teacher offers immediate corrective feedback for errors and praise for the correct response.

Activity-3

1.Explain the remedial measures available to deal with Learning disability children

Gifted Children

The term “gifted & talented” means children, and whenever applicable, youth who are identified at preschool, elementary or secondary level or possessing demonstrated or potential abilities, that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability, or in the performing and visual arts and who by reason there of regular service or activities not ordinarily provided by the school. (USA, federal Legislation, Section 902, 1978)

Characteristics and Related problems of Gifted and Talented

Area	Characteristics	Potential problems
(1) Cognitive	<ul style="list-style-type: none"> * Outstanding memory * Much information higher level. * Abstract thinking * Preference for complex & challenging tasks * Simultaneous thinking * Unusual information processing abilities * creating 	<ul style="list-style-type: none"> * Boredom with pace of instruction. * Impatience * Perceived as show off by peers of others * Too many questions * Resistance to conventional approaches to instruction.
(2) Academic	<ul style="list-style-type: none"> * High performance * Ease in learning even complex * High problem solving ability * High content mastery 	<ul style="list-style-type: none"> * Alienation form peers * Expectations from parents for achievement in all areas * Resistance to repetitive tasks negative tasks. * class room disruption when work is complete
(3) Physical	<ul style="list-style-type: none"> * Discrepancies between physical & mental abilities 	<ul style="list-style-type: none"> * Limited development of other than mental abilities
(4) Behavioural	<ul style="list-style-type: none"> * Unusual sensitivity to needs of others * Sharp sense of humor, unusual intensity, persistent, goal directed orientation 	<ul style="list-style-type: none"> * Limited development of other than mental abilities * Especially vulnerable to criticism * High needs for success * Perfectionism * Intolerance & rejection form peers * Perceives as stubborn.
(5) Communi- cation	<ul style="list-style-type: none"> * Higher levels of language development * Excellent listening & speaking vocabulary 	<ul style="list-style-type: none"> * Alienation from peers * Perceived as showoff

10 ways of enhancing Students who are Gifted and Talented

1. Provide alternate instructional activities addressing student interests or preferences, celebrate diversity.
2. Provide guest speakers, field trips, practical demonstrations & other enrichment activities
3. Modal higher level thinking skills & creative Problem-solving approaches
4. Develop instructional activities that generate problems requiring different types of thinking & solutions
5. Allow students to move through the curriculum at their own paces
6. Identity advanced content & assign independent reading, projects, work sheets, reports & other enrichment activities.
7. Provide opportunities & environment for sharpening novel idea & solutions to practical problems
8. Allow the gifted to have input in deciding how classroom time is allocated
9. Provide & encourage independent learning opportunities
10. Eliminate material from the curriculum that students have mastered.

Activity-4

1. Who is a gifted and talented child?
2. Mention the potential problems created by gifted child in the classroom.

Instruction Approaches & Teaching tactics for Gifted and Talented

I Enrichment Programs: Providing experiences or activities that are beyond the standard curriculum by the teacher is considered as “enrichment”

Enrichment tactics can be separated into three subgroup, viz;

- Those that provide students with opportunity to practice & polish skills & content materials that are part of the regular curriculum
- Those that extend knowledge in content areas that students have studied in the regular curriculum
- Those that introduce knowledge and skills that are not part of the regular curriculum.

Others tactics of enrichment are :

(a) Fostering creativity by using following activities :

To practice & polish skills in writing :- use open activities

To practice & polish in Maths change the location for learning

To practice & polish number facts :- combine sports and Maths

To practice & polish Maths performance; use Problem-Solving games

Enrichment tactics are :

Fostering creativity; Changing location; Problems solving games;

Student research activities; Free time activities; Describing observations;

On-line computer services; Computer data resources; Arts enrichment;

Career awareness; Science through literature; Human resources;

Research in Real world; Drama and problem solving

II Acceleration programs: It is characterized by double promotion skipping grades or advanced enrolment in higher-level course work

Acceleration tactics are : Alternative assignments; Resources for multiple levels; A class room talent pool; Compacts allowing students to “buy” time.

Tips for teachers

- Use multiple measures of ability when identifying students for Gifted and Talented programs
- Hold high expectations in all content areas for all your students
- Acknowledge concept of multiple intelligence & strive to support the “expert” in all your students
- Avoid cultural, class & other stereotypes & discuss them regularly with your students
- Design career development activities that include successful people from varied groups
- Expose your students to positive role models from traditional & non-traditional groups
- Form support groups for students with similar interests
- Have students read biographies of gifted people from traditionally under represented groups

Activity-5

1. Explain the cognitive characteristics and its associated potential problem areas of gifted children.
2. Mention the instructional approaches available for teaching gifted children.

Evaluation

1. Explain the terms- dyslexia; dysgraphia and dyscalculia.
2. Describe the causes of learning disabilities
3. Describe the characteristics of learning-disabled child.
4. Define gifted and talented child.
5. Explain the characteristics of gifted child.
6. Explain the ways of enhancing giftedness among children.

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Life Skills Education

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Objectives

After reading this module, you will be able to

1. Sensitize the teacher educators the need for developing life skills
2. Enable the teachers to explain the different skills essential for life
3. Describe the meaning and nature of life skills in terms of its components
4. Identify specific strategies for imparting various life skills.

Rationale

Personal development is the pursuit of developing; honing and mastering the skills that help us become the best way we can, with all that we have. It is the reaching for and realizing of our full potential as human beings.

We all want to live full, productive lives, but sometimes we just don't know where to begin. There are so many different programs, strategies and techniques, that it is hard to choose the right one. One thing however is certain. If we want to accomplish anything in life and realize our full potential we must have some skills – Life Skills.

In order to excel in a job, sport or any discipline, a person must acquire and master certain skills to live life fully. Acquiring essential Life Skills does not contribute to personal development but make one more interesting and

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dynamic individual. In order to enjoy any achievement, we must first be very happy with ourselves and possess the following life skills.

Introduction

Life skills are very important skills one should have. One thing which separates life skills from skills that we learn in school, college or from society is that life skills tend to be things which are hard to teach in a classroom and skills that will most often be learned through experience alone.

Life skills have been defined by WHO as “abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life”. They represent the psycho-social skills that determine valued behavior and include reflective skills such as problem solving and critical thinking, to personal skills such as self-awareness and to interpersonal skills. Practicing life skills leads to qualities such as self-esteem, sociability and tolerance, to action competencies to take action and generate change and to capabilities to have freedom to decide what to do and who to be. Life skills are thus distinctly different from physical or perceptual motor skills, such as practical or health skills as well as from livelihood skills such as crafts, money management and entrepreneurial skills.

There is no specific number of life skills, which are important for you to learn and the life skills, which are important for one, may not be important for someone else. These skills vary in importance from one person to another. Only few skills are explained which are important for teacher education.

World Health Organisation (WHO) has advocated the development of life skills in order to promote psycho-social competence. Psychosocial

competence is a person's ability to deal effectively with the demands and challenges of everyday life. Enhancement of psychosocial competence could make an important contribution to well being of individuals, where health problems are related to behaviour and where the behaviour is related to an inability to deal effectively with stresses and pressures in life.

There is no specific number of life skills which are marked as important and it is very difficult to train all the skills within the training programme, only few skills like problem solving, interpersonal relationship skills, coping with stress are explained. Some more skills, which are felt very important, are given for practice.

I. Problem Solving Skill

Problems are something that we all have. No person on this planet, no matter how rich or famous, they can avoid problems whether professional or personal.

Problem solving skill is defined as “the skills to understand and deal effectively with problems in day to day living”. It is a skill to know the nature, complexity and the elaboration of the problem of life and to develop a program/solution to deal with the problem with the intention of solving or managing it.

Problem solving being one of the important life skills can be developed at the school level. Children can be trained to understand various components of problem solving from school level. This would go a long way in dealing with problems in life. Those problems, which can be solved, should be solved and those cannot be solved, should be lived with.

Components of Problem Solving Skill

1. *Positive Attitude* - is the ability of being hopeful and confident in the way of approach to the problem.
2. *Divergent thinking* – is the ability to think in multiple ways, to view and manage a problem from different perspectives.
3. *Logical thinking* – is the ability to understand and deal with the problem in a systematic orderly fashion.
4. *Objectivity* – is the ability to view one’s own problem from a third person perspective as they are.
5. *Analytic – synthetic ability* – is the ability to break down and understand and put together, the various aspects of the problem and dealing with the problem.
6. *Anticipation of Consequences* – is the ability to infer or foresee the after effects of the problem and/or the strategies to be used to manage the problems.

Activity-1

1. How does decision making help in problem solving?
2. State a problem and work out a plan for solving the difficulties.

Problem Solving Techniques

1. **Divide and conquer** – break down a large, complex problem into smaller, solvable problems.
2. **Hill-Climbing Strategy** – attempting at every step to move closer to goal situation.
3. **Reduction (Complexity)** – transforming the problem into another problem for which solutions exist.
4. **Incubation** – input the details of a problem into the mind, then stop focusing on it. The subconscious mind will continue to work on the problem and the solution might just “pop-up” while you are doing something else.

II. Interpersonal Relationship Skill (Skill of establishing relations)

Interpersonal relationship skills are a set of skills, which are essential for establishing and maintaining healthy interpersonal relationships. More than one skill is needed to establish and maintain healthy interpersonal relationship. These skills help us to relate in positive ways, which are family members and others around. This helps to make and keep friendly relationship as well as being able to end relationship constructively.

People who are well versed in interpersonal relationship skills succeed in life. They appear to possess pleasing and magnetic personalities, which is what make them charismatic. Everybody likes them. They mingle with people easily. They help others without expecting the returns. They show concern upon others. They help voluntarily. Some people never loose their attractiveness regardless of age because of their ability to build healthy interpersonal relationships.

If the children are not developing the necessary skills from their childhood, they face many problems like loneliness, shyness, isolate themselves from the group and finally frustration. Sustainable interpersonal relationship is very essential for success in life.

Components of Interpersonal Relationship Skill

1. Empathy: is the ability to feel with others in social situations, which can lead to the development of good interpersonal relationships.
2. Sympathy: is the ability to feel for others.
3. Sensitivity: is the ability to be sensitive to the feelings, emotions and needs of others in social situations.
4. Tolerance: is the ability to ensure and respect feelings, views, attitudes, etc. of others in interpersonal interactions irrespective of our agreement or disagreement on them.
5. Accepting: others as they are is the ability to accept others with their strengths and weaknesses as it exists without showing any personal bias (or) prejudice about them in interpersonal relationships.
6. Etiquette: is the ability to show behaviour that is appropriate to different social situations, which can earn respect and facilitate good interpersonal relationships.
7. Effective Communication: is the ability to express the thoughts and feelings in non-threatening ways.

Activity-2

1. Does our children/ students have Etiquette?
If yes, list some of them. If no, give reason for not having it.

2. Describe a few situations in which interpersonal skills are very much necessary.

3. How do interpersonal skills help in the success of an individual?

III. Coping with Stress

“I cannot and should be cured of by stress, but merely taught to enjoy it”

- Hans Selye

Coping with stress is a fundamental life skill. Stress is the absence of inner peace. Stress is the loss of control on oneself or on influences from environment. Human beings are with bundle of wants, desires, needs, drives, motives and wishes. All needs and their respective drives in living organisms are cyclical in nature. They occur and reoccur again and again despite their periodic fulfillment.

We can do nothing about our stress level. One can have a control than think of it. In fact, the simple realization that you are in control of your life is the foundation of stress management.

Coping with stress is all about taking charge, taking charge of your thoughts, emotions, schedule, environment and the way we deal with problems. The ultimate goal is a balanced life, with time of work, relationships, relaxation and fun plus the resilience to hold up under pressure and meet challenges head on.

Components of Coping with Stress

1. **Recognisability:** is a group of abilities to identify or become aware of one's own feelings of stress, the course/ origin of stress, an appraisal of the barriers or obstacles that seemingly impede resolution of the stress as well as setting of goals appropriate and adequate for bringing about a relative end to ongoing stressful experiences.
2. **Planning ability:** is a group of abilities to draw blueprints or schemes for enabling short term or long term future course of action by including effective consideration towards the act, manner or practice of handling time constraints within the gamut of planning for coping or bringing about a relative end to ongoing stressful experiences.
3. **Objectivity:** is the ability to be in a state, quality or an attitude of being interpersonal, external or uninvolved to a problem or situation being examined or under focus.
4. **Empathy:** is an ability to develop identification with or understanding of another person's situation, feelings and motives.
5. **Resilience:** is the ability to maintain mental cheerfulness by recovering quickly from change or misfortune.
6. **Reality Orientation:** is the ability to perceive or be aware of the objective world in relation to oneself across place, time or person.

7. Self-awareness: is the ability to develop realization of oneself as an individual entity or personality, including one's feelings, traits or behaviours covering both good and bad.
8. Relaxation ability: is to rejuvenate or refresh one's body and mind so as to bring it back to an optimal state of functioning.
9. Entertain ability: is the ability to amuse, please or indulge in diversions that enables the individual to get back to optimal state of functioning.
10. Stability: is the ability of being constant, firm, steadfast and resistant to change.

Activity-3

1. Why should we be self-aware?
2. List out some of the positive traits you teach others.
3. How are other people responsible in creating stress in you?

Stress Management Strategy

Avoid unnecessary stress. Not all stress can be avoided and it is not healthy to avoid a situation that needs to be addressed. The number of stressors may surprise you, in your life that you can eliminate.

- a) Avoid people who stress you out
- b) Learn how to say 'no'
- c) Take control of your environment.

- d) Avoid hot button topics
- e) Pair down your 'to do list'

Hot button topics : means if you get upset with your religion or politics, cross them off your conversation list. If you repeatedly argue about the same subject with the same people, stop bringing it up or excuse yourself when it is the topic of discussion.

Alter the situation: If you cannot avoid a stressful situation, try to alter it. Figure out what you can do to change things so that the problem does not present itself in the future. Often it involves changing the way you communicate and operate in your daily life.

- a) Express your feelings instead of bottling them up.
- b) Be willing to compromise.
- c) Be more assertive.
- d) Manage your time better.

Adapt to the stressor : If you cannot change the stressor, change yourself. You can adapt to stressful situations and regain your sense of control by changing your expectations and attitude.

- a) Reframe problems
- b) Look at all possible way to get free.
- c) Adjust your standards.
- d) Focus on the positive.

Accept the things you cannot change

Some sources of stress are unavoidable. You cannot prevent or change stressors such as the death of loved one, a serious illness or a national recession. In such

cases, the best way to cope with stress is to accept things as they are. Acceptance may be difficult, but in the long run, it is easier than railing against a situation you cannot change.

