APPENDICES
## APPENDIX 1 - List of Experts

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name Of Expert</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mrs. Priya Kulkarni</td>
<td>Program Mentor for Intel® Teach Pre Service Program, Maharashtra</td>
</tr>
<tr>
<td>3.</td>
<td>Dr. Sujatha Admuthe</td>
<td>Principal, Arihant College of Education, Pune.</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. Ravindra Chobhe</td>
<td>Associate Professor,</td>
</tr>
<tr>
<td>5.</td>
<td>Prof. S.G. Isave</td>
<td>Assistant Professor, Tilak College of Education, Pune.</td>
</tr>
<tr>
<td>6.</td>
<td>Prof. Sunil Kalekar</td>
<td>Assistant Professor, Adhyapk Mahavidyalaya, Aranyeshwar, Pune.</td>
</tr>
</tbody>
</table>
APPENDIX 2 - Questionnaire – Assessment of Teacher Educator Practice in ICT based Curriculum transaction.

This questionnaire is part of the Ph.D. research conducted by Prof. Shaheen A Shaikh.

The Topic of the Research is A Study of the Effectiveness of an ICT Based Model of Curriculum Transaction for Teacher Educators.

The Research Guide is Dr. Smita Phatak

Please cooperate and oblige.

Questionnaire – Assessment of Teacher Educator Practice in ICT based Curriculum transaction.

Teacher Educator’s Name : ___________________________________________

Name of The College : ______________________________________________

Note : This questionnaire has been used to get feedback from you about the current practices in conducting ICT based sessions. Please be honest and give your responses after careful consideration.
Name of the College - _____________________________________________________

Name of the Teacher Educator - _____________________________________________

**Use**

1. How many ICT based sessions are conducted by you in a year?
   ________________________________________________________________

2. Please list the ICT tools used by you in the ICT Based session?
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

**Preparation and Planning**

3. What sources of information for reference of content have you used for the ICT based session?
   
a) ________________________________________________________________
   
b) ________________________________________________________________
   
c) ________________________________________________________________
   
d) ________________________________________________________________

4. Do you make a record of the references used by you?
   
a) Yes b) No
   
   If Yes please specify how __________________________________________
   
   ________________________________________________________________

5. Do you determine authenticity of the source while referring information from the internet?
   
a) Yes b) No
   
   If Yes please specify how __________________________________________
6. Do you prepare a session plan for conducting the ICT based session?
   a) Yes  b) No
   If Yes please specify how ________________________________
   ________________________________

7. Do you separately list the objectives achieved through ICT?
   a) Yes  b) No
   If Yes Give one Example ________________________________
   ________________________________

**Selection of ICT Resource**

8. Do you use any criteria for selection of ICT tool to be used in the lesson?
   a) Yes  b) No
   If Yes please specify ________________________________
   ________________________________

9. Do you consider the benefits of using specific ICT resources to the teaching learning process?
   a) Yes  b) No
   If Yes please give an example ________________________________
   ________________________________

**Practice in the ICT based session**

10. How has ICT been used in the session?
    a) At one stage only
    b) At some stages
    c) At all stages

11. Has ICT helped in generating active participation of student teachers?
    a) Yes  b) No
    If Yes please give an example ________________________________
12. Is the ICT tool used interactive?
   a) Yes  b) No

   If Yes please give an example __________________________________________

   ________________________________________________________________

13. Do you encourage Group work/ pair work during an ICT based session?
   a) Yes  b) No

   If Yes please give an example __________________________________________

   ________________________________________________________________

14. Are assessments integrated into the ICT based session?
   a) Yes  b) No

   If Yes please give an example __________________________________________

   ________________________________________________________________

15. What role does the teacher play in an ICT based session?
   a) Active role  b) Passive role

16. What role does the student teacher play in an ICT based session?
   b) Active role  b) Passive role

Evaluation
17. Is the session evaluated?
   a) Yes  b) No

   If Yes Who does the evaluation?

   a) Self

   b) Another Teacher Educator

   c) Principal

   d) Student Teachers
18. What are the factors considered in the evaluation? Please list.
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Your Opinion

19. Are you satisfied with the way in which the ICT based sessions are conducted?
   a) Yes  b) No

   If Yes please give reasons__________________________________________
__________________________________________________________________
__________________________________________________________________
   If Yes please give reasons__________________________________________
__________________________________________________________________