- a) Don't try to control the uncontrollable.
- b) Share your feelings.
- c) Learn to forgive

Make time for fun and relaxation

Beyond a take charge approach and a positive attitude, you can reduce stress in your life by nurturing yourself. If you regularly make time for fun and relaxation, you will be in a better place to handle life's stressors when they inevitably come.

Go for a walk, spend time in nature, listen to music, watch a comedy play with a pet, call a good friend are some of the healthy ways of relax and recharge.

Don't get so caught up in the hustle and bustle of life that you forget to take care of your own needs. Nurturing yourself is a necessary not luxury.

- a) Set aside relaxation time.
- b) Connect with people.
- c) Do something you enjoy everyday.
- d) Keep your sense of humour.

Start practicing some of the following relaxation techniques.

1. Deep breathing
2. Meditation
3. Yoga

Activity-4

1. Write some of the management techniques of stress.
2. List some healthy ways to relax and recharge.

More Skills to be practiced

1. **Financial Management – a Key Life Skill**

Money makes the world go around and while there have been people who said that money does not bring happiness, the reality is that those who do not master the financial game will live a life full of uncertainty, poverty and worst of all an inability to fully reach their potential as human being.

2. **Critical Thinking**

Of all the life skills that you must master in order to gain long term success the ability to think critically is very important. While college and educational systems do emphasize on objective thinking to a degree not everyone educate their students on the importance of thinking critically.

3. **Developing Negotiation Skill**

We all have to negotiate on a regular basis in our daily life the ability to negotiate is a skill which everyone needs to be adept in order to succeed. The cool thing about negotiating is that it is a skill that can be quite fun to learn, it is critically important and should always be taken seriously.

4. **Social Skills**

Many everyday encounters are unpleasant, embarrassing or fruitless because of inept social behaviour. Many of those difficulties and frustrations could be eliminated by a wider understanding and better training in the skills of social interaction.

- Michael Argyle

Social skills are picked up informally.

Summary

Teaching is an unpredictable, rewarding profession that requires the teacher to play many roles in a child's life. Teacher will play the role of the child educator, counselor, parent, coach and sometimes as friend. So it is necessary for all teacher educators to master at least some life skills to be mastered.

This module contains information on what are life skills? Its importance and need for acquiring life skills. It also says, how life skills help us to live successfully. Problem solving skill is defined as the skill to understand and deal effectively with problems in day-to-day living. Interpersonal relationship skills are a set of skills, which are essential for establishing and maintaining healthy interpersonal relationship. Stress management skill is also an essential skill to maintain the mental health of the individuals.

Evaluation

1. What are life skills?
2. Describe the need for acquiring life skills.
3. Why should we solve our problems?

4. How does decision making help in problem solving?
5. What are the sources of stress?
6. What is stress management?
7. What is self-awareness?
8. List out some relaxation techniques.
9. “Communication skills are the pre-requisite for a Teacher Educator” – comment on this statement.
10. “Life skills help in personal development of an individual”. Justify.

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Guidance and Counseling

Dr.(Mrs) A. Radhamani & Dr.(Mrs) D. Hemalatha Kalaimathi

Objectives

After going through this module, you will be able to,

1. Understand the meaning and importance of guidance
2. Acquaint with the different views of guidance
3. Describe the different types of guidance
4. Analyse the role of counseling in guidance
5. Understand the role of teacher in organizing guidance program in the school.
6. Analyse the different techniques used for counseling

Rationale

The school years coincide with the stage of rapid growth and the stage of exploration in the life of an individual. School is the place where the child spends most of his/her time. As the child grows, his/her social sphere increases and he/she is faced with myriads of issues, choices, problems and decisions. Neither parents nor teachers are able to meet these developmental and adjustmental needs of children. Thus the need for guidance arises in school.

Meaning of Guidance

Guidance is basically a helping process. It helps the individual to help himself/herself. It enables the individual to make intelligent choices, plans and decisions.

Traditionally, guidance has been given by parents and elders in the form of advise. However, guidance, as a professional service, is more than mere provision of help for the solution of the problem. It consists in helping the individual help himself/herself without having to depend on others. Thus the goal of guidance is directed towards increasing self-acceptance and self-understanding of the individual.

Guidance is an integral part of education. The objective of education is the all round development of the children. Guidance services also address the “Whole” child, taking into account all the aspects of his/her personality. The child is helped to understand and accept himself/herself-his/her strengths, limitations, interests, skills, abilities, attitudes and aptitude. He/She is able to make his/her own decisions by analyzing the choices he/she faces and opportunities available to him/her.

Guidance thus is a developmental process of helping the child to become increasingly self-directed and self-realizing.

Aims and Objectives of Guidance

Following are some of the aims and objectives of guidance

- To monitor the academic progress of students studying in the institution.
- To acquaint the students with the prescribed curriculum.
- To identify the academically gifted, backward, creative and other category of special learners.
- To cater to the educational needs of special learners to assist students in getting information about further education.

- To diagnose the learning difficulties of students and help them overcome the same.
- To assist the students to maximize their scholastic achievement.
- To help students to review and reflect on their performance on the course and to identify ways of seeking changes in work habits or behaviour.
- To help students face the consequence of acceptance of their role and to respond to the demands legitimately made on them.

Different Views of Guidance

Different views of guidance have been formulated and put into practice.

Barry and Wold have categorized the views as follows:

Educational and Vocational View: In this view, guidance is seen as a primary process of helping each student make both a wise educational and vocational choice.

Service View: In this view, guidance is a set of specialized services distinct in themselves and to be regarded as such within the context of education. Psychological and psychometric studies of the individual and group are the basis of this view.

Counseling view: The function of guidance here is frankly therapeutic. It would help pupils who have personal problems.

The *adjusted view:* This approach is centralized in helping the individual fit into his/her group and into his/her society.

The problem-centered view: The individual here is subordinate in importance to the demands of society with the emphasis on techniques of guidance, rather than, counseling which emphasizes the individual.

The *educational view*: Here the emphasis is on schedules, information, programming courses and similar services. The student is to be given services necessary for effective learning on his/her part.

The *developmental view*: This approach emphasizes the necessarily for making the guidance process. Continuous and cumulative not merely operative as in counseling at choice or crisis points or cut trouble spots.

The *integrated view*: In this view of guidance, self-understanding and development are emphasized. The individual here is regarded as a person in his/her own right and the purpose of guidance is to safeguard and promote this individuality.

Principles of Guidance Programme

According to Hollis and Hollis, there are eight principles on which any guidance programme should be based. They can be modified to fit locally accepted beliefs. The principles are:

- The dignity of the individual is supreme.
- Each individual is different from every other individual.
- The primary concern of guidance is the individual in his/her social setting.
- The attitudes and personal perceptions of the individual are the bases on which he/she acts.
- The individual generally acts to enhance his/her perceived self.
- The individual has the innate ability to learn and can be helped to make choices that will lead to self-direction consistent with social improvement.
- The individual needs a continuous guidance process from early childhood through adulthood.

- Each individual may, as times need the information and personalized assistance best given by competent professional personnel.

Activity-1

1. Analyse the meaning of guidance.
2. Elaborate on the principles of guidance.

Functions of Guidance

Guidance is adjustive in the sense that it helps the students in making appropriate adjustment to the current situations in the educational institution and occupational world, in the home and the community. Professional and individualized aids is given in making suitable adjustment at problem and choice points.

Guidance has an occupational function. It orients the students in problems of career planning, educational programming and direction towards long-term personal aids and values.

Guidance has developmental function also. It tries to help get rid of problems but helps check their emergence and maladjustments. It contributes to the self-development and self-realisation of the student while furthering the welfare of the society. It is an important instrument of national development.

Types of Guidance

There are mainly three types of guidance such as- educational guidance, vocational/career guidance and personal & social guidance. These are described below:

Educational Guidance

In educational guidance every student must have the freedom to choose the course of study considering his/her educational ability, interest, future needs, etc. The purposes of this type of guidance are:

- Encourage students to utilize their abilities in specific areas,
- Assist students in understanding and appreciating the instructional obligations, which they are required to complete. This may include information regarding the assignments, tests, project work they are required to complete as part of the course work.
- Provide information to students regarding future education programmes.
- Give general orientation to students regarding the facilities and resources available such as library, laboratories, workshops, scholarships, etc.
- Provide opportunities for group thinking in regard to common problems and experience.
- To identify and motivate the students from weaker section of society
- To identify and help students with special needs.

Vocational/ Career Guidance

The specific aims of vocational guidance include the following :

1. Assisting a pupil to acquire knowledge of the functions, duties, responsibilities and rewards of occupations that lie within the range of his/her choice.
2. Assisting pupil to discover his/her own abilities and skills and to fit them into the general requirements of the occupation under consideration.
3. Giving exploratory opportunities in different areas of school learning and vocational exploration that will enable the learner to get the feel of several type of activities.
4. Assisting the individual to think critically about various types of occupations and to learn a technique for analyzing information about vocations.
5. Assisting the pupil to secure the necessary information about the facilities offered by various educational institutions engaging in vocational training.
6. Providing information for the learner about admission requirements, the length of training and the cost of attending any institution of higher learning to which he/she may wish to go after graduation from high school in order to continue his/her vocational preparation.
7. Giving assistance during school years so that the individual will be able to adjust on the job to work conditions and to other workers.
8. Assisting each pupil to appreciate his/her rightful place in a group of workers and to become a functional member of the team.
9. Helping the learner realize the success is purchased at the price of effort and that satisfaction on the job derives from doing his/her work conscientiously and competently.
10. To help students choose, prepare for, enter upon and progress in a career.

Personal and Social Guidance

During the high school years, the aims and purpose of guidance for personal adjustment include the following:

1. To assist the pupil to realize that it is natural to experience periods of turmoil.
2. To give the individual the assistance that will enable him to overcome the awkward years of physical development.
3. To assist the learner to enter into mental activity with renewed interest and vigor as he/she gains in maturity.
4. To assist pupil to become a good school citizen in his/her civic and social relations.
5. To assist the pupil to move gradually from dependence on others to independence of judgement and action.
6. To encourage the pupil to benefit by the practice of emotional control.
7. To encourage then pupil to work to the limit of his/her capacity with full knowledge that he/she may not be capable as other pupils.
8. To help the pupil reap the full benefits of participation in social type through joining clubs and taking part in other school activities.
9. To enlighten each pupil concerning boy-girl relations and the values that can come to him/her through the intelligent and emotionally controlled understanding of the function of sex.
10. Assisting the mentally handicapped, the physically handicapped or the economically handicapped to make the adjustments that will be best for them in their struggle for a fuller life and for personal and social welfare.
11. To help students to make the best possible adjustments to the situations in the school as well as in the homes.
12. To assist pupils in their adjustments with other persons.

13. To encourage pupils to formulate a continuous plan of activity for greater social usefulness.

Activity-2

Give three examples for each type of guidance.

Role of Counselling in Guidance

Guidance performs a complementary educational function, assisting normal development and personal autonomy. Guidance is an applied behavior science, of which counselling is one aspect. Defining and differentiating between counselling and guidance is not easy. Counselling may represent one of the services of the guidance function. Counselling differs from guidance in that it is therapeutic. The most important area in which guidance services function is in the field of education. Counselling, on the other hand, may function in several settings and may include such diverse fields as education and industry.

The most important aspect of guidance is vocational guidance. Vocational guidance is relating to giving detailed career information concerning different vocational avenues, understanding the requirements, demands, limitations and prospects of vocational development, choosing a particular vocation in preference to another in light of a further understanding of one's own needs, abilities, aptitudes and interests and knowing job requirements as well as what it offers. However, vocational guidance implies educational guidance.

If we conceive education as a preparation of a suitable career, the choice of vocation is determined by the course(s) offered. For example, a pupil who has not offered mathematics would not be acceptable for enrolment in an engineering course. Thus he/she would be denied the chance of entering the engineering vocation. Thus vocational guidance should go hand in hand, with educational guidance – without the latter, the former may not be fruitful and may even become impracticable.

One of the differences between counselling and guidance is that, unlike guidance, counselling has a therapeutic function.

Difference between Guidance and Counselling

Very few terms have been interchangeably used than the terms “guidance” and “counseling”. According to Tolbert “Guidance is the total programme of all the activities and services engaged in by an educational institution that primarily aimed as assisting an individual to make and carry out adequate plans and to achieve satisfactory adjustment in all aspects of his/her daily life. Guidance is not teaching but teachers may do it. It is not separate from education but is an essential part of the total educational programme. Guidance is a term which is broader than counseling and which includes counseling as one of its services.

Butler makes a logical separation of the counselling process discerned as having two phases called ‘adjustive’ and ‘distributive’. In the adjustive phase, the emphasis is on the social, personal and emotional problems of the individual; in the distributive phase the focus is upon his/her educational, vocational and occupational problems.

According to Arbuckle, Butler's distributive phase can be most aptly described as 'guidance' while adjustive phase can be considered as the description of counselling.

What is Counselling?

One of the standard techniques of guidance is counselling. Counselling is a learning-oriented process carried on in a simple one-to-one social environment in which the counsellor, professionally competent in relevant psychological skills and knowledge, seek to assist the client by methods appropriate to the latter's needs and within the context of the total personnel program, to learn more about himself/herself and to accept himself/herself, to learn how to put such understanding into effect in relation to more clearly perceived, realistically defined goals, to the end that the client may become a happier and more productive member of society. Counselling assist scientific understanding of self in the context of his/her environment in which he/she lives and to which he has to adjust, develop innate potentialities, an understanding and utilization of existing environmental opportunities and continuously processing on the path of leading all-round adjustment and consequent happiness.

Goals of Counselling

The goal of counselling is to help individuals overcome their immediate problems and also to equip them to meet future problems. The goals of counselling may be described as immediate, long-range and process goals. The process goals comprise facilitating procedures for enhancing the effectiveness of counselling. The long term goals are those that reflect the counsellor's philosophy of life and could be stated as :

1. To help the counsellee become self actualizing
2. To help the counsellee attain self-actualisation,
3. To help the counsellee become fully functioning person

Competencies and Specific Personal Qualities needed to the School

Counsellor

- a) Knowledge of the fact and understanding of the principles of individual growth, development and adjustment. Functional biology, psychology of individual differences, personality development, psychology of social relationship, physical and mental hygiene, psychiatry.
- b) Knowledge of the methods of appraising the growth, development, characteristics and adjustments of individuals. Tests and measurements; statistical interpretation; clinical techniques; varieties of informal methods suitable for use in school situations.
- c) Understanding of the principles underlying social and economic life and knowledge of social, economic and industrial trends as they affect the lives of individuals.
- d) Understanding of the purpose, scope and organization of educational programs. Curriculum workshops; courses in the curriculum of the elementary and the secondary school.
- e) Understanding of the principles, methods and practices of pupil personnel work, knowledge of the practical aspects of work with individuals and with groups and some demonstrated competency in such work.
- f) Knowledge of survey methods and methods of placement and follow-up. This may partially be attained through courses.
- g) Specialised competencies in some areas of personal work beyond the general competencies needed by the counsellors. This is based upon the

probability that the counsellor may be called upon to perform some specialized service not otherwise provided in the school.