20. What is your ideal of an ICT based sessions in terms of
   Planning -
__________________________________________________________________
   Selection of ICT Resource -
__________________________________________________________________
   Teacher’s role -
__________________________________________________________________
   Student Teacher’s role -
__________________________________________________________________
   Assessments -
__________________________________________________________________
   Evaluation -
__________________________________________________________________
### APPENDIX 3 - List of Teacher Educators used to Assess Current Practices in conducting ICT based sessions.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name Of Teacher Educators</th>
<th>Name of the College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Farheen Shaikh</td>
<td>Guardian College of education</td>
</tr>
<tr>
<td>2.</td>
<td>Nilofer Momin</td>
<td>Guardian College of education</td>
</tr>
<tr>
<td>3.</td>
<td>Mehetra Jyoti</td>
<td>College of Education Sonai</td>
</tr>
<tr>
<td>4.</td>
<td>Deshmukh Sushmala</td>
<td>Moze College of Education</td>
</tr>
<tr>
<td>5.</td>
<td>Wable Archana</td>
<td>Moze College of Education</td>
</tr>
<tr>
<td>6.</td>
<td>Kavita Padmavar</td>
<td>Arihant College of Education</td>
</tr>
<tr>
<td>7.</td>
<td>Nigade Reshma</td>
<td>Arihant College of Education</td>
</tr>
<tr>
<td>8.</td>
<td>Godse Shubangi</td>
<td>Aranyeshwar College of Education</td>
</tr>
<tr>
<td>9.</td>
<td>Rathod R.S.</td>
<td>Tilak College of Education</td>
</tr>
<tr>
<td>10.</td>
<td>Shubangi Joshi</td>
<td>Modern College of Education</td>
</tr>
<tr>
<td>11.</td>
<td>Nikalje Sangita</td>
<td>Modern College of Education</td>
</tr>
<tr>
<td>12.</td>
<td>Pardesi Rajdulray</td>
<td>JSPM College of Education</td>
</tr>
<tr>
<td>13.</td>
<td>Borawake Manisha</td>
<td>JSPM College of Education</td>
</tr>
<tr>
<td>15.</td>
<td>Sanap Mandu</td>
<td>D.Y. Patil College of Education</td>
</tr>
<tr>
<td>17.</td>
<td>Chitte Kirti</td>
<td>Bramha Valley College of Education</td>
</tr>
<tr>
<td>18.</td>
<td>Patil Sonali</td>
<td>Bramha Valley College of Education</td>
</tr>
<tr>
<td>19.</td>
<td>Chavan Vaishali</td>
<td>Women’s College of Education</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>College</td>
</tr>
<tr>
<td>------</td>
<td>--------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>20.</td>
<td>Hande Kavita</td>
<td>Women’s College of Education</td>
</tr>
<tr>
<td>21.</td>
<td>Manjusha Y Chavan</td>
<td>MIT College of Education Alandi</td>
</tr>
<tr>
<td>22.</td>
<td>Kamble Jayashree</td>
<td>Adsul College of Education A’Nagar</td>
</tr>
<tr>
<td>23.</td>
<td>Badve Sandhya</td>
<td>Adsul College of Education A’Nagar</td>
</tr>
<tr>
<td>24.</td>
<td>Shaikh Raju</td>
<td>SPS College of Education Sangamner</td>
</tr>
<tr>
<td>25.</td>
<td>Ramesh Gujar</td>
<td>SPS College of Education Sangamner</td>
</tr>
<tr>
<td>26.</td>
<td>Anjali Jagtap</td>
<td>Sinhagad College of Education Vadgaon</td>
</tr>
<tr>
<td>27.</td>
<td>Jadhav Nilima</td>
<td>Sinhagad College of Education Vadgaon</td>
</tr>
<tr>
<td>28.</td>
<td>Dhumal Deepali</td>
<td>PMET College of Education</td>
</tr>
<tr>
<td>29.</td>
<td>Namdas Vaishali</td>
<td>PMET College of Education</td>
</tr>
<tr>
<td>30.</td>
<td>Shanti Karmarkar</td>
<td>Swami Vivekananda College of Education Wakad</td>
</tr>
<tr>
<td>31.</td>
<td>Neeta Panchmukhi</td>
<td>Swami Vivekananda College of Education Wakad</td>
</tr>
<tr>
<td>32.</td>
<td>Chavan Sandhya</td>
<td>Nirmalatai Thopte College of Education Bhor</td>
</tr>
<tr>
<td>33.</td>
<td>Golhar Sandip</td>
<td>Nirmalatai Thopte College of Education Bhor</td>
</tr>
<tr>
<td>34.</td>
<td>Daundkar Kailas</td>
<td>M.A.K. College of Education, Manchar</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>College</td>
</tr>
<tr>
<td>------</td>
<td>-------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>35.</td>
<td>Patole Vijay</td>
<td>M.A.K. College of Education, Manchar</td>
</tr>
<tr>
<td>36.</td>
<td>Pagare Madhav</td>
<td>Adarsha C. College of Education &amp; R.</td>
</tr>
<tr>
<td>37.</td>
<td>Joshi Prasad</td>
<td>Adarsha C. College of Education &amp; R.</td>
</tr>
<tr>
<td>38.</td>
<td>Semi T. Koul</td>
<td>Rajgad Dyanpeeth College of Education, Dhankawdi</td>
</tr>
<tr>
<td>39.</td>
<td>Devi Sharma</td>
<td>Rajgad Dyanpeeth College of Education, Dhankawdi</td>
</tr>
<tr>
<td>40.</td>
<td>Rashmi Rekha Devi</td>
<td>Sinhagad College of Education, Komdwa</td>
</tr>
<tr>
<td>41.</td>
<td>Gayatri Temkar</td>
<td>Sinhagad College of Education, Komdwa</td>
</tr>
<tr>
<td>42.</td>
<td>Shinde Savita</td>
<td>Abhinav College of Education</td>
</tr>
<tr>
<td>43.</td>
<td>Nafisa Bhimani</td>
<td>Abhinav College of Education</td>
</tr>
<tr>
<td>44.</td>
<td>Borase Seema</td>
<td>MIT College of Education, Kothrud</td>
</tr>
<tr>
<td>45.</td>
<td>Gaikwad Pradnya</td>
<td>Dhankude College of Education, Baner</td>
</tr>
<tr>
<td>46.</td>
<td>Ukare Aparna</td>
<td>Dyanganga College of Education</td>
</tr>
<tr>
<td>47.</td>
<td>Ajitha Anirudha</td>
<td>Dyanganga College of Education</td>
</tr>
<tr>
<td>48.</td>
<td>Shailaja S. Gaikwad</td>
<td>Jain College of Education</td>
</tr>
<tr>
<td>49.</td>
<td>Bodke Sandip</td>
<td>STE’s College of Education, Kusgaon, Lonavala</td>
</tr>
<tr>
<td>50.</td>
<td>Dethe Sandip</td>
<td>Pravara College of Education</td>
</tr>
</tbody>
</table>
APPENDIX 4 - ICT Based Model of Curriculum Transaction For Teacher Educators - Resource Guide

Stage 1: Investigating a topic using internet to get in-depth and up-to-date information

Stage 2: Evaluating, Justifying and Identifying the ICT Resource for a topic

Stage 3: Planning for ICT based session

Stage 4: Planning for Assessment in ICT based session

Stage 5: Managing the Use of ICT

Stage 6 Reflecting on the impact of ICT based session
1. Theoretical Bases of the ICT Based Model of Curriculum Transaction for Teacher Educators.

1.1 - Constructivism –Concept and Principles

Constructivism, a learning theory informed by cognitive psychology, educational research, and neurological science, views learning as the product of experience and social interaction. Constructivists consider learning to be an individual and personal event. The following principles are based on the work of various constructivist theorists and are offered as a framework for this discussion.

- **Learners bring unique prior knowledge, experience, and beliefs to a learning situation.** Every learner has experiences that influence his or her understanding of the world. Those unique experiences are the foundation for learning; they provide opportunities for personal connections with new content.

- **Learning is internally controlled and mediated.** Learners take in information, process it to fit their personal frameworks, and build new understanding. That knowledge construction occurs internally, in the private domain of each individual.

- **Knowledge is constructed in multiple ways, through a variety of tools, resources, experiences, and contexts.** Constructivist learning theory tells us that we learn in a variety of ways. The more opportunities we have, and the more actively engaged we are, the richer our understanding. Good teachers have always used experience as a valuable instructional tool; that is why we arrange field trips and hands-on projects. It is why an internship or apprenticeship is essential to the completion of most vocations, including teaching.

- **Learning is a process of accommodation, assimilation, or rejection to construct new conceptual structures, meaningful representations, or new mental models.** Every person is surrounded by an infinite variety of images, ideas, information, and other stimuli that provide raw material for thought and understanding. If new information matches the learner's existing understanding, it is easily assimilated. If it does not match, the learner must determine how to accommodate it, either by forming new understanding, or rejecting the information.
• **Learning is both an active and reflective process.** Learners combine experience (action) and thought (reflection) to build meaning. Both parts must be present to support the creation of new knowledge.

• **Social interaction introduces multiple perspectives through reflection, collaboration, negotiation, and shared meaning.** In many situations, learning is enhanced by verbal representation of thoughts--it helps to speak about an idea, to clarify procedures, or float a theory to an audience. The exchange of different perceptions between learners enriches an individual's insight.

### 1.2 - Characteristics of Constructivist Learning

In a constructivist classroom, learning is . . .

Students are not blank slates upon which knowledge is etched. They come to learning situations with already formulated knowledge, ideas, and understandings. This previous knowledge is the raw material for the new knowledge they will create.

The student is the person who creates new understanding for him/herself. The teacher coaches, moderates and suggests, but allows the students room to experiment, ask questions, try things that don't work. Learning activities require the students' full participation (like hands-on experiments). An important part of the learning process is that students reflect on, and talk about, their activities. Students also help set their own goals and means of assessment.

Students control their own learning process, and they lead the way by reflecting on their experiences. This process makes them experts of their own learning. The teacher helps create situations where the students feel safe questioning and reflecting on their own
processes, either privately or in group discussions. The teacher should also create activities that lead the student to reflect on his or her prior knowledge and experiences. Talking about what was learned and how it was learned is really important.

The constructivist classroom relies heavily on collaboration among students. There are many reasons why collaboration contributes to learning. The main reason it is used so much in constructivism is that students learn about learning not only from themselves, but also from their peers. When students review and reflect on their learning processes together, they can pick up strategies and methods from one another.

The main activity in a constructivist classroom is solving problems. Students use inquiry methods to ask questions, investigate a topic, and use a variety of resources to find solutions and answers. As students explore the topic, they draw conclusions, and, as exploration continues, they revisit those conclusions. Exploration of questions leads to more questions.

Students have ideas that they may later see were invalid, incorrect, or insufficient to explain new experiences. These ideas are temporary steps in the integration of knowledge. For instance, a child may believe that all trees lose their leaves in the fall, until she visits an evergreen forest. Constructivist teaching takes into account students' current conceptions and builds from there.
1.3 - Role of Teachers

In the constructivist classroom, the teacher’s role is to prompt and facilitate discussion. Thus, the teacher’s main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject.