Steps in Counselling

Counselling is a systematic process, following steps have been set forth around what appear to be the essential phase of the counsellor-counselee relationship.

1. Developing a base for counselling.
2. Establishing the proper conditions for the counselling situation.
3. Selecting appropriate methods to be used in counselling.
4. Facilitating the expression of feeling on the part of the counselee.
5. Assisting in the classification of the concern structuring problem and relationship
6. Assembling the information systematically.
7. Interpreting the data.
8. Developing the course of action.
9. Making provision for further counselling.
10. Using a survey report.
11. Conducting a follow-up programme.

Activity-3

Differentiate between guidance and counseling.

Organization of the Guidance Program in the School

Each and every school should have a comprehensive guidance program to cater to the guidance and counseling needs of the students. A Guidance committee can be established in the school consisting of –Principal/HM, Vice-principal, school counselor, one PGT, one TGT.

The following general principles should be kept in mind in the organization of any guidance program.

1. The guidance service should arise out of the interest, needs and purposes of the students in the school, which it serves.
2. The guidance service should be continuous and serve all youth not merely the maladjusted, in ways which will help to foster their best growth.
3. It should be concerned with the whole individual in his/her total environment and with specific needs and problems.
4. It should be organized to deal with social problems after they arise with causes of such problem, in order to prevent them from arising or to prepare better for their solution.
5. It should provide for all phases of pupil problems and pupil study.
6. It should provide for specialists; and the services of these specialists should be so organized and administered that they contribute in these special fields directly to the guidance program and constantly strengthen all other members of the school personnel and help them in their problems.
7. It should provide for securing and recording, through tests and other devices, adequate information regarding occupational and educational requirements and opportunities.

Prerequisites for an Effective Guidance Programme

1. Need based Guidance Activities.
2. Trained Guidance Personnel
3. Provision of adequate facilities
4. Provision of adequate budget
5. Proper publicity of the programme
6. Parental support
7. Establishing public relations
8. Organisation Model

Role of Teachers in the Guidance Programme

Teachers are the most useful allies of the counselling. It is they who have the closest, the most frequent and the most extended contacts with students in a natural situation. Without their cooperation, guidance service can never become an integral part of any educational programme. So the teachers and counsellors should join hands for an effective guidance programme. The teachers can help the programme by:

- playing a primary role in advising and orientation in making known to the students the requirements and future job possibilities connected with their particular subjects;
- providing vocational motivation to the subjects taught by them;
- assessing the achievements of the students and thus enabling them to know better weaknesses in certain subjects; enabling them to know better their strengths and
- enabling the students to explore and develop interest by integrating the curricular and co-curricular activities and thus orienting them towards worthy goals,

- detecting early symptoms of any abnormality in the students' make up and drawing the counselling or liaison officer's attention and
- rendering "Mental hygiene first aid" and helping students remain on the right track.

To be solid help, the teacher should

- Study the needs, interests, abilities and problems of each student in the class,
- Win the confidence of the students and help them in every possible way to evaluate their own growth,
- Get acquainted with the parents and take an active part in parent teacher association.
- Instruct the students in appropriate methods of applying for the posts,
- Cooperate with placement organizations in their task of making specific suggestions and finding suitable openings,
- Follow-up those students they advise by obtaining progress reports on their satisfaction.

Activity-4

Describe the different factors to be kept in mind while organizing a school guidance program.

Summary

There is an urgent need for introducing and strengthening the guidance service in the schools of our country to meet the various needs of the students. Teachers, called the second parents of the child have a major role to play in this

regard. Teacher's understanding of the guidance needs of the children and their care, support and effort will lead to successful implementation of the guidance program in the school and helping many children to make their mark in life.

Evaluation

1. Differentiate between guidance and counseling.
2. List out the benefits of guidance programme to students.
3. Explain personal guidance.
4. Explain the counseling procedure.
5. Describe the techniques used in counseling.

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Integration of Educational Technology (ICT & Multimedia) in Classrooms

Dr. Mumtaz Begum⁴

Objectives

After reading this module, you will be able to

- Effectively use ICT and multimedia as handy tools of teaching
- Relate the merit of ICT and multimedia over other teaching aids
- Induce the interest of learners to the new strategy and enhance their level of understanding to a considerable extent.
- Familiarize the students with computers
- Develop higher order thinking skills in the students
- Make the students abreast with the global requirements enabling them to compete in the 21st century world.
- Help students make their learning effective while using technology in the classroom
- Provide more opportunities to students in multiple ways of discovering, creating and communicating information in various journals and media.
- Enhance the efficiency of the library, the office and the management.
- Enable teacher-trainers to develop, variety of models relating to-development of concepts, clarification of processes, in learning through simulation and modeling using ICT.

Need for ICT Integration

Today's classroom teachers need to be prepared to provide technology-supported learning opportunities for their students. Being prepared to use

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technology and knowing how that technology can support student learning have become integral skills in every teacher's professional repertoire. Teachers need to be prepared to empower students with the advanced technology. Schools and classrooms, both real and virtual, must have teachers who are equipped with technology resources and skills and who can effectively teach the necessary subject matter content while incorporating technology concepts and skills. Interactive computer simulations, digital and open educational resources, and sophisticated data-gathering and analysis tools are only a few of the resources that enable teachers to provide previously unimaginable opportunities for conceptual understanding.

Introduction

The growth of information and communication technology (ICT) in society is reflected in policies to encourage the use of ICT in education and the development of educational multimedia. As the role of educational multimedia increases, it is increasingly important to have an idea of the potential it affords for teaching and learning. This module aims to consider teachers' experience and assessment of multimedia, its impact on their teaching and on pupils' learning and how the use of multimedia in education can be effectively supported.

To live, learn, and work successfully in an increasingly complex, information-rich and knowledge based society, students and teachers must utilize technology effectively. Within a sound educational setting, technology can enable students to become- Capable information technology users; Information seekers, analyzers, and evaluators; Problem solvers and decision makers; Creative and effective users of productivity tools; Communicators, collaborators, publishers, and Producers; Informed, responsible, and contributing citizens.

Information and Communication Technology (ICT)

Information and Communication Technology (ICT) exemplified by the Internet and multimedia are obviously of great significance for education. The ICT integration in education in general and teacher education in particular is the need of the day.

The use of ICTs can make substantial change for education and training mainly in two ways. Firstly, the rich representation of information changes learner's perception and understanding of the content. Secondly, the vast distribution and easy access to information can change relationships between educators and student teachers. ICT can also provide powerful support for educational innovations.

Activity-1

1. Computers are integral part of the schooling process- Explain.

2. Give two reasons for integration of ICT in teaching-learning process.

Impact of ICTs on Teacher Educators

- ICTs enable to enhance the initial preparation by giving good teaching and training materials, use simulators, recording and feed back practices in teaching and microteaching.
- With the help of ICT, teacher educators can access with colleagues, institutions and universities, experts, rich resources at cyber space.
- ICTs enable to interact with students over a physical distance.

- ICTs enable to access online libraries, journal and research to enable individual learning
- Didactic Software and intelligent tutoring systems can dramatically reduce the cost of teacher training.

ICT Versus Teacher

- ICTs enable to give feedback and testing objectively without biases.
- ICTs provide lifelong professional development by providing courses at virtual situation, training on demand; orientation and refresher courses through video conferencing or online.
- ICTs enable to facilitate sharing of ideas, experience as well as collaborating on projects, exchanged materials, through virtual communities.
- ICTs can be used to enhance richness and quality of teacher education in the classroom and distribute own developed multimedia resources to others.

Focus Shift to ICT

A method of evaluation and assessment of what students learn in ICT-rich environment supported by the computer and communication technologies must evolve, for this environment is going to cause perceptible shifts from:

- traditional learning atmosphere to a climate of values that encourages exploration, problem-solving and decision-making;
- didactic classroom teaching to participatory and interactive group learning;
- linear, sequential reasoning to search for patterns and connections;
- mastery of fixed body of knowledge to understanding a web of relations between the parts of a whole; and
- collection of information to processing of information, leading to knowledge management skills.

The traditional tests cannot measure the skills and abilities that result from these shifts.

Teacher as a Facilitator

It is only with new skills and perceptions that the teacher can assume his/her new role as a facilitator of learning and implement and maintain innovations in the classroom. This calls for a new definition of pre-service courses and effective training and orientation programmes for in-services.

Challenges Ahead

The educator accepts the broad general principles that s/he is challenged with.

- creation of a framework for enhancing learning opportunities that computer-based learning material and accessible resources offer;
- access to information, shared educational goals and pedagogy;
- access to professional development opportunities for teachers which would enable them to act as facilitators of learning;
- flexible curriculum models which would embrace interdisciplinary and cross-disciplinary thinking; and
- development of attitudes that are value-driven, not technology-driven.

Activity-2

Explain the role of teacher as facilitator, while using ICT.

Computer and Software

A computer is an electronic device that can perform a variety of operations in accordance with the set of instructions. Computer is used essentially as a data processor. The terms data and information are commonly used in the field of computer. In computer technology data means raw facts and figures. Information is the meaningful data.

Computers are often used in the field of instruction, which can make interest and inspiration in the pupils. Computers can motivate the learners. It can interact with learners. It can stimulate situations, which are difficult and dangerous. It can provide instant feed back.

Such a powerful instrument has several uses in the field of education and schooling. Some of the major advantages of computer are given below.

- Computers bring flexibility and individuality to the study process.
- Computer reduces the isolation of distance learners.
- Computer based study materials are cost effective when produced on a large scale.
- Computer stimulates students to experiment, design and create solutions to the problems.

Software represents a set of programmes that govern the operation of a computer system.

Types of Software

Software's can be classified into three categories

Operating system; Language processor; and Application software

Instructional use of Computers

- Pretesting of students knowledge on enrollment
- Planning and printing individualised programmes
- Monitoring student's progress.
- Conducting tests and its evaluation

Offline and online Computers

Offline computers stand on its own as an independent system helping the learner to work on his own. Online computers are connected with one another, which are on line, and the operation depends upon communication between these devices.

Activity 3

1. What are the major advantages of computer?

2. What are offline computers?

3. Explain how online computers are used?

Computer Assisted Instruction (CAI) Computer Managed Instruction (CMI) Computer Managed Learning (CML) Computer Assisted Learning (CAL)- are software.

Difference between CMI and CAI

The CMI computer gather, store and manage information to guide students through individualised learning experiences. In CAI computer interacts directly with the learners while presenting lessons.

Modes of transaction in CMI

- Tutorial mode: In tutorial mode information is presented in small units followed by a question.
- Drill or practice: The programme leads a learner through a series of examples and activities
- Discovery mode: In this mode, the learner solves problems through trial and error.
- Simulation mode: It allows realistic practices of real life situations.
- Gaming mode: It is mostly recreational in purpose, while sometimes it teaches through games.

Multi-media

The word 'multi' means many and 'media' means techniques and methods of communication. The concept multi media in education calls for the use of many media, methods and procedures of communication in the field of education.

- Multimedia approach uses a number of media, devices and techniques in the teaching learning process.
- It helps in improving the process of teaching and learning.
- Multimedia aim at providing meaningful learning experiences via a mix of media in order to achieve pre determined objectives.

- The selection of the medium has to be done carefully, i.e. each medium must compliment the other.
- The media have to be used sequentially and judiciously.

Activity-4

Explain how multimedia is beneficial?

Classification of media in terms of type of instruction:

Computer Assisted Instruction
Personalised system of Instruction
Programmed Learning Instruction
Using Teaching Machines

Classification of media in terms of means of mass Communication

Radio
Television
Internet
Distance education
Open School and university

Advantages of multimedia

Multimedia enables students to represent information using several media.

- Multimedia can take into account different learning styles-some students learn by interpreting text while others require more graphical or oral representation

- Multimedia allows for self pacing and discovery. Students can take the time they need and choose the path of learning, making learning meaningful and pleasurable
- Multimedia help in development of higher order thinking
- Multimedia provides the students the flexibility for learning
- Multimedia help in developing group and interpersonal skills
- Multimedia can bridge language barriers since audio is not the only means of communication.
- Multimedia helps students to learn the content in a given discipline.

Multimedia Learning Approach

Multimedia-based learning is becoming increasingly common. While it has limitations, it should not be seen as a substitute for face-to-face interaction. Multimedia gives provisions for the development of all senses.

Firstly, the information contained on the Internet is unlimited, evolving, up to date, inexpensive and searchable. It also reflects the views of many authors and sources of information. Secondly, multimedia helps in gaining professional development experiences by synchronous interaction, and take place any time and at any place.

Literally multimedia is the integration of two or more communication media. It is the use of text and sounds, plus still and-moving picture to convey ideas. It is built around the hypothesis that anything word can do, words with sounds and pictures can do better.

Components of Multimedia

Multimedia can be called the “power of inter-activity”. It is one of the fastest growing and most exciting areas in the field of information technology. Multimedia is widely used in the field of education and entertainment. The components of multimedia include the combinations of text, data, audio, animation, video picture, and graphics.

Multimedia gives students to use various technologies effectively as tools in the planning, development or presentation of their projects. Though the technology can easily become the main focus of a given project, the real strength of multimedia component has in its integration with the subject curriculum and its authentic use in production process.

Why is multimedia called the power of interactivity?

- Multimedia helps students and teachers in promoting the transition to this new mode of learning
- Multimedia delivers information in a variety of ways, but achieves greatest effectiveness through their interaction.
- Multimedia education allows one to proceed at one's own pace. It brings presentation alive with sounds, movies and interactivity. Multimedia brings together different communication technologies such as cable television, telephone lines, private network, the Internet and others.
- Multimedia enhances the standard of educational technology.
- Multimedia in education provides a new way for teachers to encourage one of the rare and important elements of learning curiosity.

Activity-5

1. Name the components of multimedia.
2. Explain how multimedia encompasses different communication technologies.

Virtual Reality

Virtual reality is the simulation of a real or imagined environment that can be experienced three dimensionally. Virtual reality uses graphics, sounds and images to reproduce electronic version of real life situation.

Significance of Virtual Reality (VR)

This is an information age and tremendous flow of information is emerging in all fields throughout the world. Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century. We are entering a new era of digital learning in which we are in the process of transitioning from “broadcast” learning to “interactive” learning. Today’s students no longer want to be passive recipients but want to be active participants in the learning process. Many stages of media have helped us to extend our perception, imagination and manipulation. VR is just an extra step on the long road bringing the imagination as close and restrict as reality itself. It encapsulates all previous media even books, slides, pictures, audio, video and multimedia. The typical contribution of VR is its effect of "immersion", the user feels as if he/she is in a different world.