1.4 - Examples of Constructivist Activities

Furthermore, in the constructivist classroom, students work primarily in groups and learning and knowledge are interactive and dynamic. There is a great focus and emphasis on social and communication skills, as well as collaboration and exchange of ideas. This is contrary to the traditional classroom in which students work primarily alone, learning is achieved through repetition, and the subjects are strictly adhered to and are guided by a textbook. Some activities encouraged in constructivist classrooms are:

- Experimentation: students individually perform an experiment and then come together as a class to discuss the results.
- Research projects: students research a topic and can present their findings to the class.
- Field trips. This allows students to put the concepts and ideas discussed in class in a real-world context. Field trips would often be followed by class discussions.
- Films. These provide visual context and thus bring another sense into the learning experience.
- Class discussions. This technique is used in all of the methods described above. It is one of the most important distinctions of constructivist teaching methods.

1.5 Constructivist Assessment

Traditionally, assessment in the classrooms is based on testing. In this style, it is important for the student to produce the correct answers. However, in constructivist teaching, the process of gaining knowledge is viewed as being just as important as the product. Thus, assessment is based not only on tests, but also on observation of the student, the student’s work, and the student’s points of view. Some assessment strategies include:
• Oral discussions. The teacher presents students with a “focus” question and allows an open discussion on the topic.
• KWL(H) Chart (What we know, What we want to know, What we have learned, How we know it). This technique is a good assessment technique as it shows the teacher the progress of the student throughout the course of study.
• Mind Mapping. In this activity, students list and categorize the concepts and ideas relating to a topic.
• Hands-on activities. These encourage students to manipulate their environments or a particular learning tool. Teachers can use a checklist and observation to assess student success with the particular material.
• Pre-testing. This allows a teacher to determine what knowledge students bring to a new topic and thus will be helpful in directing the course of study.

1.6 Benefits of Constructivism
• Students learn more, enjoyably and are more likely to retain learning
• Students learn how to think and understand
• It is a transferable skill to other settings
• Students have ownership of their own learning
• It applies natural curiosity to real world situations
• Promotes social and communication skill within a group setting.

1.7 Summary
Thus we can summarize that Constructivism focuses on Knowledge construction. It is a belief that one constructs knowledge from one’s experiences, mental structures, and beliefs that are used to interpret objects and events. Constructivists advocated a learning model with learners as the centre and the teacher as the guide. Constructivism describes a learner-centered environment where knowledge and the making of knowledge is interactive, inductive, and collaborative, where multiple perspectives are represented, and where questions are valued. Constructivist learning environments are learner-centered, Knowledge-centered, assessment-centered and community-centered. The processes of learning, teaching, and assessment should be designed to support such learning environments.
2. ICT Based Model of Curriculum Transaction

2.1 Introduction

The use of ICT must support constructivist learning environments by supporting the processes of learning, teaching, and assessment. Technology can play a significant role in applying constructivist approach in today’s classroom. Technology makes possible the instant exchange of information between classroom as well as individual students; it allows instant access to databases and online information services, and provides multimedia resources such as interactive audio and video. Technology also allows presenting educational materials across media formats like: print, software like powerpoint, still and motion video, animations, computer graphics. The key to success lies in finding the appropriate points for integrating technology with constructivism into pedagogical practice, so that it supports the deeper, more reflective self-directed activity students must use if they are to be competent members of the society in the future. In a technology rich environment one must remember that the educational focus is on learning and instruction goals instead of the technology itself, because technology are merely tools or vehicles for delivering instruction. There is a strong link between effective use of modern technology and the theory of constructivism and this has been used to design the ICT based model of curriculum transaction and its principles which is presented below:
### 2.2 Comparison of Pedagogy - Traditional, Constructivist and ICT Based Model

<table>
<thead>
<tr>
<th>Traditional Classroom</th>
<th>Constructivist Classroom</th>
<th>ICT based model classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge is seen as inert.</td>
<td>Knowledge is seen as dynamic, ever changing with our experiences.</td>
<td><strong>Justified use of ICT</strong> to provide variety of experiences to facilitate knowledge construction</td>
</tr>
<tr>
<td>Strict adherence to fixed curriculum is highly valued. Learning is based on repetition.</td>
<td>Pursuit of student questions and interests is valued. Learning is interactive, building on what the student already knows.</td>
<td><strong>Student centered learning</strong></td>
</tr>
<tr>
<td>Students work primarily alone.</td>
<td>Students work primarily in groups.</td>
<td><strong>Collaborative learning using ICT</strong></td>
</tr>
<tr>
<td>Teachers disseminate information to students;</td>
<td>Teacher's role is interactive, rooted in negotiation. Teachers have a dialogue with students, helping students construct their own knowledge.</td>
<td><strong>Teacher as a facilitator</strong></td>
</tr>
<tr>
<td>Assessment is through testing, correct answers.</td>
<td>Assessment includes student works, observations, and points of view, as well as tests. Process is as important as product.</td>
<td><strong>Continuous assessment using ICT</strong></td>
</tr>
<tr>
<td>Students are taught Evaluation by experts</td>
<td>The students learn <strong>HOW TO LEARN</strong>. Self evaluation</td>
<td><strong>Reflective practice</strong> by students <strong>Reflective practice</strong> by teachers</td>
</tr>
</tbody>
</table>
2.3 Principles of the ICT Based Model of Curriculum Transaction

1. **Justified use of ICT** - ICT tool selected for use should be justifiable. In a technology rich environment one must remember that the educational focus is on learning and instruction goals instead of the technology itself, because technology are merely tools or vehicles for delivering instruction. Technology should be used to further educational objectives.

2. **Student centered teaching learning** - Student-centered learning is focused on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning. This classroom teaching method acknowledges student voice as central to the learning experience for every learner. Student-centered learning requires students to be active, responsible participants in their own learning.

   **Active learning** - Involving students directly and actively in the learning process itself is called active learning. This means that instead of simply receiving information verbally and visually, students are receiving and participating and doing something besides listening to a lecture and taking notes to help them learn. ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information, thus providing a platform for student inquiry, analysis and construction of new information. Learners therefore learn as they do and, whenever appropriate, work on real-life problems in-depth, making learning less abstract and more relevant to the learner’s life situation. In this way, and in contrast to memorization-based or rote learning, ICT-enhanced learning promotes increased learner engagement. ICT-enhanced learning is also “just-in-time” learning in which learners can choose what to learn and when they need to learn it.

3. **Collaborative learning** - Collaborative learning refers to methodologies and environments in which learners engage in a common task where each individual depends on and is accountable to each other. ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modeling real-world interactions, ICT-supported
learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners’ teaming and communicative skills as well as their global awareness. It models learning done throughout the learner’s lifetime by expanding the learning space to include not just peers but also mentors and experts from different fields.

4. **Continuous assessment** - Continuous assessment of learners’ progress could be defined as a mechanism whereby the final grading of learners in the cognitive, affective and psychomotor domains of learning systematically takes account of all their performances during a given period of time. Assessment of student learning is interwoven with teaching and occurs through teacher observation of students at work and through portfolios.

5. **Teacher as a facilitator** - Teacher plays a passive role in the teaching learning process. The teacher is just a facilitator who guides, assists, encourages, observes, questions and assesses students in their quest for knowledge.

6. **Reflective practice** - Reflective Practice is "the capacity to reflect on action so as to engage in a process of continuous learning". Reflective practice of students refers to encouraging self-monitoring, reflection upon their own performance and progress, and thinking about their own thinking – metacognition – can enhance young people’s control over creative activity and the development of their best practice. In these ways the aim is to encourage the development of the self-directed learner. This can be best achieved through the medium of ICT.