VR becomes a substantial and ubiquitous technology and subsequently penetrates applications for education, learning and training. In addition to multimedia, VR place the user in a 3 dimensional environment. The user feels in the middle of another environment Most of the VR systems allow the user to travel and navigate. More promising for learning purpose is to let the user manipulate object and experience consequences. This provides potential impact of “immersion” for learning environments.

The changing student profile in Virtual Learning Environment

In student-centered learning, the student is viewed as an independent agent, an active learner with the right to choose and the freedom to make decisions regarding his or her own learning process. This empowers the students with attitude to manage their study time in an independent manner. The freedom afforded by virtual environments requires that individual learners be endowed with sufficient self-discipline and self-motivation to take more responsibility for their own learning, organize their time, and work with the technology.

Mode and instruments of Multimedia

Mode	Instrument
Text	Books/Magazines Web page
Images	Printed photos, maps, and schematic drawings Digital photos, maps and schematic drawings
Audio	Radio Audiotape Digital audio (Web- and CD-based)
Video	Analog Broadcast Digital (Web- and CD-based)
Simulation	Interactive (Web- and CD-based)

The above mode and instruments are to be selected based on its affordances and limitations.

To implement ICT in school, the teachers can adopt “Technology literacy approach” and should be able to perform following activities:

1. Identify key characteristics of classroom practices
2. Match specific curriculum standards to particular software packages and computer applications
3. Help students acquire ICT skills within the context of their courses
4. Use ICT to assess student’s acquisition of school subject matter knowledge and to provide feedback on their progress using both formative and summative assessments.
5. Incorporate appropriate ICT activities into lesson plan so as to support student’s acquisition of school subject matter knowledge.
6. Use presentation software and digital resources to support instruction.
7. Describe and demonstrate the use of- word processors, presentation software, graphic software, World Wide Web (www), creating e-mail account, usage of common communication and collaborating technologies like- messaging, video conferencing, social environments etc.
8. Usages of ICT resources for support their own acquisition of subject matter and pedagogical knowledge to enhance their productivity.

Teachers can adopt “Knowledge Deepening Approach” while using ICT by following these criteria.

1. Identify key concepts and processes in content areas and correspondingly select appropriate mode and instruments for transaction.

2. Develop and apply knowledge- and performance-based rubrics that allow teachers to assess student's understanding of key subject matter concepts, skills and processes.
3. Describe how collaborative, project-based learning and ICT can support student thinking and social interaction, as students come to understand key concepts, processes and skills in subject matter and use them to solve real-world problems.
4. Identify or design complex, real-world problems and structure them in a way that incorporates key subject matter concepts and serves as the basis of student projects.
5. Design unit plans and classroom activities so that it helps them in solving complex problems.
6. Operate various open-ended software packages and evaluate the accuracy and usefulness of web resources.
7. Use a network and appropriate software to manage, monitor and assess progress of various student projects.
8. Use search engines, online databases and email to find people and resources for collaborative projects.
9. Manage student project-based learning activities in a technology-enhanced environment.
10. Use ICT to access, to search and to share resources to manage, analyze, integrate and evaluate information that can be used to support their professional development.

Teachers can enhance their productivity by using “Knowledge creation approach” and following these criteria:

1. Identify and discuss how students learn and demonstrate complex cognitive skills

2. Design units and classroom activities that integrate ICT tools and devices to help students to acquire skills of reasoning, planning, reflective learning, knowledge building and communication
3. Help student use ICT to develop communication and collaboration skills
4. Design online materials and activities that engage students in collaborative problem solving, research or artistic creation
5. Help students reflect on their own learning
6. Describe the function and purpose of virtual environments and knowledge building environments and use them to support increased knowledge and understanding of subject matter and the development of online and face-to-face learning communities
7. Play a leadership role in supporting innovation in their school and continuous learning among their colleagues

Continually evaluate and reflect on professional practice to engage in ongoing innovation and improvement.

Challenges to Technology Integration

- **Inadequate availability of technology**

A major difficulty lies in incurring the high initial investment in establishing a computer lab and in procuring adequate number of computers. It is equally hard to regularly provide for maintenance and repairs especially if the institution is in rural areas. Internet connectivity is not yet wide spread which makes its use limited in many areas.

While many teacher education institutions have only partial access to the computers which many time they share, there is a need for better coordination with the other departments and to streamline ways of providing more computer hours to students and teacher educators.

- **Lack of infrastructure supports:** Irregular power supply, internet access, adequate computers, power backup, suitable configuration, suitable work space in the labs, expensive software needed to support the various operational needs and access to information etc., are the critical issues of support which is resulting in the few available computers remaining as museum pieces locked up in glass cases.
- **Lack of orientation of teacher educators about technology integration:** Teacher educators have knowledge of the potential of ICT in education but most of them do not have sufficient hands on experience and exposure to ICTs. Due to lack of accessibility, they rarely resort to using it and many may not have a real perception of what it entails. Typically, training and orientation programmes have duration of 2 - 7 days, and lack follow up or retraining opportunities.

Teacher educators need to be oriented to the appropriate use of computers. Many teachers use the downloaded material as lecture notes and presentations in place of the ones developed by themselves using their skills and knowledge. This trend of using downloaded materials may not always help to enhance meaningfulness of the process.

- **Resistance to change:** Teacher educators, though willing to adopt technology, have a natural reluctance to use it. This could be due to their initial training which probably did not include technology, and lack of exposure in their teaching practices. Adoption of technology requires not merely the competence to use it, but a different view of the entire process and its components: learning, learners, teachers, pedagogic ramifications, assessment of learning, and the entire organization.

- **Curricular revision:** To situate technology integration more effectively the existing curriculum should be revised to a large extent. So far, teacher education has barely managed to accommodate a course on computers in response to the prescription given by the NCTE. Very few Institutions have developed innovative practices in the use of ICTs beyond the prescribed limits. Most of these are not institutionalized and are discontinued once the individual teacher who initiated these leaves the institution.
- **Need for better liaison with school system:** There is hardly any liaison between the Teacher Training Institutes and schools, especially for technology deployment. The curricula and pedagogies do not match the requirements of each other and thus do not align in any way. This is the reason why teachers are unable to use and adopt the skills and knowledge they have learned and acquired during the training period.

The Destination and the Process

If you don't know where you are going then it doesn't matter which road you take, does it?

-Cheshire Cat in Alice in Wonderland

The process of effectively integrating technology into learning is not a single one-step activity; it involves a series of deliberate decisions and actions like

- Rigorously analyzing educational objectives and changes.
- Determining which educational objectives will be pursued for ICT application.
- Understanding the potential of different ICTs for different applications.

- Examining the appropriateness of specific technologies.
- Sustaining a programme of investment
- Implementing the pre- and co- requisites of effectiveness of ICTs.
- Continuous evaluation and adjustment.

Activity-6

1. Explain the modes of multimedia.

2. Which criteria's are essential in "Computer literacy approach"?

3. Highlight the significant differences between "knowledge deepening approach" & "Knowledge creation approach".

Conclusion

The most successful technologies are those that become unnoticed. We do not think any more of the spectacle of printing every time we read a book, the phenomenon of TV every time we watch a movie, or the miracle of the telephone every time we make a call. The ultimate success of ICTs for learning will be attained when we stop marveling about the ICTs and look at our minds and emotions to the wonders of learning.

The challenge to integrate ICTs into education is enormous, but so are the potential benefits. With Technology the sky is the limit, but with educational technologies, the sky is not the limit. **The limit is human imagination and societal creativity.**

Evaluation

1. Why ICT integration is required and give brief impact of ICT on Teacher education?
2. Describe the various instruments of ICT & its usage.
3. Narrate the limitations of the Radio.
4. Enumerate the challenges to Technology integration.

Action Research

Dr.Asha K V D Kamath⁵

Objectives of the Module

At the end of this module, you will be able to help the trainees to

- understand the concept of Action Research
- explain the need for Action Research in Schools,
- describe the steps involved in conducting Action Research,
- prepare a proposal for conducting Action Research,
- develop skill in conducting and reporting Action Research.

Rationale

Teaching is a profession, which has a lot of scope for improvement. It is also a profession, which has to face varied challenges, and requires immediate solutions. As the classroom teachers come across several problems, it is necessary to strengthen their hands by developing the skill to solve those problems themselves. As Action Research helps teachers to analyse their practices and improve their performance, it is a felt need of the teaching professionals to have knowledge and skill of Action Research. Therefore, this module, attempts at developing an understanding among the teacher educators about Action Research, so that they will be able to help the student teachers to become better teachers along with becoming better teacher educators themselves.

Meaning of Action Research

Education is a process of bringing about desirable changes in the behaviour of the learner and to bring about these changes, educationists are constantly searching for effective methods of teaching and learning. Whenever the teachers come across problems in day today classrooms, they try to find ways of solving those problems. One of the systematic ways of solving those problems is 'Action Research'.

Action Research offers a means of providing an understanding to a problematic situation (Opie, 2004). Although typically action research will concern itself with practitioner issues (Corr and Kemmis, 1986), the essence of action research is that, it enables a reflective, cyclic process to be brought to bear on the understanding of the problem at hand. Few definitions of action research are given below for understanding the meaning of action research.

Stephen M. Corey defines "Action Research is the process by which practitioners attempt to study their problems scientifically in order to guide, correct and evaluate their decision and action for improving their current practices."

According to Kurt Lewin "Action Research is the applying scientific thinking to real life problems and represents a great improvement over teachers' subjective judgements and their limited personal experiences".

As per J. Elliot "Action Research is the study of a social situation with a view to improving the quality of action within it".

Activity-1

What do you understand by Action Research?

Features of Action Research

Purposeful : Action Research is always purposeful in nature. It is conducted for solving the problem faced by the teacher/ practitioner.

Flexible: The investigator has every freedom to make necessary changes as per the demand of the situation. This flexibility makes the Action Research more friendly.

Simple analysis : Action research requires only basic knowledge of statistics and hence can be taken up by any person. Many times even qualitative analysis serves the purpose.

Practice based : In action research, the problem is experienced by the practitioner and research is also done by the same practitioner. Therefore, there is more involvement of the researcher in the investigation.

Problem specific results : The results obtained in one study cannot be generalised. The findings of one study are applicable to the specific problem which was studied by the researcher.

Economical : Action Research does not cost much to the research as it is one by himself/ herself considering the immediate problem. However, the researcher can propose the budget depending upon the scope of the problem.

Immediate : Action Research is conducted within a short period of time. As the problem requires immediate solution, it is conducted in a short period and follow up action is also taken up depending on the findings of the study.

Relevant : Action Research is always problem specific and is relevant to a problem situation faced by the practitioner. Therefore, action research always has a high degree of relevance.

Activity-2

1. Why do you think the findings of action research cannot be generalized?

2. Why do the practitioners conduct action research?

3. Write some more features of action research.

Need for Action Research

Action Research is a felt need of every teacher to be independent in solving the problem and to grow professionally. The following list gives the need for action research.

- To reflect on one's practices.
- To empower the teachers to improve their teaching practices.
- To try innovative ideas on their own.
- To study the learner behaviour.

Activity-3

As a classroom teacher, what is the need for you to know about action research?

Steps in Conducting Action Research

There are many steps in the systematic conduct of action research. They have been described below :

Concern : The need for action research emerges out of perceived dissatisfaction with the existing situation and also with the idea of bringing out improvement in the situation. This requires understanding and paying attention to the following questions.

- What is causing dissatisfaction?
- Why is it happening?
- What can I do about it?
- How can I do it?

Stating the Problem: Once the above questions are focused, it leads to perceiving a problem, as it exists. This is a prerequisite for undertaking any action research.

Analysing the problem: Once, the problem is stated, it needs to be analysed. The practitioner tries to find the causes underlying that problem. Various issues that surround the perceived problem need to be analysed and understood, like in any other social situation various factors act in concert. Once, their underlying dynamics are understood, they need to be recorded in operational terms.

Stating the probable causes: Once, the problem is analysed, the probable causes can be identified. These probable causes need to be stated in unambiguous terms. While, doing so, the practitioner also need to spell out various factors which are under his/her control and suggest possible strategies with which the problem can be solved in a best possible manner.

Planning, Implementation and reflection/evaluation of action research : Action research is primarily finding solutions to the problems by identifying causes and developing and implementing remediation measures. The researcher needs to develop a suitable intervention programme, implement it and examine its effectiveness. Duration of the intervention, modality of its implementation, etc need to be carefully planned.

Decisions : There is a need to evaluate the impact of action taken to enable the practitioner to draw conclusions and take decisions. For this it is required to compare the previous performance of the students with their current performance. In order to make it easily understood by others, it may be presented graphically and also using simple statistical procedures.

Sharing of results : After you have completed the study, you may be interested to share the findings with colleagues, administrators and other functionaries who may find the study useful. There are different ways of sharing the results such as, presentation in seminars, conferences at different levels, and also publication in journals, etc.

Action Research Proposal- Format

I. Personal Data

- a) Name of the Investigator :
- b) Address of the Investigator – Official :
- c) Designation and Qualification of the Investigator :
- d) Class and subjects taught :

II. Action Research Plan

- a) **Introduction:** This is the beginning part of the proposal. The investigator may give a brief write-up on the background and statement of the problem and rationale for conducting the research.
- b) **Objectives :** In this part, the investigator has to state the objectives of the proposed research, which he/she would like to realise.
- c) **Research Questions/ Hypotheses :** It is necessary to formulate certain research questions/ hypotheses based on the objectives.
- d) **Target Group :** Here, the investigator has to mention the number of people for whom the research is going to be conducted. He/she will have to give the details related to age, sex, class, subject and any other characteristic of the people considered for study.
- e) **Tool :** It is necessary to use certain tools to collect the data whether it is teacher made or readily available. A brief description of the tools has to be given here.

- f) **Procedure** : Under this part, the investigator has to write about the procedure which is going to be followed in the collection of data including statistical techniques to be used.
- g) **Data Analysis** : Investigator has to write, the way in which the data is going to be analysed-quantitative and qualitative.
- h) **Time required and Time schedule**: Investigator has to write the time required for conducting the research. One has to specify the beginning and ending date of the research and the time taken for different stages of the research work.
- i) **Budget Estimate** : An approximation of the expenditure that would be incurred for carrying out the research may be mentioned under various heads – stationery, clerical assistance, teaching-learning material, data collection, report writing, etc.