Reflective practice of teacher educator refers to the process of the educator studying his or her own teaching methods and determining what works best for the students. It involves the consideration of the consequences of classroom procedures on students. This process helps to plan for further improvement and consolidation of learning.
2.4 Objectives and specifications of the ICT Based Model of Curriculum Transaction

1. To conduct an internet research of a topic.
   - To access various information sources using internet to get indepth and up-to-date information.
   - To be able to sift, sort and select relevant information.
   - To be able to save information for further use.

2. To survey all the available ICT resources.
   - To be able to evaluate the suitability of ICT resources for a topic.

3. To select the most suitable ICT resource.
   - To be able to identify the ICT resource for a topic.

4. To identify the objectives, which can be achieved through use of ICT.
   - To identify general objectives and objectives achieved by use of ICT

5. To justify the use of the ICT resource.
   - Consider the advantages and disadvantages of using an ICT resource

6. To plan the session using the ICT resource
   - To judge student’s present level of performance and knowledge
   - To plan sequence of activities during the lesson
   - To plan for student centered learning, active learning and reflective questions.
   - To plan for classroom layout and grouping of students:
   - To plan for materials, resources and technology:
   - To plan for assessment and evaluation

7. To manage the use of ICT in the session
   - To be able to organize students in the ICT based lesson
   - To be able to monitor students during the course of the ICT based lesson
   - To take care of health and safety issues during the course of the ICT based lesson

8. To assess learners' work and monitor progress
• To be able to plan for effective assessments
• To be able to record students performance
• To be able to evaluate students performance
• To be able to report students performance

9. To be able to reflect on the pros and cons of the ICT based session.

10. To plan for further improvement and consolidation of learning.

2.5 Procedure of Curriculum Transaction through the ICT Based Model

1. Conduct an internet research of a topic.
   • Access various information sources using internet to get indepth and up-to-date information.
   • Sift, sort and select relevant information.
   • Save information for further use.

2. Survey of all the available ICT resources.
   • Evaluate the suitability of ICT resources for a topic.

3. Select the most suitable ICT resource.
   • Identify the ICT resource for a topic.

4. Identify the objectives, which can be achieved through use of ICT.
   • Identify general objectives and objectives achieved by use of ICT.

5. Justify the use of the ICT resource.
   • Consider the advantages and disadvantages of using an ICT resource.

6. Plan the teaching /learning session using the ICT resource.
   • Judge student’s present level of performance and knowledge.
   • Plan sequence of activities during the session.
   • Plan for student centered learning, active learning and reflective questions.
   • Plan for classroom layout and grouping of students.
   • Plan for materials, resources and technology.
   • Plan for assessment and evaluation.
7. Manage the use of ICT in the session.
   - Organise students effectively in the ICT based session.
   - Monitor students during the course of the ICT based session.
   - Take care of health and safety issues during the course of the ICT based session.

8. Assess learners' work and monitor progress
   - Plan for effective assessments
   - Record students performance
   - Evaluate students performance
   - Report students performance

9. Reflect on the pros and cons of the ICT based session.

Stage 1: Investigating a topic using internet to get in-depth and up-to-date information

OVERVIEW
This stage will guide you on how to access various information sources using internet to get in depth, valid, reliable and up-to-date information.

1. Be clear about your purpose.
2. Decide what types of sources would be acceptable to use in light of this.
3. Weigh up any information you find in light of your purpose.
4. Question the quality of information you find on the Internet before you use it.
5. You will need to establish the credibility, reliability and authority of the information.
6. You need to identify and verify your sources of information.
7. You will need to establish the coverage, validity, accuracy of the information.
8. You will need to establish the location and origin of the information.
9. Save information for further use.
10. Complete the investigative document.

OBJECTIVES
1. To access various information sources using internet to get in-depth and up-to-date information.
2. To be able to sift, sort and select relevant information.
3. To be able to save information for further use.
Stage 1: Investigating a topic using internet to get in-depth and up-to-date information

How to access various information sources using internet to get in-depth, valid, reliable and up-to-date information?

The key is to be clear about your purpose; decide what types of sources would be acceptable to use in light of this, and then to weigh up any information you find in light of your purpose. For this you need to ask the following questions:

- What information do you need?
- What are the best sources of this information?
- What type of Internet resources (if any) would be worth looking for?

You need to question the quality of information you find on the Internet before you use it in your research. On the WWW ask WWW: Who? What? Where?

- Who? - question the source of information
- What? - question the content of information
- Where? - question the location of the information

Who? Can you trust your sources?

Establish credibility, reliability and authority.

Authors, publishers, sponsors and developers will all impact on the reliability and credibility of the content of the information. It's important to identify who is providing the information and to consider whether they can be relied on to provide the information you need.

Identify and verify your sources.

Ask questions

- Who is the author?
- Who is the publisher?
- Who sponsored or funded the site?
- Do you recognize them as an authoritative source?
- What are their credentials, qualifications, background and experience?
- Has the information been edited or peer reviewed?
• Are the sources trustworthy?
• What are their motives for publishing the information?
• What standpoint do they take: impartial? Biased?
• Do other Internet sources that you trust link to this site?

Tips on checking your sources

• If you've never heard of the sources try doing a quick Internet search on their name. Does Google tell you more about their credentials?
• You can check to see if the author has published anything else by conducting a search on a relevant bibliographic database.

What? Can you trust the content of what you see?

**Establish coverage, validity, accuracy.**

It's important for you to evaluate the content of the information you find and think critically about the arguments, assertions, facts and data that are presented - are they of sufficient quality for your needs?

Detecting the value of information content

**Ask questions**

• Are the arguments and conclusions valid i.e. well founded in logic or truth?
• Does the author back up any claims with reliable third-party support (e.g. citations, references, research data and source material)?
• Is there a balanced argument or is it one-sided?
• Do you agree with the conclusions it draws?
• Is the information accurate: or can you spot errors (e.g. typographical errors or broken links)?
• Is the information current - or might it be out of date or superseded by more recent publications? Is there a "last-updated" date?
• Is the coverage sufficient? Does it include all the aspects of the subject that you need in enough breadth or depth?
• Is the level of the site appropriate? Does it treat the subject at the level you require or is it an introductory guide that is too basic?
• Is it complete - is it available in full or has it been abridged?
• Is it a commentary or an original text? A primary or secondary source?
• Is it fact or opinion?
• Are there adverts everywhere that might make you question the motives of the online publication?

**Tips on checking the content**

• Site maps, Content pages and About Us statements - they often tell you the scope and coverage of the work
• You will need to cite the title of the work and the date it was published in your references so make sure you can find these.
• If you are looking for current news headlines or the most recent version of an article it is important that you are seeing the most up-to-date information.

**Where? Do you know where your information is coming from?**

**Establish the location and origin of the information.**

However it is essential to keep track if you are using the Internet for serious research as the location and origin of the information may affect its quality.

**Ask questions**

• Where is this site located - in which country and on who's computer?
• Did I reach this site from an authoritative source?
• Am I in the middle of a site or at the front page? Is this the most relevant part of the site for me to be using?
• The URL structure - can give lots of clues about your location within a resource.

**Save information for further use.**

You will be required to save all the relevant information you have collected from the internet in an appropriate form - Word doc, PPT, animations, Images, sounds, etc.

1. Create a folder with name of the topic/class
2. Save all the relevant information in sub folders.
3. Remember to acknowledge sources used.
4. Save a backup copy in your email account so that it is accessible from anywhere
Stage 1 Output Document

Subject/topic

Details of Internet research

<table>
<thead>
<tr>
<th>Website</th>
<th>Content</th>
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</tbody>
</table>
SELF EVALUATION

1. Ability to define your purpose.
   bad inadequate fair good excellent

2. Ability to decide what types of sources would be acceptable to use
   bad inadequate fair good excellent

3. Ability to weigh up any information you found in light of your purpose.
   bad inadequate fair good excellent

4. Ability to question the quality of information found on the Internet before you used it.
   bad inadequate fair good excellent

5. Ability to establish the credibility, reliability and authority of the information.
   bad inadequate fair good excellent

6. Ability to identify and verify your sources of information.
   bad inadequate fair good excellent

7. Ability to establish the coverage, validity, accuracy of the information.
   bad inadequate fair good excellent

8. Ability to establish the location and origin of the information.
   bad inadequate fair good excellent

9. Ability to save information for further use.
   bad inadequate fair good excellent

10. Rate the investigative document prepared at the end of stage 1.
    bad inadequate fair good excellent
Stage 2: Evaluating, Justifying and Finalising the ICT Resource for a topic

OVERVIEW
This stage will guide you on how to evaluate the usability of the ICT resource / tool, to justify the use of the ICT resource / tool and then select it for use in the session.

1. Evaluation of the ICT resource / Tool on the basis of its design.
2. Evaluation of the ICT resource / Tool on the basis of the content covered.
3. Evaluation of the ICT resource / Tool on the basis of its effectiveness in teaching learning.
4. Weighing the advantages and disadvantages of using an ICT resource / tool.
5. Finalizing the general objectives that will be achieved during the course of the session.
6. Distinguish general objectives and objectives achieved through use of ICT.
8. Complete the evaluation of ICT resource / tool document.

OBJECTIVES
1. To be able to evaluate the suitability of ICT resources for a topic.
2. To be able to identify the ICT resource for a topic.
3. To identify general objectives and objectives achieved by use of ICT.
4. To justify the use of the ICT resource for a topic.
Stage 2: Evaluating, Justifying and Finalising the ICT Resource for a topic

Evaluating ICT Resources
The teacher will need to become familiar with the software, CD-ROMs or web sites intended to be used so that how they can contribute to students learning can be identified. Before using an ICT resource the teacher will need to try it out in order to see the strengths and weaknesses and identify how it might support the teaching aims and objectives. These are some questions to help the teacher.

**Design**

- Do students find ICT resource/tool easy to work out how to use it?
- Is ICT resource/tool fairly self-explanatory?
- Can students use ICT resource/tool independently?
- Is the ICT resource/tool straightforward to enter data or instructions?
- Does the ICT resource/tool give feedback, if so what kind?
- Can the teacher customise the ICT resource/tool to suit the needs of the students?

**Content**

- Are there useful support materials which come with the package?
- Is the language and information suitable for the age range and special needs of the students the teacher are working with?
- Is the subject matter interesting and motivating?
- What links are offered to other sites? (web sites only)

**Effectiveness in Teaching and Learning**

- How long will the ICT resource/tool retain student’s attention, interest and motivation?
- Does the ICT resource/tool support a different teaching and learning styles
- Does the ICT resource/tool support a different models of classroom management?
- Does the ICT resource/tool encourage open or closed responses from students?
• Will the ICT resource/ tool support the learning of less able students?
• Can the ICT resource/ tool extend the learning of highly able students?
• In what way will the ICT resource/ tool support and enhance teaching?

Weighing the advantages and disadvantages of the use of ICT

Both the positive and negative aspects of an ICT tool must be assessed

• What are the advantages in using an ICT tool?
• What are the disadvantages in using an ICT tool?
• List out the advantages and disadvantages.
• Will the disadvantages create a negative impact on the students?
• Can the disadvantages be overlooked?

Consider the advantages and disadvantages and if the advantages are much more than the disadvantages then the ICT tool can be considered for use.

Finalising Objectives – The teacher needs to understand the general objectives that will be achieved during the course of the session and also distinguish it from specific objectives achieved through use of ICT.

• What are the general objectives of the session?
• Which are the objectives that can be achieved by the use of ICT?
• Can these objectives be achieved without use of ICT?
• How is the achievement of objectives impacted by the use of ICT?
• Does the ICT resource enhance the achievement of the objective?

If the ICT resource selected for use has a positive influence on achievement of the objectives then the ICT resource can be selected for use.

Justification and Finalising the ICT Resources

There is a wide range of ICT tools (software, CD-ROMS and web sites) available to support teaching and learning. Teachers need to become familiar with the applications of the software so that students are provided with activities which enable them to develop
and extend their learning. Some points to be kept in mind when justifying and finalising the ICT resource to be used are:

• Will using ICT help you to realize your teaching aims and objectives?

• Will the learners be engaged with and interested in the tasks set?

• Will the session be more effective because of using ICT?

• Will using ICT offer sufficient challenge to the learners?

• Will using ICT enable you to provide differentiated learning activities for the learners?

• Will I achieve the same outcomes without using ICT?

For all the ICT resource/tools you have listed ask the above questions and If your answer is yes to the questions 1-5 and no to the last i.e., the 6th question then go ahead and finalize the ICT resource/tool.
Stage 2 Output Document

Define a rationale for the use of ICT in the topic:

Why use ICT? General statement

Why use ICT to support Curriculum transaction?

Consider the advantages and disadvantages of using ICT resources for this topic.

Comment on the advantages and disadvantages of using ICT.

ADVANTAGES

DISADVANTAGES

CONCLUSION
## Evaluating ICT Resources

<table>
<thead>
<tr>
<th>Title of resource</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Type of resource</td>
<td></td>
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</table>

### DESIGN

- Would students find it easy to use? Why?
- Are there links to other web sites?
- Are they useful?
- Presentation, is it readable, or too zappy?
- What illustrations are used? Or animations? Do they enhance interest?
- What kind of feedback does it give?
- How can the teacher customise it to suit the needs of the students?

### CONTENT

- What support materials come with the software?
- How appropriate is the language and information to the students you are working with?
- Are the activities suitably connected to the content?
- Is the subject matter interesting and motivating for the students?
EFFECTIVENESS IN CURRICULUM TRANSACTION

How long will the ICT resource/ tool retain student’s attention, interest and motivation?

Which different teaching and learning styles are catered to by the ICT resource/ tool?

Which models of classroom management does the ICT resource/ tool support?

Which ability level students does the ICT resource / tool support?

In what way will the ICT resource/ tool support and enhance teaching?

Options of ICT Use

Selection of ICT resource and its Justification
Learning Objectives

To be able to-

Contribution of ICT to Learning Objectives
SELF EVALUATION

1. Ability to evaluate the ICT resource on the basis of its design.
   □ bad □ inadequate □ fair □ good □ excellent

2. Ability to evaluate the ICT resource on the basis of the content covered.
   □ bad □ inadequate □ fair □ good □ excellent

3. Ability to evaluate the ICT resource on the basis of its effectiveness in curriculum transaction.
   □ bad □ inadequate □ fair □ good □ excellent

4. Ability to weigh the advantages and disadvantages of using an ICT resource.
   □ bad □ inadequate □ fair □ good □ excellent

5. Ability to finalize the general objectives that will be achieved during the course of the session.
   □ bad □ inadequate □ fair □ good □ excellent

6. Ability to distinguish general objectives and objectives achieved through use of ICT.
   □ bad □ inadequate □ fair □ good □ excellent

7. Ability to justify the selection of an ICT resource for use in a session.
   □ bad □ inadequate □ fair □ good □ excellent

8. Ability to complete the evaluation of ICT resource / tool document.
   □ bad □ inadequate □ fair □ good □ excellent
Stage 3: Planning for ICT based session

OVERVIEW

This stage will guide you on how to plan for the transaction of an ICT based session

1. The 1st step in the planning of any session will be to judge student’s present level of performance and knowledge.
2. Planning and sequencing activities in an ICT based session.
3. Reflect on and plan for the Justified use of ICT
4. Reflect on and plan for Active learning
5. Reflect on and plan for Collaborative learning
6. Reflect on and plan for Continuous assessment
7. Reflect on and plan for The Teacher's Role - Teacher as a facilitator
8. Reflect on and plan for other aspects like the time allocated for each activity, variety of tasks, try out of an activity, set tasks at different levels so that all students can participate.
9. Reflect on and plan for classroom layout and grouping of students
10. Reflect on and plan for materials, resources and technology
11. Answer the Session Planning Template Questions like Duration, Learning Goals, Materials needed and Preparation.