Action Point for Teachers

- develop research questions based on your own curiosity about teaching and learning in the classrooms
- examine the underlying assumptions about teaching and learning
- share and discuss their data and research methodology with fellow teachers/ researchers
- analyse and interpret their data with the support of statistical analysis.
- write about the research
- share their finding with students, colleagues, and members of the educational community

- discuss with colleagues the relationships among practice, theory and research
- assume responsibility for your own professional growth.

Evaluation

1. Describe the meaning of Action Research?
2. Explain the importance of Knowledge of action research to classroom teacher?
3. Prepare an action research proposal, keeping in mind any one problem faced by you in your field.

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Multiple Intelligences

Mrs. Sujata B Hanchinalkar⁶

Objectives

After going through this module you will be able to

1. Explain the theory of Multiple Intelligences
2. Identify the components of MI
3. Interprets the implications of MI to education
4. Critically analyses MI

Rationale

Intelligence is often considered how well you score on tests or what your grades are in school. In the 1900's, French psychologist Alfred Binet tried to come up with some kind of measure that would predict the success or failure of children in the primary grades of schools. The result was the forerunner of the standard IQ test we use today. This gave us a dimension of mental ability by which we could compare everyone.

Instead of looking for a correlation between tests, we should look instead to how people develop skills that are pertinent in their culture. When a child learns to play the piano, s/he is learning several skills. Will the training s/he received learning the piano skills enhance her/his mathematics skills, or vice versa? The standard IQ test measures how intelligent a person is based, traditionally, on math and English. All other areas that a person may excel at or have natural ability in are not taken into consideration. Each individual is unique. We all have different physical features and different personalities. We

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all have our own set of talents, giftedness, and abilities. Not everyone will excel in math and language. Why should we compare how smart children are or how successful they will be based on a test that measures only two aspects of who that little child is?

The **IQ** (Intelligence Quotient) has become accepted (erroneously) as the way to measure a person's intelligence. This single figure with the value of 100 as average (what is average, anyway?) has created more problems than it solves. Human intelligence has many dimensions, and this module explores **Howard Gardner's** notion of **Multiple Intelligences**.

Multiple intelligences theory

Howard Gardner's Multiple Intelligence Theory was first published in Howard Gardner's book, *Frames Of Mind* (1983), and quickly became established as a classical model by which to understand and teach many aspects of human intelligence, learning style, personality and behaviour - in education and industry. Gardner's contention is that individuals possess these eight intelligences to varying extents. The first seven intelligences were addressed in Gardner's book "Frames of Mind: The Theory of Multiple Intelligences". Howard Gardner initially developed his ideas and theory on multiple intelligences as a contribution to psychology, however Gardner's theory was soon embraced by education, teaching and training communities, for whom the appeal was immediate and irresistible - a sure sign that Gardner had created a classic reference work and learning model.

Interestingly, Gardiner does not isolate a **creative** intelligence, unlike Buzan and Keene, who include this amongst one of the ten intelligences classified in the book "Buzan's book of Genius". Yet the creative vein does

weave through all of Gardner's intelligences. This means that recognition of our strengths and weaknesses in the different intelligences impinges directly on our ability to generate creative outcomes in various domains.

Gardner's studies of the "creative" personality document that certain personality traits - such as ego strength and willingness to defy tradition - characterise outstanding creative individuals within a particular domain; they also help to explain the lack of a relationship between scores on creativity measures and scores on more conventional tests of intellectual strengths, at least about a certain level of IQ. Gardner's investigations are also being directed to the role played by different intelligences, and different combinations of intelligences, in the highest orders of human creative achievement.

Traditional IQ tests only measure two intelligences - **linguistic** and **logical-mathematical**, and later extended to include **spatial intelligence**. We still do not see a balanced picture of an individual after an IQ test since the majority of categorised intelligences have not been considered.

Howard Gardner initially formulated a list of seven intelligences. His listing was provisional. The first two are ones that have been typically valued in schools; the next three are usually associated with the arts; and the final two are what Howard Gardner called 'personal intelligences' (Gardner 1999: 41-43).

Linguistic intelligence involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. This intelligence includes the ability to effectively use language to express oneself rhetorically or poetically; and language as a means to remember information. Writers, poets, lawyers and speakers are among those that Howard Gardner sees as having high linguistic intelligence.

Logical-mathematical intelligence consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. In Howard Gardner's words, it entails the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking.

Musical intelligence involves skill in the performance, composition, and appreciation of musical patterns. It encompasses the capacity to recognize and compose musical pitches, tones, and rhythms. According to Howard Gardner musical intelligence runs in an almost structural parallel to linguistic intelligence.

Bodily-kinesthetic intelligence entails the potential of using one's whole body or parts of the body to solve problems. It is the ability to use mental abilities to coordinate bodily movements. Howard Gardner sees mental and physical activity as related.

Spatial intelligence involves the potential to recognize and use the patterns of wide space and more confined areas.

Interpersonal intelligence is concerned with the capacity to understand the intentions, motivations and desires of other people. It allows people to work effectively with others. Educators, salespeople, religious and political leaders and counsellors all need a well-developed interpersonal intelligence.

Intrapersonal intelligence entails the capacity to understand oneself, to appreciate one's feelings, fears and motivations. In Howard Gardner's view it

involves having an effective working model of ourselves, and to be able to use such information to regulate our lives.

Naturalist - the ability to recognize and classify plants, minerals, and animals, including rocks and grass and all variety of flora and fauna, and to recognize cultural artifacts like cars and sneakers. Possible vocations that use the naturalist intelligence include conservation, biologist, teacher, lobbyist, and park service.

Activity-1

1. Explain Gardner's theory of multiple intelligence.

Howard Gardner's Multiple Intelligences Theory

This simple grid diagram illustrates Howard Gardner's model of the seven Multiple Intelligences at a glance.

Intelligence Type	Capability and Perception
Linguistic	Words and images
Logical-Mathematical	Logic and Numbers
Musical	Music, sound, rhythm
Bodily-kinesthetic	Body movement control
Spatial-Visual	Image and space
Interpersonal	Other people's feelings
Intrapersonal	Self-awareness

Gardner's Suggested possible Additional Intelligences

Intelligence type	Capability and perception
Naturalist	Natural environment
Spiritual/Existential	Religion and ultimate issues
Moral	Ethics, Humanity, Value of life

Use to education

Traditionally schools have emphasized the development of logical intelligence and linguistic intelligence (mainly reading and writing). While many students function well in this environment, there are those who do not. Gardner's theory argues that students will be better served by a broader vision of education, wherein teachers use different methodologies, exercises and activities to reach all students, not just those who excel at linguistic and logical intelligence.

The application of the theory of multiple intelligences varies widely. It runs the gamut from a teacher who, when confronted with a student having difficulties, uses a different approach to teach the material, to an entire school using MI as a framework. In general, those who subscribe to the theory strive to provide opportunities for their students to use and develop all the different intelligences, not just the few at which they naturally excel.

A Harvard-led study of 41 schools using the theory came to the conclusion that in these schools there was "a culture of hard work, respect, and caring; a faculty that collaborated and learned from each other; classrooms that engaged students through constrained but meaningful choices, and a sharp focus on enabling students to produce high-quality work."

Of the schools implementing Gardner's theory, the most well-known is New City School, in St. Louis, Missouri, which has been using the theory since 1988. The school's teachers have produced two books for teachers, *Celebrating Multiple Intelligences* and *Succeeding With Multiple Intelligences* and the principal, Thomas Hoerr, has written *Becoming a Multiple Intelligences School* as well as many articles on the practical applications of the theory. Thomas Armstrong sees Waldorf education organically embodying Gardner's seven intelligences in a more thorough way than other schools.

Criticism

Criticisms of the theory's application in schools come in four major forms. First, opponents argue that the theory may lead to a sort of intellectual relativism, wherein students' failures are explained away as being an example of a different kind of intelligence, not a lesser one. As a result, there are those in the Gifted and Talented community who have criticized Gardner's theory, because any support of the idea that all children are equally gifted, just in different ways, might lead to the reduction or broadening of Gifted and Talented programs. Gardner himself has said that he does not believe his theory will have this type of consequence for gifted programs, and that he never intended his theory to affirm that all people are equally gifted, but rather that the definition of intelligence was too narrow to encompass all types of intelligence.

The second major criticism is that it is fallacious to say that someone may be good in one intelligence but not in another. Every multiple domain IQ test ever normed (Wechsler Adult Intelligence Scale, Stanford-Binet IQ test, Ronald K. Hoeflin's Mega test) has shown that all the areas tested are correlated. This trend is also shown in tests like the Graduate Record Examination, the SAT, the PSAT, the ACT, etc., on every one of which each section correlates to

a high degree with the others; the correlation rarely drops below 0.6 on the -1 to 1 scale. Hence, it has been argued that persons who excel in one type of intelligence usually excel in several others; and many times in all.

The third major criticism of multiple intelligences as an application in schools is that there is a risk of teachers excusing students from doing well in an area in which they are weak. Students who may not "naturally" learn to read and write well nevertheless need to read and write well. Similarly, the goal is for students to succeed in all areas defined as intelligence by Gardner, and not default to their strengths.

There is an inherent risk of students developing a sense of inferiority in given areas. Students who are identified as not being "musical" learners may have less incentive to become musical learners.

A methodological criticism is that the assessment of one's form of intelligence is usually determined via a self-administered test. The usual form asks the respondent 40-60 questions such as "Do you prefer to stand when working?" This sort of question leaves much room for assessment error, and does not conform to survey techniques and methodology such as double-blind testing.

Another criticism is that the distinction between developmental stage and "intelligence" is not sufficiently well accounted for. For example, the average five-year-old is more likely to answer "yes" to the question "Do you like to move about a lot?" than the average forty-year-old. Conversely, the older person is more likely to seem to have interpersonal "intelligence," which might be

better labeled as a developed skill -- solving problems with others or speaking in public.

Conclusion

All seven intelligences are needed to live life well. Teachers, therefore, need to attend to all intelligences, not just the first two that have been their tradition concern.

Evaluation

1. What is intelligence?
2. Explain the Multiple Intelligences Theory.

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Psychological Testing

Dr.Swati Patra⁷

Objectives

After going through this module, you will be able to know

- Acquaint with the meaning of psychological testing
- Appreciate the need for psychological testing
- Describe the classification of psychological tests
- Describe the procedure of using psychological tests
- Limitations of psychological testing.

Rationale

People differ in their personality make up greatly. They possess different traits as intelligence, aptitude, interests, etc. in different measures. Their achievement also differs. With the background of all these differences, the individual has to make various choices and decisions regarding career, peer groups, life partner and life style, etc. To help him in all these and make his life smooth and satisfying, there is an utmost need of some objective measurement. The psychological tests of various types help to meet the need by measuring individual differences.

Psychological tests are mainly intended to measure differences between individuals or between the reactions of the same individual on different occasions. No two persons are alike. Individuals differ from each other in various aspects. In psychology, the word 'trait' refers to any relatively enduring

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and consistent way of behaving in which people differ from one another. For example- Aggressiveness. A person who behaves in aggressive ways on numerous occasions has a strong trait of aggressiveness. Psychological tests have been developed to measure various traits.

Meaning of Psychological Testing

Psychological tests are designed to assess the characteristics of people such as their abilities, attitudes, motivations, interests, needs and values and so on. Psychological tests can be defined as 'a sample of an individual's behaviour, obtained under standing conditions and scored according to a fixed set of rules that provide a numeric score'. (Anastasi, 2003). In other words, a psychological test is essentially an objective and standardized measure of a sample of behaviour. A psychological test is like a test in any other science, in so far as observations are made upon a small but carefully selected sample of an individual's behaviour, For example while assessing a student's mechanical comprehension, psychologists examine his performance with a representative set of problems. The diagnostic or predictive value of a psychological test depends upon the degree to which it serves as an indicator of a relatively broad and significant area of behaviour.

Scope of Psychological Tests

The field of psychological testing received its initial stimulation from problems arising in education as well as in military or war situations. Gradually it has spread to several fields. In the educational field, psychological testing finds the application in the identification of children having learning problems as well as gifted children, diagnosis of academic failures, selection of students for professional courses and educational and vocational counseling of students. In short, psychological tests are administered to the students as one means of

obtaining the information we need about each student's capacity and achievements. The information we get from the tests can be used mainly for the purpose of getting a better understanding of individual students and their needs which will help in providing appropriate educational guidance and career planning.

Besides educational field, psychological testing constitutes an important part in many other areas. In the industrial set up, starting from the assembly-line operator to top management, one or the other type of test is employed for such things as hiring, job assignment, transfer, promotion and termination. Psychological tests are also employed for the selection and classification of personnel in defence services. Use of tests also finds place in the area of counseling. Further, besides the use of psychological tests, in the solution of a wide range of practical problems, they also have an important function in basic research in psychology.

Overall psychological tests are used in different areas and the use of psychological tests can basically be said to serve the following four purposes such as

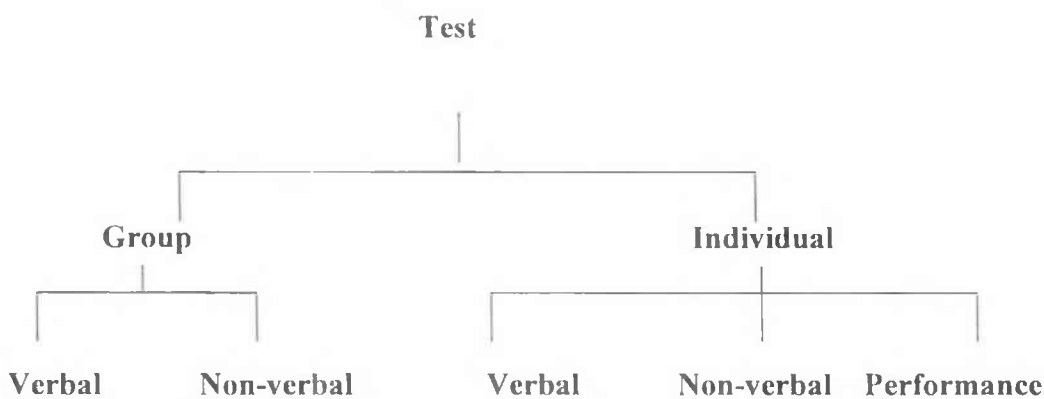
- Selection
- Classification
- Diagnosis
- Prediction

Activity 1

Discuss the meaning of psychological test.

Types of Psychological Tests

Psychological tests have been developed to assess different aspects of individuals such as intelligence, personality, achievement, ability, aptitude, interest and values. These tests can be classified either (a) on the basis of administration : group test and individual test, or (b) on the basis of the content : verbal, non-verbal and performance test. These categories are represented below :



Individual tests are administered to one person at a time, whereas group tests are administered to a group of individuals. However, group tests can also be administered individually depending upon the need. Individual tests help to establish proper rapport and facilitate giving personal attention. However, one of the major limitations of individual tests is that they are time consuming. Whereas, group tests are applicable for a group testing, thus requiring less time and less involvement by the test administrator.