OBJECTIVES

1. To judge student’s present level of performance and knowledge
2. To plan sequence of activities during the session
3. To plan for student centered learning, active learning and reflective questions.
4. To plan for classroom layout and grouping of students.
5. To plan for materials, resources and technology.
6. To plan for assessment and evaluation
Stage 3: Planning for ICT based session

The 1st step in the planning of any session will be to judge student’s present level of performance and knowledge: The teacher needs to ask some questions about students' prior knowledge and the range of skills they have already developed.

- Do students have the relevant knowledge to be able to work on the tasks and further their own learning?
  - For example, is their knowledge of the subject which is providing the context for ICT, secure?
- Has the teacher taken into account students' prior learning?
  - Students may have previous experience of using the ICT either at home or outside school.
- Do students have the skills to use the CD-ROM, software or web site effectively?
  - If not, how will the teacher ensure that students acquire these skills?

The teacher needs to identify what the learner’s needs will be in terms of knowledge and specifically technology skills. When planning activities, the teacher will also need to consider what students will be learning, i.e. the learning objectives.

Planning activities in an ICT based session.

While planning for activities in an ICT based session the teacher educator needs to first list out the planned activities for the session.

A. Step 1 ______________________________________________

B. Step 2 ______________________________________________

After listing the activities the teacher educator needs to reflect on the following aspects.

Justified use of ICT
- Is the educational focus on learning and instruction goals instead of the technology itself?
- Is technology merely a tool or vehicle for delivering instruction?
- Does technology help in furthering educational objectives?
• Is the use of ICT appropriate or not?

**Student centered and Active learning**

• Are the students directly and actively involved in the learning process?
• Are they simply receiving information verbally and visually or are the students receiving and participating and doing something besides listening to a lecture and taking notes to help them learn?
• Does the ICT-enhanced learning provide a platform for student inquiry, analysis and construction of new information?
• Do the learners therefore learn as they do and, whenever appropriate, work on real-life problems in-depth, making learning less abstract and more relevant to the learner’s life situation?
• Does the ICT-enhanced learning promote increased learner engagement?
• In ICT-enhanced learning also “just-in-time” learning can learners choose what to learn and when they need to learn it?

**Collaborative learning**

• Does ICT-supported learning encourage interaction and cooperation among students?
• Does ICT-supported learning provides learners the opportunity to enhance learners’ teaming and communicative skills?

**Continuous assessment**

• How will you measure the student’s success? Formally or informally?
• Formal evaluation of student work requires that a grade is taken while informal might be monitoring of work, or class discussion.
• Give a description of the assessment process, the criteria for achievement and performance levels directly aligned to objectives and instruction.
• Describe your plan for providing feedback to your students
• At what stages are student’s going to be assessed?
• Which tools will be used for assessments?
• How will the assessments be recorded?
• How will the assessments be analyzed?
• Is assessment of student learning interwoven with teaching?

Reflective practice
Reflective Practice is "the capacity to reflect on action so as to engage in a process of continuous learning".

• How will you encourage self-monitoring?
• How will you help students reflect upon their own performance and progress
• How will you provide opportunities for thinking about their own thinking – metacognition?
• What questions will you ask to encourage the development of the self-directed learner?

The Teacher's Role - Teacher as a facilitator
Teacher plays a passive role in the teaching learning process. The teacher is just a facilitator who guides, assists, encourages, observes, questions and assesses students in their quest for knowledge.

You will need to work out yourself what your role will be when you are using ICT in your classroom. However, you will still need to take a leading role in the classroom. Just because you are integrating the use of ICT doesn't necessarily mean that your normal role in the classroom will change. When considering your role you will need to ask: What will your role be?

• participating or observing
• teaching a new skill (to a small group or the whole class)
• introducing a new program
• stimulating and leading class discussion
• supporting ongoing work
• facilitating
• explaining new ICT vocabulary

How much teacher directions will there be?

• What and how much teacher support is needed for this planned task?
• Will you share the learning intentions with the children to help them engage in self-assessment?

What kind of questions will you ask?

• Closed questions that answer a simple enquiry?
• Open questions that encourage pupils to take their learning forward?

How much autonomy will you be giving the pupils?

**Other aspects which need to be thought about are:**

1. The teacher will need to think realistically on what will be the time allocated for each activity?

2. Try also to plan a variety of tasks so that students experience different contexts which require them to think about solving similar problems but in different situations.

3. It is sometimes a good idea to try out an activity, on a small representative group of students, before implementing it on a larger scale. This will enable the teacher to find out whether students respond differently and will inform the session planning.

4. In order to ensure the teacher has an activity which will move all students forward, how will you set tasks at different levels so that all students can participate?

**Classroom Layout and Grouping of Students**

The teacher will need to think about the organisation of the students in the sessions and how the teacher will manage the computer. If the teacher has a computer lab the teacher will need to think about how to organise students differently from organising students to use one computer in the corner of the classroom. The teacher may want to group students
• Individually - A pupil working individually is a useful strategy where students need to develop a skill or where they need to rework ideas.
• in pairs
• whole class
• in task teams (some using ICT while others are planning strategies)
• by ability (same or mixed)
• by age (same or older students helping the younger ones)

Grouping students to work on shared ICT tasks is an effective way of working with computers. Students will help each other solve problems and can help each other to extend their own learning. However, group working needs careful monitoring to ensure all individuals are contributing equally to the group. Some of the following questions may help the teacher to think through the issues:

• How can the teacher ensure that all students have equal access to the computer?
  o Is a rota system the best way of ensuring access?
• When students work in groups, how will you ensure that all students get actively involved?
  o If one pupil is dominating, will the teacher alter the groups?
  o If students of different ability have not had equal access, will the teacher intervene?
  o Will the teacher give students worksheets to prompt them to reflect on their contribution to an activity?
• Which worksheets will students need for the activity, and who will produce these?
  o Step-by-step guides are useful and encourage students to work independently - the teacher could get the classroom assistant or students in the class to produce these.
• How will the teacher deal with technical problems?
  o Does the teacher have a classroom assistant who will help?
  o Does the teacher have any students who act as 'class experts' to help solve technical problems?
• How will the teacher organise resources so that all students can see a class demonstration?
  o Does the teacher have a large screen or a projector?

Materials, Resources and Technology:
List out all the materials and resources required for the ICT based model session.

1. Materials and Resources for this Session

Technology Components for this Session

a) ___________________
b) ___________________
c) ___________________

2. Web Sites for this Session

a) ___________________
b) ___________________
c) ___________________

3. Computer Software for this session

a) ___________________
b) ___________________

Session Planning Template Questions

Duration

1. How long will it take to complete the session? One hour? One and a half hours?
2. Will it be divided into two or more parts, over a week, or over several weeks?

Learning Goals

• What does the teacher want students to learn or be able to do after completing this activity?
• What skills does the teacher want students to develop?
• What activities do they need to accomplish?

Materials Needed

• List all of the materials needed that will be needed to complete the activity.
• Include materials that each student will need, as well as materials that students may need to share (such as books or a computer).
• Also include any materials that students or instructors will need for record keeping or evaluation.
• Will the teacher need to store materials for future sessions? If so, how will the teacher do this?

Preparation

• What does the teacher need to do to prepare for this activity?
• Will the teacher need to gather materials?
• Will the materials need to be sorted for students or will the teacher assign students to be "materials managers"?
• Are there any books or instructions that the teacher need to read in order to prepare?
• Does the teacher need a refresher in a content area?
• Are there questions the teacher needs to develop to help students explore or discuss the activity?
• Are there props that the teacher needs to have assembled in advance of the activity?
• Does the teacher need to enlist another adult to help run the activity?
• Think about how the teacher might divide up groups—who works well together?
• Which students could assist other peers?
• What roles will the teacher assign to different members of the group so that each student participates?
• Are there ways in which the teacher needs to amend the session plan to better address the key goal(s)?
• If this is the first time doing the activity, consider doing a "run through" with friends or colleagues to see what works and what the teacher may need to change.

• Alternatively, the teacher could ask a colleague to read over the session plan and give the teacher feedback and suggestions for revisions.

What to Do

• Think about the progression of the activity from start to finish.
### Stage 3 Output Document

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Teacher/learner activities</th>
<th>ICT resource used</th>
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<tbody>
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</tbody>
</table>
SELF EVALUATION

1. Ability to judge student’s present level of performance and knowledge.
   □ bad □ inadequate □ fair □ good □ excellent

2. Ability to plan and sequence activities in an ICT based session.
   □ bad □ inadequate □ fair □ good □ excellent

3. Ability to reflect on and plan for the Justified use of ICT.
   □ bad □ inadequate □ fair □ good □ excellent

4. Ability to reflect on and plan for Active learning.
   □ bad □ inadequate □ fair □ good □ excellent

5. Ability to reflect on and plan for Collaborative learning.
   □ bad □ inadequate □ fair □ good □ excellent

6. Ability to reflect on and plan for Continuous assessment.
   □ bad □ inadequate □ fair □ good □ excellent

7. Ability to plan for reflective practice by student.
   □ bad □ inadequate □ fair □ good □ excellent

8. Ability to reflect on and plan for The Teacher's Role - Teacher as a facilitator.
   □ bad □ inadequate □ fair □ good □ excellent

9. Ability to reflect on and plan for Other aspects like the time allocated for each activity, variety of tasks, try out of an activity, set tasks at different levels so that all students can participate.
   □ bad □ inadequate □ fair □ good □ excellent

10. Ability to reflect on and plan for classroom layout and grouping of students.
    □ bad □ inadequate □ fair □ good □ excellent

11. Ability to reflect on and plan for materials, resources and technology.
    □ bad □ inadequate □ fair □ good □ excellent

12. Ability to answer the Session Planning Template Questions like Duration, Learning Goals, Materials Needed and Preparation.
    □ bad □ inadequate □ fair □ good □ excellent
Stage 4 - Planning and Implementing Assessment in ICT Based Session

OVERVIEW
This stage will guide you on how to assess the transaction of an ICT based session

1. The different types of assessments • formative • summative • evaluative
2. Transaction of formative assessments
3. Transaction of Summative assessment • summing up • reporting to particular audiences - Parents, principal, other teachers, next educational phase
4. Transaction of Evaluative assessment • reflecting on sessions and units of work • judging whether a session is effective
5. Different techniques to assess students - Teacher observation, Peer/self assessment, Teacher/student discussion.
6. Collecting evidence through portfolio’s, Printouts of students' work, reflective write-ups.
7. Recording achievement through summary sheets

OBJECTIVES
1. To be able to plan for effective assessments
2. To be able to record students performance
3. To be able to assess students performance
4. To be able to report students performance
Stage 4 - Planning and Implementing Assessment in ICT Based Session

Careful planning for assessment is needed in order to ensure that students make progress in sessions. The teacher should have set procedures for planning, assessing, recording and reporting. You should recognise that assessment lies at the heart of the process of promoting students' learning, providing both feedback for teachers on pupil’s progress, and ideas for future planning.

Forms of Assessment

There are three main forms of assessment. These are:

• formative
• summative
• evaluative

Formative assessment involves:

• talking to students
• feeding back to students about their progress
• giving information to students about what they need to do next, and what teachers expect of them
• setting targets.

Summative assessment involves:

• summing up
• reporting to particular audiences - Parents, principal, other teachers, next educational phase

Evaluative assessment involves:

• reflecting on sessions and units of work
• judging whether a session is effective

Assessing ICT - Key questions to ask when assessing ICT based sessions are:

• What does the teacher want to assess?
• How will the teacher assess?

• How will the teacher collect evidence?

• How will the teacher record achievement?

What does the teacher want to assess?

It's a good idea to integrate assessment when planning your activity you will need to outline the learning objectives so that you are clear about what you want students to know, understand and be able to do by the end of the activity. This will ensure you are clear about what you are going to assess.

How will the teacher assess?

The teacher may use a number of different techniques to assess students.

1. Teacher observation
2. Peer/self assessment
3. Teacher/Child discussion.

The teacher may want to use one or more of these techniques. However, because many activities with computers involve students working in pairs or groups, it is often difficult to assess an individual pupil's contribution to the activity. To aid teachers' assessment, students can be asked to evaluate their own contribution to the work. Providing students with evaluative questions to prompt them to reflect on their own learning can be helpful to both the students' learning and the teacher's assessment of their learning. Examples of questions are:

• What was my task?
• How did I do it?
• What did I learn?
• Did I get help?
• Can I do better?
• What will I do differently next time?
• What will I do the same next time?

**How will the teacher collect evidence?**

Portfolios of students' assessed work with teacher’s comments are helpful. These should show the work provided for the students and the levels of attainment achieved by students of different abilities.

**How will the teacher record achievement?**

Recording sheets attached to individual pieces of work are helpful to record attainment and monitor progression over time. These help teachers to record:

1) Details of the pupil;

2) Brief details of the ICT activity;

3) The context in which the pupil worked - individually, in pairs or groups;

4) The level of support given to the pupil;

5) A summative level description.

Whole class summary sheets are helpful for recording the work of a whole class.

**Carrying out an Assessment**

Once students have completed the activity the teacher will need to collect together:

1) Printouts of students' work;

2) Notes students made and their reflective write-ups;

3) Notes the teacher made on discussions with students or observations made.

Students' reflections on their work, plus their printouts alongside teacher records of observations and discussions should provide enough evidence for making a judgement about students' attainment.

The key questions the teacher needs to ask are:
• Were the learning objectives met?
• Did the task match the planned purpose?

The following additional questions should help the teacher in the process of **evaluative** assessment:

**Pupil/Teacher Discussion**

• Who was contributing to discussions?
• Was the discussion focused on the work?
• Were students talking confidently?

**Teacher Observation**

• What did the teacher observe?
• Were all students contributing equally to the task?
• What will the teacher do if they weren't contributing equally?
• Were students on task?