Tests are also classified into verbal, non-verbal and performance tests based on their content. Some tests require the use of paper and pencil. Both verbal and non-verbal tests are paper and pencil tests, whereas performance tests require the individual to perform certain activities.

A verbal test in contrast to the non-verbal test involves the use of language and requires understanding of written words. Non-verbal tests use items such as shape, pattern, diagram and sequence instead of the use of words. Sample items of a verbal test would be of the kind: In what way are a sheep and goat alike? What does robust mean? If two chocolates cost ten rupees, what will be the cost of ten chocolates? Performance tests are made up of certain concrete tasks. Eg., the person is asked to arrange the blocks according to a given pattern or complete a sequence.

Activity 2

1. List out the different types of psychological tests.
2. Give two examples for each type of psychological test.

Characteristics of a good Psychological Test

A good psychological test has the following fundamental characteristics.

1. Standardisation

A psychological test should be a standardized test. A test is standardized if the procedures for administering, scoring and interpreting the test scores are uniform across different examiners and settings.

2. Norms

Norms refer to average/ typical score on a particular test made by a specified population. A good psychological test should have norms by which test scores can be used to interpret the characteristics of the client and make comparisons depending on the requirement. Norms are derived during the standardization process. As a basis for determining the norms, the test is administered to a representative group of people for whom the test is constructed. The scores obtained by this group of people provide a basis for interpreting any individual's score i.e. they indicate how well or poorly an individual has performed.

Objectivity

A good psychological test should have objectivity, i.e. it should be independent of personal biases. The administration, scoring and interpretation of scores should be free from any subjective judgement. Objectivity is achieved with regard to (a) the objectivity of test items, (b) the objectivity of administering and (c) objectivity in scoring.

Reliability

Reliability is an important characteristic of a psychological test which refers to the consistency of test scores. It means that the individuals obtain the same score when they are administered the same test on different occasions. Thus the test scores are dependable or trustworthy. Then such a test is a reliable test.

Validity

The validity of a test refers to what the test measures and how well it measures what it intends to measure. If a test is constructed to measure

attitude towards mathematics, then it should measure attitude towards mathematics only. Then the test is a valid test. Its result can be generalized to a population and it can predict future behaviour efficiently.

Usability

One of the characteristics of a good psychological test is usability. It refers to the ease of administration, scoring, interpretation and application. Usability also involves economy in the use of the test.

Activity 3

Mention the characteristics of a psychological test

Using a Psychological Test

Use of a psychological test involves different steps such as selection of a test, administration of a test, scoring and interpretation of the test and communicating the test results.

Selection of the Test

Selecting an appropriate test is of crucial importance. Various factors need to be kept in mind while selecting a test: (a) The area of development about which information is required, (b) the characteristics of the group to be tested like age, language spoken, social background, (c) the ease of administering and scoring, (d) the cost of the test material and the total time

required, (e) the validity of the tests, and (f) the ease with which the test can be interpreted- the kind of norms, whether they are adequate for the group. (Saraswat & Gaur, 1994)

Administration of the Test

The administration of psychological tests requires careful planning and preparation. One important factor is finding a suitable time and place for administering the test. The individual should be active and fresh and the place should be calm and quiet free from any disturbance.

The examiner should keep all the test material ready beforehand. Establishing good rapport with the target group is an important consideration, which will reduce test anxiety and ensure their co-operation.

Giving instructions for administration of the test is an important part of the test. Instruction should be given as provided in the test manual and it should be ensured that all the individuals understand and follow the instruction properly.

Scoring and interpretation

Care should be taken to score the responses correctly. The raw scores obtained on the test should always be interpreted in reference to the norms provided in the test manual.

Communicating the Test Results

The test results need to be communicated to the different stakeholders such as students, parents, teachers, school administrators in a correct way. Numerical scores/ raw scores should not be given as these are likely to be

misunderstood. It is better to use descriptive terms such as 'he is among the top 10% of the students in his class' or 'he should be able to do superior work in college'. Another important consideration while communicating the test results is that over-reliance on the test scores should be avoided. It is, therefore, important to supplement the test scores with data from other sources.

Activity-4

Administer a psychological test to a group of students keeping in mind their need and communicate the test result to them.

Limitations of Psychological Testing

The usefulness of psychological tests depends on their proper use which implies proper selection, careful administration, objective scoring and sensible interpretation. Following are the various limitations and problems related to psychological testing.

- **Problem of Labeling** :Test results often label students as bright, inferior, superior which may affect the self esteem of the person and have negative impact of their development and prospects.
- **Situational determinants of test behaviour** : The testing environment may affect the response of the test taker. Different conditions of the testing situation will affect the concentration of the person and impact of the test results.

- **Social Desirability Effect** : This is especially true in case of tests of personality. Social desirability effect refers to the situation where the person gives the response which is desirable instead of giving the actual response.
- **Cultural Bias in tests** : Tests generally show a bias towards the culture in which they are developed. The bias generally shows up in items based on the experiences of a particular culture or group.
- **Tests invade Privacy** : Individuals may feel that tests invade their privacy as the test data is recorded, especially in case of tests assessing feeling and emotions.
- **Over-reliance on test results**: There is a tendency to view the test results as being conclusive. However, it should be kept in mind that results are only an indication. Care should be taken to interpret the test results based on the information from other sources as well.

Conclusion

No one technique can provide all the information needed to understand a student and his problems. A test may, for example, show a student to be superior in academic ability, but it does not tell us why a student is not achieving at a correspondingly high level. Hence, we need to use different techniques to get different perspectives on the same issue. We may see that information obtained through the use of different techniques can supplement, contradict or confirm one another.

Hence professional competence is required for the use of psychological tests. Well-trained personnel in the field of psychological testing know that tests give only an indication of the existing state of affairs and the probable state of

affairs. Decisions should not be based solely on test results. Over generalization and over interpretation of the test scores should be avoided. The significance of test scores increases when combined with information from other sources such as different non-testing techniques, namely, case history, interview, anecdotal record, sociometry, etc. This underlies the importance of qualitative assessment. Psychological tests provide quantitative assessment, which along with the use of qualitative assessment will provide a comprehensive picture about the individual.

Evaluation

1. Describe different uses of psychological tests?
2. Explain the important characteristics of a psychological test.
3. What precautions would you take while administering a psychological test?
4. Mention the limitations of psychological test.

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Education for Peace

B.N.Manjunathaiah⁸

Objectives

After studying this module you will be able to,

1. Explain the global context during the 20th century characterized by unprecedented violence and dispute.
2. Explain the situation in India after independence, which was full of social and political conflicts.
3. Analyse the negative impact of science and technology resulting in anxiety dissatisfaction and unrest.
4. Analyse the futility of violent approaches like war to solve national and international conflicts.
5. Justify the quest for peace at the global level.
6. Bring out the need for peace as a universal value in the present context.
7. Describe the nature and pre-requisites of peace.
8. Distinguish between peace education, peace studies and education for peace.
9. Bring out the value of Gandhian way of conflict resolution in achieving peace.
10. State the objectives of Education for Peace.
11. Describe the strategies and activities in teacher education programmes Education for peace.
12. Bring out the role of teacher educators and teachers in Education for Peace.

⁸ Professor of Education (Retd), University of Mysore, Mysore.

Rationale

The period comprising the latter part of the 19th Century and 20th Century is rightly characterized by unprecedented unrest, group conflicts and violence at the global level. This statement applies to India also to some extent during the preceding two centuries. We have witnessed the development of science and technology in an amazing speed. Many breakthrough discoveries and inventions were made during this period. Paradoxically during the same period we witnessed two World Wars and many smaller international disputes, wars and revolutions leading to wide spread and intense violence causing devastation of human lives and properties. The invention of atomic bomb, fighter planes, deadly military weapons did not help nations to resolve conflicts; rather they became responsible for escalating tension, anxiety and a war-neurosis robbing the peaceful existence of human life. Economic development, improved material standard of life, conquest of distance with the help of faster means of transportation and many electronic means for quicker communication, explosion of knowledge did not bring peace to mankind. Instead all these achievements of man in a material terms took away peaceful living at all levels of human living starting from individual level to international level. Not only individuals but also communities, societies and nations have realized that somehow something has taken away peace from them. New problems have cropped up despite unprecedented developments in science and technology, Problems like population explosion, pollution and degradation of environment, urbanization, new diseases, malnutrition, unequal distribution of wealth and resources among nations, increase in crimes and violence, lack of values and so on are threatening mankind. It is in this global context man has realized the need and importance of peace. Thinkers and educationists have realized that there is an urgent need to orient mankind towards peaceful life and to redefine our objectives of education towards the goal of understanding the nature of

peace and starting to live a peaceful life. It is in this changed global and national context there is need to include peace education in the curriculum at all levels and especially in teacher preparation programmes. Because, teachers have to play a decisive role in imparting education for peace.

The Violent nature of Human History

A critical study of world history and the Indian history as well reveals the violent nature of human history. Periods of peace through wars, revolutions and violent means. Peaceful existences of human society during the long human history are very rare. Histories are full of wars, revolutions, massacres, and devastations of civilizations. Religions, God men and prophets could not divert human attention away from violence. In fact, there are instances in which even religions were responsible in causing wars and mass destruction. During the past five millennia it has been estimated that mankind has engaged in war 26,000 times. In the recent past also history has repeated itself perilously. Two-thirds of the world countries representing 97 percent of the global population were involved in at least one-war through the 20th Century. During the first 85 years, 207 wars were waged in which an estimated 78 million lives were lost (Susheela Bhan). During the two World Wars and during minor wars like Vietnam war, Czech wars, Indo-Pak wars, the Gulf war to mention a few millions of people including innocent citizens were killed and their properties were destroyed. By destroying the whole cities of Hiroshima and Nagasaki the use of atomic bombs signaled the inherent dangers of these “killer devises” for human existence. During the previous two centuries the emergence of Nation States leading to national pride and patriotism, invention of improved military weapons, struggle for supremacy based on propagation of ideologies, struggle between socialism and capitalism, increased consumerism leading to greed, industrial clashes, cultural clashes have been responsible for conflicts between human groups and

nations. Several attempts were made to resolve such conflicts. But all such efforts have proven fruitless. Instead, such efforts were partly successful in apparently resolving the conflicts temporally or have failed completely. Many a time the problem remained dormant and erupted, later in a different form or it gave way for indirect cold war. As a result, man has realized the futility of war and people concerned with human race have turned their attention towards peaceful resolution of conflicts.

Activity-1

1. What were the precipitating causes of World Wars I and II?
2. "The unprecedented human achievements have created new problems for mankind"- Justify this statement.
3. Explain some problems that have appeared during the 20th Century.
4. How do you say that modern scientific advancements have failed to bring human societies closer?

Conceptual Clarification

World wide quest for peace and attempts to reorient our thinking, life style, our relationships and our education system towards the seeking of peaceful life has given rise to peace movements, emergence of areas of knowledge about the nature of peace and research about peace. As a result of these many new terms have come into use. Before proceeding further, it is necessary to clarify such terms.

Peace education has been defined as the scientific study of the nature of peace. It's aim is to achieve the goal of peaceful living for the survival of and preservation of human race and the earth, and it also seeks a dignified existence for all individuals inhabiting the earth. It treats peace as a process of continuous human activity. It also treats the political and socio-economic structures as well as core values of non-violence and social justice as crucial for peace. It examines the problems and relationships of persons and institutions.

According to Lennart Vriens and Robert Asposlagh define as "Peace Education includes development of knowledge, insights and skills as well as the building up of opinions and attitudes, deriving from norms and values embedded in peace and directed to the realization of a humane and peaceful world".

Okamoto gives a four-fold classification of Peace Education:

1. Peace Education as criticism of War.
2. Peace Education as liberation, concerned with human rights and problems of illiteracy, poverty, malnutrition, diseases and all kinds of exploitation and discrimination based on any factor.
3. Peace Education as a learning process that does not teach about peace but teaches peace itself, revolts against authoritarian forms of teaching and

inculcates qualities of tolerance, imagination, destiny, criticism and elasticity.

4. Peace Education as a life style movement to create an awareness of the ills resulting from over-production and over-consumption of the developed countries at the expense of the developing world and to promote values such as simple life, self-determination, ecological awareness and personal growth.

Peace Research has been defined as the scientific study of the causes of war and conditions of peace. Peace Studies relate to the main issue of using the available knowledge accumulated about wars and peace in the policy making process and its dissemination in the wider society. Peace Education, which is related to this dissemination process, is concerned with the pedagogy of education in peace and about peace.

Peace Education is to be differentiated from Education for Peace. In Peace Education 'Peace' itself becomes the subject of study. Its content includes the nature of peace, essential pre-requisites for peace, values for achieving peace which itself becomes a supreme value, factors influencing or disturbing peace and approaches to achieve peace. Education for Peace is the approach and methodology of educational process to proceed towards the goal of achieving peace. In other words, Education for Peace is the shaping vision of education. It is education for life, not merely training for livelihood. "Equipping individuals with the values, skills and attitudes they need to be whole some persons who live in harmony with others and as responsible citizens is the goal of Education for Peace" (NCF 2005). It calls for a complete shift of emphasis in our education system. The present trend of direction of our education system is mainly towards "Market demands", it needs to be directed

towards achieving a wholesome life. The present authoritarian nature of curriculum transaction, one-way communication in teaching learning process, percolation of violence in subtle manner in all real me of life including education, erosion of moral values, neglect of Indian cultural ethics have to be changed.

National Curriculum Framework (2005) observes that “Education for Peace calls for a liberation of learning from the confines of the classroom and its transformation into a celebration of awareness enlivened with the delight of discovery”.

Education for Peace is a comprehensive term, which includes moral education or value education. Moral and other values become pre-requisites for peace and they become instrumental in the attainment of peace. “Peace concretizes the purpose of values and motivates their internalization without such a framework; the integration of values into the learning process remains a non-starter” (NCF 2005).

Activity-2

1. Make a list of values both moral and social.
2. Analyse as to how each of these value is essential to precede towards the goal of peaceful living
3. Differentiate between peace Education and Education for Peace.
4. What change of emphasis is called for from the point of view of Education for Peace?

Nature of Peace and its Pre-requisites

Peace is the state of mind characterized by tranquility, equipoise and balance. It is not merely a state devoid of tensions, conflicts and frustrations. It is something more than this. NCF (2005) has defined inner peace as “The ability to respond justifies and affirmatively to the needs and sufferings is the hallmark of inner peace.” Similarly external observable peace cannot be equated to absence of violence. Because absence of violence does not always indicate lasting inner peace. Sometimes absence of violence may result from subtle exploitation, fear of punishment from an authority or even meek subjective acceptance by the individual of exploitation, as it is in India, prompted by belief of karma or destiny. Hence external peace of an individual or a group is characterized by freedom from any kind of exploitation, gross or subtle and a conducive environment for actualizing ones potentialities and to attain inner peace.

Scholars are divided in their orientation in defining peace. Those who consider peace as absence of violence are called ‘objectivists’. Others who criticize this view as mere ‘negative peace’ argue for ‘positive peace’, which is achieved through the removal of any kind of ‘structural’ violence, and exploitation, which result from the inherent and blindly, accepted weaknesses and limitations of social beliefs, traditions and institutions. It is only through the removal of these limitations ‘positive peace’ can be achieved. Such scholars are known as ‘subjectivists’: Peace is holistic. It means that it encompasses all aspects of life. Peace means reciprocal exchange of love, affection, freedom, empathy and co-operation. Presence of peace encourages a person to choose the path of peace rather than the path of violence. Peace transforms pupils and teachers from consumers of peace-to-peace makers.

Peace can be defined as a state of absence of violence. Gandhiji, in tune with his mission of non-violence preferred to define peace as absence of any kind of violence – gross or subtle, physical or mental or gross or subtle, or as a result to defects in social or political systems. According to him the concept of peace includes the following

1. Absence of violence, conflicts and tensions. This can be achieved through non-violent ways of conflict resolution, reciprocal bargaining, mutual understanding and tolerance for instances of disagreement.
2. Creation of non-violent social systems characterized by social, economic and political justice and equitable distribution of resources.
3. Eradication of any kind of exploitation and injustice.
4. International co-operation and understanding based on friendship, reciprocity, peaceful political relationships and mutual exchanges.
5. Ecological balance and conservation of natural resources.
6. Peace of mind, which is the psycho-spiritual essence of peaceful existence.

How do we attain peace both external and inner peace? To achieve this goal we require certain pre-requisites as essential conditions. The following are the pre-requisites for the attainment of peace.

1. Absence of violence in the form of wars, revolutions, group clashes which result in fears, anxieties and tensions. This is an essential external condition for peace. This is possible if we learn to live amicably and collectively.
2. Absence of any kind of exploitation of one individual by another, one group by another or exploitation of individuals or groups by an authority derived from any religion, state or agencies of social control. Exploitation may be of any kind—social, economic or political. Gandhiji emphasises this condition in his conceptualization of peace.

3. Mutual co-operation, co-existence with mutual trusts and give and take interaction. This is possible only when we understand others and accept them as individuals having their rights, freedom, and desires and aspirations. This mutual understanding is the basis of democratic living.
4. Abiding to the moral and other social values willingly with clear understanding of the principles and intentions involved in them. But it is to be remembered that such values are based on humanitarian considerations and justice.
5. Inner peaceful state of mind, without which external pre-requisites of peace become ineffective. Inner peace is the essence of collective peace. Inner peace is possible when we perceive good intention behind other actions, have faith in the goodness of human nature, equipoise attitude towards others and respect for others' freedom. All these behaviours are possible by an individual who is enjoying inner peace. Without inner peace a person cannot live calmly even amidst material richness. But a person with inner peace can live remain calm even in situations of difficulties and challenges. In inner peace or tranquility all the sorrows are destroyed. A person with such inner peace or tranquility will soon attain mental equilibrium (Gita).
6. Contentment is another pre-requisite of peace. Man should have desires but such desires should be within limits. They should not lead to greed. Limitless uncontrolled desires have made modern man greedy, selfish and intolerant to the well being of others. Such greed has goaded some persons to exploit others. Such actions have taken away man's inner peace. We have to draw a line for our desires and demands. A contented person can live without unnecessary tensions and can achieve inner peace. It is declared in Bhagavad Gita that, "That person

attains peace in whom all desires merge, just like as rivers flow into the ocean which is full and calm. A desirer of desires indiscriminately cannot attain peace”.

7. An understanding of other religions is very essential for peace, especially in Indian multi-religious context. The NCF (2000) has rightly observed that, “What is required is not religious education but education about religions, their basics, the values inherent therein and also a comparative study of the philosophy of all religions”. Religious education is required from the point of view of a particular religious group. But if such religious education is not coupled with an understanding of the essence of other religions, if care is not taken to impress upon students that all religions essentially serve the same purpose of establishing a relationship between man and God or a Supreme Reality and lead to the same goal of self-realization which is viewed differently by different religions, in religious education there is a danger of developing bigotry about one’s religion and misconceptions about other religions which may lead to development of an attitude of intolerance about other religious groups and may cause communal clashes. But teaching about religions will help to develop mutual religious tolerance, an appreciation for others’ religious faith and practices and to develop secular attitude, which is very essential in India. Secularism, in its true sense, will pave way for peaceful existence of people of all religious faiths.
8. Appreciating, accepting and respecting differences between groups due to differences in culture, languages, castes, customs and traditions, as we find in India, are also required for peaceful living. This goal can be achieved only through understanding others’ social groups, accepting them as citizens of India and respecting their human rights. Many-a-

time, narrow parochialism, over-emphasized love about regional language, caste, regions and sub-culture has led to group clashes in our country resulting in disturbances of peace in society. Developing patriotism tempered with international understanding will help to avoid this danger.

9. Democratic attitude of mind and democratic values help to foster peace. Democratic approach is the best way to resolve conflicts amicably. It enables us to agree to disagree and appreciate others' judgement and viewpoint. Such approach to conflict resolution helps to arrive at consensus without resorting to violent means. Hence, democratic method of conflict resolution is essential for peace.
10. Certain knowledge, skills and attitudes become essential for assuring peace at both individual and group levels. The NCF (2005) has specified these knowledge, skills and attitudes to be developed among teachers. (Refer page 24 of the Report of National Focus Group on Education for Peace – NCF – 2005).
11. International understanding respect, for human rights and rights of children and appreciation of other countries and cultural groups as members of a 'Global Community' are also important for peace at the global level.
12. Awareness about our environment with its myriad flora and fauna and a committed action to protect it is also required. Our inner and outer peace is disturbed by excessive sound pollution, air pollution and water pollution. Exploitation of the natural resources of nature has resulted in ecological balance and disturbance of mental peace. Peaceful living is possible in a balanced environment, where human beings and animals can co-exist without disturbance.

Activity-3

1. Although India consists of groups of different religions, languages, castes and traditions, it exists as one nation. Make a list of factors responsible for this unity in diversity. What are the overriding beliefs and values responsible for this solidarity?
2. Distinguish between religious teaching and teaching about religion.
3. What is the nature of democratic way of conflict resolution?
4. Good citizenship will help live peacefully. Justify this statement.

Strategies for Education for Peace

There are two approaches for education for peace. One is separate subject approach and another is the integrated approach. In the separate subject approach peace education is included as a separate subject in the curriculum and taught separately. In the integrated approach content of peace education is integrated with all educational activities. The NCF (2005) favours integrated approach for peace education. Regarding the process of integration the NCF (2005) suggests that, “The integrated approach is to be understood from two angles. At the broader level, integration occurs when all the activities of the school, curricular as well as co-curricular, are geared toward education for

peace. At the class-room level, peace dimensions are woven into the contents of the lessons, which are treated also, as a means of helping students to imbibe peace values. Here, emphasis is not merely on acquisition of knowledge but also on the process through which peace is achieved” (NCF 2005).

Integrated strategies for peace education are best suited for children of pre-primary, primary and secondary levels. At the pre-primary and primary levels children can be taught about the need of peace through parables, stories of animals and human beings, anecdotes and observation. Pre-primary and primary stages are ideal to lay a foundation of peaceful living. There are some advantages at these levels. These are the formative years of child’s personality development. Large number of students can be taught about peace and a firm foundation of peace can be laid. The plasticity of their mental growth facilitates easy assimilation of knowledge and consolidation of ideas. Stories of Panchatantra, Hitopadesha, Esop, Parables from Bible and other religious texts, stories from Hindu Puranas, Greek mythology can be judiciously selected and used for peace education.

At the secondary and higher secondary levels peace education can be meaningfully integrated with the subjects taught and the co-curricular activities. Content in social science specially history (Indian and World histories) and languages provide ample scope to illustrate values and need for peace. The moral and spiritual values leading to goal of peaceful existence exemplified in the lessons have to be emphasized. Co-curricular activities have to be organized keeping the principles of co-operation, sharing, pro-social behaviour, peaceful and amicable settlement of disputes and disagreement. Talks from experts about value education can be arranged “Strategies like question, stories, anecdotes, games, experiments, discussions, dialogues, value clarification, examples,

analogies, metaphors, role play, and simulation are helpful in promoting peace through teaching-learning” (Focus Group Report).

Teachers at these levels can be encouraged students to take up small projects relating to value education and education for peace. For example a sample survey of opinions of the members of community about any incident, which disturbed the community peace, can be undertaken. People can be interviewed to know their suggestions as to how to avoid communal clashes. Students can organize a Jatha in the community with slogans about peaceful co-existence. Occasionally schools can invite members of different, religions and castes to participate in ‘Souhardha Sabhas’ (meeting of cordiality) to orient them towards peaceful living, Essay or story writing competitions relating to value and peace education can be arranged for students.

Activity-4

Make an analysis of language text books of 8th, 9th and 10th standard. Identify lessons with a message of co-operation, co-existence and peaceful living. Identify the attitudes and values conducive for peace exemplified by the characters in the lessons.

Role of Teachers in the Education for Peace

Teachers play a vital role in the entire process of education. Teaching subjects is just one aspect of their multifaceted role, although the importance of teachers as transmitters of knowledge cannot be denied. More important than this role is the modeling role of teachers. Students especially at the school level, consciously or some times unconsciously take their teacher as role model.

Students, at a latter stage in their life, remember their teachers who had an impact on their personality. As role-models teachers influence the development of attitudes and values, beliefs, even behaviour patterns. This modeling effect of teachers will be effective even in the education for peace. The NCF-2005 Focus Group has rightly emphasized the role of teachers in the process of education for process, “Teachers conduct the symphony of education. More than any other subject or educational goal, education for peace depends on the teachers sense of vocation and the kind of person that she / he is. Thus, it is obvious that the success of the initiative for education for peace substantially depends on the vision, motivation, skills and awareness of teachers. Teachers who carry our education for peace have to cherish its values, hold comparable attitudes, and exhibit similar behavioural tendencies” (NCF-2005 National Focus Group Report on Education for Peace). Unfortunately, at present, teachers have failed to influence their students with their ideals, values and exemplary behaviour. Majority of people who enter teaching profession have done so motivated by economic consideration rather than by their love towards children and love of teaching as a profession. They do not have exemplary personalities, which can be emulated by students. Their attitude towards teaching, their approach to teaching are, even today, seem to be authoritarian. Punishing children, over burdening them with excessive homework, over-emphasis on scholastic achievement, strict disciplinary actions do not make the school a happy place. A kind of subtle violence and exploitation vitiate school environment. Students imitate their teacher’s negative qualities. Majority of teachers are unable to overcome their prejudices relating to culture, religion, caste and languages. They are intolerant, narrow-minded and even resort to violent means to achieve their goals. Such teachers are ill equipped to educate children about peace.

The National Focus Group on Education for Peace has felt that, “The worst part of teacher education today is that it does not equip would be teachers to engage the opportunities of their vocation with innovation and imagination. It can be said that vis-à-vis the requirements of education for peace, teacher education at present promotes mere ‘trained incompetence’ than pedagogic preparedness or motivation”.

Hence, there is an urgent need to redesign teacher education programmes at all levels keeping in mind the goal of education for peace. Teachers should be prepared to be lovers and promoters of peace so that they could become role models of culture of peace to their students. This can be done on the following lines.

1. A component of peace education can be included as a separate course or as part of courses of Educational Philosophy and Educational Psychology.
2. Peace Education can be integrated with methodology courses especially teaching of languages, social sciences (History, Civics, Geography) and Life Sciences.
3. School-based internship (practice teaching) programme can provide opportunities for internee teachers to educate children about the need and importance of peace.
4. Teacher Education institutions can plan projects to study group clashes, comparative study of attitudes towards cultures, religious, analysis of procedures adopted for conflict resolution, peace movements-historical and current, case studies of individuals, groups and institutions dedicated to peaceful living, programmes like discussions, lectures, celebrations of special days like Teacher’s Day, Human Rights Day etc., exhibitions

with peace education as a theme can be organized in institutions of Teacher Education.

Activity-5

1. Mention the two approaches for Education for Peace and Which approach is suitable at the school level?
2. Name some strategies for Education for Peace at secondary level?
3. How do teachers serve as role models for students in education for peace?
4. List some activities in Colleges of Education for Education for Peace.

Conclusion

Swami Ranganathananda in his book *Eternal Values for a Changing Society* (volume IV Democracy for Total Human Fulfillment) has observed that, "If the voice of India speaks the language of peace and human fellowship today, it is because of that blending of compassion and human responsibility in her age-old culture and philosophy. It is accordingly not a voice of weakness but of strength". Our Upanishadic Rishis started and concluded their philosophical discourses with Shantipath, chanting of 'Om Shanthi' thrice implying seeking of external peace, mental peace and innermost spiritual peace. Our motto has been Sarve Janah Sukno Bhavantu, let the life of everybody be peaceful and happy. All our present day, tensions, anxieties, worries and difficulties can be traced to

degradation of our value system. We have forgotten the ideal of peaceful living enshrined in our traditions, culture and sacred books. There is need to reorient our education system towards the eternal values cherished by us.

Evaluation

1. Explain the rationale to justify Education for Peace in Indian context.
2. “A critical study of World history reveals its violent nature”. Justify this statement with suitable examples from World history.
3. Explain the nature and scope of Peace Education. How does Peace Education differ from Education for Peace?
4. Explain the pre-requisites for achieving the goal of Peace.
5. Bring out the role of teachers in Education for Peace.
6. As a teacher, what kind of activities would you like to organize in schools to prepare students as makers of Peace?
7. What factors are responsible for communal clashes?

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Evaluation Procedures and Grading System

Dr.K.T. Rangappa⁹

Objectives

After going through this module, you will be able to

1. Acquaint with the meaning, components and tools of evaluation.
2. Analyse the defects of present marking system
3. Reason out for grading system and its advantages
4. Distinguish between different methods of assigning grades.
5. Identify the criteria's for credit based grading.

Rationale

Evaluation is devoted to the systematic determination of merit, worth and significance through evaluation process. The school personnel can identify strengths; areas of achievement and growth; can confirm developing skills and can determine areas for further improvement among students.

Evaluation is an integral part of any programme and it is a process. It helps, both the, teacher and student in teaching-learning process. It is a continuous process and takes into account the following criteria's.

- Make progress in teaching-learning
- Help to make the purpose clear
- Motivate to learn effectively
- Help to guide student
- Help in modifying curriculum

⁹ Professor and Principal (Retd), J P Nagar, Bangalore – 78.

What is Evaluation?

It is Process of value judgement of an individual in all the three domains viz., cognitive, affective & psychomotor. It involves both quantitative and qualitative aspects. Hence it can be defined as:-

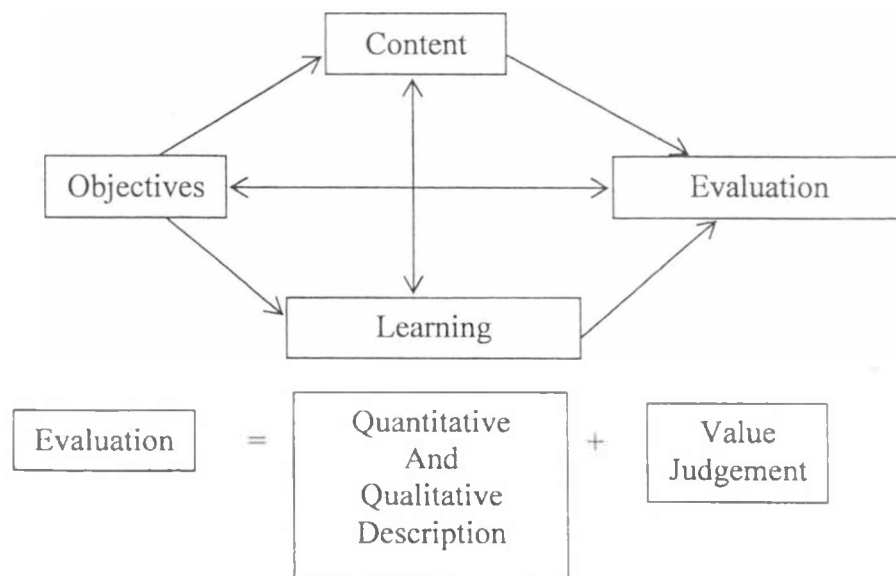
Evaluation = Measurement + Value judgment.

Why Evaluation?

It is a continuous process. It assumes that objectives have previously been identified & defined. It is a comprehensive activity. It is an integral part of any activity. It has both quantitative & qualitative description.

Components of Evaluation

- Information Gathering
- Interpretation of information
- Judgement forming
- Decision making



Characteristics of a Good Evaluation Programme

- Should be objective based process
- Should be continuous and comprehensive process
- Should be an integral part of instruction
- Should be cooperative and dynamic process
- Should be judgement-making process

Which are the areas for evaluation?

- a) Evaluating assignments
- b) Evaluating group work and participation
- c) Evaluating projects and demonstration
- d) Evaluating physical and motor skills
- e) Evaluating oral performance

Types of Evaluation

Based of Functional roles, evaluation is classified into following types:

Formative Evaluation: Formative evaluation provides information that can be used to improve course content, methods of teaching, and ultimately, student learning. Formative evaluation is most effective when they are done frequently and the information is used to effect immediate adjustments in the day-to-day operations of the course.

Summative Evaluation: Used to assess the learning ability of learners, over period of time, in the given areas, in more comprehensive manner.

Placement Evaluation: Used when personnel is to be promoted to higher level or to be promoted to higher job profile in the same pay grade. Categorising the

children into different groups or selection of class monitor/ school leader etc, this type of evaluation can be used.

Diagnostic Evaluation: Used to identify the learning difficulties faced by the learners, to know the causes of such difficulties and to take up the remedial measures, to overcome such difficulties.

Self evaluation: The procedure adopted by learner in assessing their performance against the set criteria's and to promote their self decision making abilities to develop and also helps to build their self confidence.

Tools of Evaluation

Teachers can use the different tools for evaluating learners' abilities. They are discussed below

Testing Tools

- a) Teacher made tests- these are the test constructed by classroom teacher to evaluate learners ability in specific areas based on set criteria's. They cannot be used in other schools, as they lack the characteristics of good test.
- b) Standardized tests- these are the test constructed based on norms and possesses the characteristics of- validity; reliability; objectivity and usability. They can be used depending on their set parameters in more wider context.

Non-Testing Tools

These are the tools, which are widely used for testing cognitive & non-cognitive aspects.

- a) Interview
- b) Questionnaire
- c) Observation
- d) Anecdotes
- e) Rating scales
- f) Inventories
- g) Audio-Video recording
- h) Portfolios
- i) Rubrics

Activity-1

1. Define Evaluation.
2. Mention the types of evaluation
3. What the characteristics of good evaluation program

- How the student is progressing with reference to his peer group,
- How the student is progressing with reference to criteria set out by the teachers in terms of expected level of attainment.

This is being practiced, by awarding numerical values (marks). This results in variation in following aspects.

- In spread of scores in different subject areas,
- It neither allows for comparison of scores from test to test nor from subject to subject.
- Inculcation of measurement errors that might creep in a consequence of subjectivity due to internal and external examiner variability, imperfection of tools, sampling of content, objectives, arbitrary time limit for answering questions, testing situations, etc.
- The complexity of human nature cannot be precisely measured.

Drawbacks in the Present Evaluation System

Learner's evaluation is a process of collecting, analyzing and interpreting evidences to judge the level of achievement acquired by an individual learner or group of learners in cognitive and non-cognitive domains for the purposes of making a variety of decisions.

- The present system of assessing learner's achievement reposes its faith in "whatever is listed is to be taught and whatever is not tested is not to be taught". This effect of evaluation frustrates the concept of mastery learning.. The teachers to tailor their teaching to testing.
- It does not provide for the application of multiple techniques of assessment of learner's potential in a more valid and reliable way.
- Often discriminates amongst learners on the basis of raw scores, which do not reflect their true ability.
- It fails to measure the growth of learners on a continuous basis.
- The spread of scores in different subjects being different further compounds the problem.

Activity-2

What are the shortcomings of present practice of marking scheme?

Grading – Need for Grading

Grades are used in self-evaluation measures and also to report students' educational status to parents, future teachers and prospective employers. They provide basis for important decisions about educational plans and career options. To make the best use of educational facilities and student talents, it is suggested that each student's educational progress be watched carefully and expressed as accurately as possible. They are the important means for stimulating, directing and rewarding the educational efforts of students. Highest grades must go to the students those who have demonstrated the highest levels of achievement with respect to course objectives. Grades must be based on sufficient evidence. They must report the degree of achievement as precisely as possible under the circumstances.

Meaning of Grades

A grading system is primarily a method of communicating measurements of achievement. It involves the use of specialized symbols whose meanings ought to be clearly defined and uniformly understood by all concerned. Only to the degree that the grading symbols have the same meaning for all who use them.

A particular grade carries three distinct pieces of information a) a grade represents the comparison of a student's performance, b) a grade represents quality of performance, c) a grade represents the amount of knowledge possessed at the end of instruction.

Advantages

1. Teachers are less likely to assign a barely passing grade to students who have not mastered basic skills.
2. Students who fail at first can be retested to improve their grades after they improve their skills.
3. Students who excel are rewarded according to their level of achievement. These are incentives to go beyond minimum essentials defined for passing.
4. The system represents reasonable compromises for the facilities that are split by advocates of either system.

Shortcomings of Grades

Two major deficiencies of grades as they are assigned in many educational institutions are 1. the lack of clear and generally accepted deficiencies of what the various grades mean, 2. the lack of sufficient and relevant and objective evidence to be used as a basis for assigning grades. The teacher's subjectivity tend to reduce the validity of grades.

Functions of grades

- It gives an account of the extent to which the instructional objectives have been realized by the learner.
- Provides for permanent record of learner's growth and development that might be helpful for instructions of higher learning.
- Helps in making decisions pertaining to placement and promotion.

- Helpful in reviewing transactional strategies and curricular appropriateness.
- Helpful in determining the Grade Point Average for the purpose of awarding merit scholarship in a number of institutions of higher learning.

Methods of Assigning Grades

Grading may be carried out in a variety of ways.

1. Direct Grading :

The performance established by the examinees is assessed in qualitative terms and the impression so obtained by the examiner is directly expressed in terms of letter grades.

2. Indirect Grading : In this method, the performance displayed by the examinees is first assessed in terms of marks and then transformed into letter grades.

3. Absolute Grading : It is based on pre-determined standard that becomes a reference point for assessment of student's performance. It involves direct conversion of marks unto grades irrespective of the distribution of marks in a subject. It is like as follows.

Distinction	75% and above
First Class	60% and 74%
Second Class	45% and 59%
Third Class (Pass Class)	35% and 44%
Unsatisfactory	Below 35%

It is possible to divide the absolute marks into number of categories.

One such category of absolute grading is

Sl. No.	Letter of Grade	Range of Marks	Description
1.	A	80% and above	Outstanding
2.	B	70% to 79%	Excellent
3.	C	60% to 69%	Very good
4.	D	50% to 59%	Good
5.	E	40% to 49%	Above Average
6.	F	30% to 39%	Average
7.	G	20% to 29%	Below Average

On Absolute Grading meaning of each grade is distinctly understandable. Since it is pre-announced each student has the freedom to strive for the attainment of the highest possible grade. Student will come to know his strengths and weaknesses serving the diagnostic purpose.

Activity-3

1. Mention the advantages of grading system over marking system.
2. Mention the different methods of assigning grades

Credit system is a way of measuring and comparing learning achievements and credit point is a means of quantifying the syllabus of each course. It is a system of assigning weightage to each one of the courses of a programme in terms of teaching learning within the framework of timetable. The total credit points of all the courses in a programme will indicate indirectly the total hours of study required for the program.

Each credit unit is equal to 25 hours of study of a theory course or 60-75 hours of practical work.

If students attend 3 hours of theory classes per week for a period of 18 weeks (semester is normally of 18 weeks duration) and complete the course successfully they will acquire 2 credits; for 4 hours per week 3 credits and so on. For every practical of 3hrs/week they can earn 1 credit. Using this formula all courses of the study can be quantified and equivalence calculated. It is obvious from this calculation that the contents/difficulty level of a one-credit course (requiring one hour of study per week) will be less than that of a three-credit course (requiring four hours of study per week).

According to University Grants Commission, to complete a three-year degree programme a student needs to acquire 120 credits and for a two-year Masters programme 90 credits need to be earned i.e. each semester the student has to acquire approximately 20-25 credits. Under this system there is provision for a student to acquire extra credits too. Extra credits may be acquired for attendance, extra courses taken and other achievements as decided by the evaluating authorities – University/colleges.

Initially the credit system may be used simply to quantify the courses being offered by a University or college but its introduction will pave the way for introduction of the Cafeteria System of learning, which will allow the students to select courses reflecting a multidisciplinary approach, necessary in the context of the explosion of knowledge that is taking place in the World of today. The credit system is advantageous because it -

1. Promotes student mobility (within & between institutions)
2. Improves curriculum design (flexible routes & pathways) and the quality of education
3. Facilitates diversity in national Higher Education qualifications & institutions
4. Promotes the development of multiple entry & exit points and encourages widening participation and lifelong learning
5. Facilitates more student-centred education and the development of mass higher education systems
6. Improves the recognition of learning wherever it is achieved.
7. Improves the quality of qualifications since learning-outcomes are clear

In credit system, both internal and external assessments should be used for purpose of evaluation. The courses may be evaluated in terms of marks or in terms of grading but the latter is generally preferred since it is more objective. In credit system the marks/grades and credit points are combined for arriving at the weighted marks/grades and the final result of the student is presented as OPM (Overall Percentage of Marks) or as GPA (Grade Point Average).

Different universities/countries adopt different credit systems for their courses. An example of credit system and grade definition is given below. Grades are awarded to indicate the quality of a student's work and are assigned

as follows (point values per credit hour appear in parentheses): The following are grade definitions:

A (4.00): Outstanding work. Outstanding achievement, relative to the level, necessary to meet course requirements. Performance was of the highest level. Excellence while meeting course objectives was sustained throughout the course. Not only was the student's performance clearly and significantly above satisfactory, it was also of an independent and creative nature.

A- (3.70): Excellent work. Excellent achievement relative to the level necessary to meet course requirements. Performance was clearly and significantly above satisfactory, and was creative and independent.

B+ (3.30): Near excellent work. Achievement was significantly above the level necessary to meet course requirements. Performance was clearly and significantly above satisfactory, and was creative and independent.

B (3.00): Very good work. Achievement significantly above the level necessary to meet course requirements. Performance was very good, although not of the highest level. Performance was clearly and significantly above satisfactory fulfillment of course requirements (For undergraduates: B = meritorious: For graduates B = adequate).

B- (2.70): Good work. Achievement at a level just above that necessary to meet course requirements. Performance was notable.

C+ (2.30): Slightly above satisfactory work. Achievement that meets the course requirements. Performance was slightly more than adequate.

C (2.00): Satisfactory work. Achievement that meets the course requirements. Performance was adequate, although marginal in quality (For undergraduates: C = adequate: For graduates: C = inadequate).

C- (1.70): Slightly below satisfactory work. Achievement that barely meets the course requirements. Performance has been slightly below satisfactory and was marginal in quality.

D+ (1.30): Passing work. Achievement below satisfactory in meeting course requirements. Student demonstrated below satisfactory achievement in meeting course objectives, yet fulfilled a sufficient enough portion of the course objectives that repeating the course is not necessary unless required by the academic unit.

D (1.00): Minimum passing work. Achievement barely worthy of credit. Student demonstrated unsatisfactory achievement in meeting course objectives, yet fulfilled a sufficient enough portion of the course objectives that repeating the course is not necessary unless required by the academic unit.

F (0.00): Failed – no credit. A failure to meet course requirements. The work of course objectives were either: 1) completed but not at a level of achievement that is worthy of credit, or 2) have not been completed and there was no agreement between the instructor and the student that the student would be awarded an “I” (incomplete).

Introduction of credit system will be of immense help to our young men and women in proving that they are as good as their counterparts from the so-called developed countries. Credit system coupled with examination reforms will go a long way in enhancing the dynamism and vibrancy of Higher Education.

Summary

The concept ‘Evaluation’ is the most significant in the modern testing programme at all levels of education. It ensures objectivity in construction of question paper, administration, scoring and interpretation. It makes teaching-learning strategy more reliable and practicable. It demands both quantitative and qualitative judgement of learner’s educational achievement.

In this context, to score the right responses of the learners in a specified subject matter is preferred. The modern method of assigning grades over current practice of marking scheme is preferred. Grading system helps the learner to know his/her exact status in the academic circle and his/her stand with respect to a group. It indicates qualitative achievement of the learner. Individual can improve his/her grading from one testing situation to another, it is the qualitative description of the learner's educational attainment. It increases the healthy competition among learners for better grades. It keeps the learners for optimal learning.

References

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