**Peer/Self Assessment**

• Did all students complete their reflective writing?
• Did the students' reflections indicate they had learned what the teacher expected them to learn?
• If not, what will the teacher do about this?
Stage 4 Output Document

ASSESSMENT PLANNING SHEET

<table>
<thead>
<tr>
<th>TOPIC:</th>
<th>GROUP/CLASS</th>
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</table>

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>ASSESSMENT TASK</th>
<th>MATERIALS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

ASSESSMENT REPORT SHEET

<table>
<thead>
<tr>
<th>NAMES OF STUDENTS</th>
<th>ASSESSMENT TASKS</th>
<th>PERFORMANCE OF STUDENTS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
SELF EVALUATION

1. Ability to plan the different types of assessments.
   □ bad □ inadequate □ fair □ good □ excellent

2. Ability to plan for transaction of formative assessments.
   □ bad □ inadequate □ fair □ good □ excellent

3. Ability to plan for transaction of Summative assessment.
   □ bad □ inadequate □ fair □ good □ excellent

4. Ability to plan for transaction of Evaluative assessment.
   □ bad □ inadequate □ fair □ good □ excellent

5. Ability to plan for collection of evidence.
   □ bad □ inadequate □ fair □ good □ excellent

6. Ability to plan for recording of achievement through summary sheets.
   □ bad □ inadequate □ fair □ good □ excellent
Stage 5: Managing the Use of ICT

OVERVIEW
This stage will guide you on how to manage the use of ICT during curriculum transaction of a session.

1. Teaching and Managing ICT - careful monitoring to ensure all individuals are contributing equally to the group.
2. Guidelines on observing students on an ICT activity.
   1. Listen to students' discussion, interactions with each other, students working collaboratively, co-operatively or independently.
   2. Students making use of higher order skills
3. Health and Safety - ensure electrical safety, reduce discomfort, proper moving of equipment,
4. Students themselves should be taught to recognise hazards, to assess consequent risks and to take steps to control the risks to themselves and others.
5. The Teacher's Role - active cum passive

OBJECTIVES
1. To be able to organise students in the ICT based lesson
2. To be able to monitor students during the course of the ICT based lesson
3. To take care of health and safety issues during the course of the ICT based lesson
Stage 5: Managing the Use of ICT

Teaching and Managing ICT

Many teachers feel worried about integrating ICT into their lessons. A number of reasons have been identified for this - either teacher are unsure about their role, or they feel that their role will be undermined if they know less about ICT than their students do. Few teachers have had extensive opportunities to use ICT in their own education. This means that few teachers have had access to models for ICT teaching.

Managing ICT

The teacher will need to think about the monitoring of the students in the lessons. Group working needs careful monitoring to ensure all individuals are contributing equally to the group.

Observing students on an ICT activity

The following questions may help the teacher to observe students when they are engaged on an activity. This will help the teacher to identify what they are learning and would also be useful when reflecting on their practice.

When observing students working on the activity the teacher may want to consider the following:

- Listen to students' discussion:
  - Are they on task or are they talking about something completely different?

- How are they interacting with each other?
- Are the students working collaboratively, co-operatively or independently?
- What has the teacher learned about:
  - The students' knowledge and understanding of the task?
  - The concepts embedded in the task for both the subject which provided the context and the ICT?
  - The students' ICT skills?
- Were there any surprises?
• Are students making use of higher order skills such as:
  o posing questions and solving problems;
  o organising and evaluating their ideas;
  o observing and seeking information;
  o analysing and discriminating;
  o Interpreting, synthesising and reconstructing?

• Did the use of ICT add value to the student's learning?

Health and Safety
As well as issues to do with managing students and resources, the teacher will also need to consider health and safety issues. The following are some simple guidelines to ensure computers are used safely in the classroom. The teacher may have own ideas which can be added to the list.

Electrical Safety

6. Make sure the computers are in a dry area
7. Check regularly for frayed cables and damaged plugs
8. Secure and cover wires

Discomfort

• Avoid screen glare
• Curtain windows if possible
• Make sure there is enough space for students to gain access and work in comfort
• Make sure the room is well ventilated: (ICT equipment gives off heat )
• Ensure that the screen is at the correct height for the users - adjust as necessary
• Users should be able to choose whether to have the keyboard flat or tilted
• Seating should be at the correct height
• Aim for good posture
• Avoid user discomfort: improvise wrist rests and foot rests

Moving equipment

• Don't allow students to carry equipment
• If the teacher has to move heavy equipment, try to use a trolley.
• Lift equipment properly (bend the knees, not the back)
• Carry light equipment close to the body, not at arms' length

Students themselves should be taught to recognise hazards, to assess consequent risks and to take steps to control the risks to themselves and others. They should be taught to manage their environment to ensure the health and safety of themselves and others when engaged in any practical activity.

The Teacher's Role
Remember the teacher will still need to take a leading role in the classroom. Just because the teacher is integrating the use of ICT doesn't necessarily mean that the teacher’s normal role in the classroom will change.

Remember what will the teacher’s role be?

• participating or observing
• teaching a new skill (to a small group or the whole class)
• stimulating and leading class discussion
• supporting ongoing work
• facilitating
• explaining new ICT vocabulary
## Evaluation of use of ICT based model of curriculum Transaction

### Related to the Learning Objectives of the Lesson

<table>
<thead>
<tr>
<th>What did the students achieve in the subject?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did the ICT activity help to achieve the subject related objectives?</td>
</tr>
<tr>
<td>In what ways was the session successful?</td>
</tr>
</tbody>
</table>

### Name of College: 

### Teacher Educator: 

### Date of session: 

### Session title: 

Management of the session

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What classroom organisation factors do you think were important in doing the ICT activity?</td>
</tr>
<tr>
<td>What should the teacher educator do differently next time the teacher carries out the task with a class?</td>
</tr>
</tbody>
</table>

Use of Assessment

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has the teacher educator used the assessments?</td>
</tr>
<tr>
<td>How was the initial preparation for assessments done by the teacher?</td>
</tr>
</tbody>
</table>
SELF EVALUATION

1. Ability to carefully monitor to ensure all individuals are contributing equally to the group.
   bad inadequate fair good excellent

2. Ability to listen to students' discussion, interactions with each other.
   bad inadequate fair good excellent

3. Ability to tell whether students are working collaboratively, co-operatively or independently.
   bad inadequate fair good excellent

4. Ability to ensure students are making use of higher order skills.
   bad inadequate fair good excellent

5. Ability to ensure health and safety of students
   bad inadequate fair good excellent

6. Ability to balance the teacher educators role - active cum passive
   bad inadequate fair good excellent
Stage 6 - Reflecting on the Impact of ICT

OVERVIEW
This stage will guide you on how to reflect on the impact of an ICT based session.

1. Reflecting on practice of which strategies were effective and why, or what software was not appropriate for a particular group of students and why.
2. Using session Portfolio to assist in evaluating the impact of ICT which contains your reflective notes, pictures of students, samples of students' work, software evaluations, notes on your observations of students.
3. Reflecting on students' learning of subject knowledge and understanding and the students' ICT capability.
4. Further development through Teacher Educator’s Personal Action Plan
5. Identify Areas in which progress has been made.
6. How to plan to use knowledge, skills and understanding of ICT to enhance teaching.
7. Areas in which further progress can be made

OBJECTIVES
1. To reflect on the pros and cons of the ICT based session
2. To plan for further improvement and consolidation of learning.
Stage 6 - Reflecting on the Impact of ICT

Reflecting on practice
This is an important part of a teacher educator's learning in the use of the ICT based model of curriculum transaction. When planning future activities it is helpful to be clear in your mind about which strategies were effective and why, or what software was not appropriate for a particular group of students and why. In order to help the teacher educator reflect on practice you may find it useful to draw on some of the techniques as a way of helping you, as you teach, to become a more reflective teacher, and it can be built into your normal sessions. They include the use of:

- diaries;
- document analysis;
- photographic evidence;
- tape or video recordings and transcripts;
- observation;
- interviews and
- questionnaires

For example, when planning an ICT activity the teacher might also plan to observe students at work, so that it is possible to identify what they are learning while they are engaged in this activity

Using session Portfolio to assist in evaluating the impact of ICT

You may also by now have completed a portfolio which contains your reflective notes, pictures of students, samples of students' work, software evaluations, notes on your observations of students, The process of collating this material and reflecting on your practice will have helped you to identify strengths and weaknesses both in your teaching strategies and in the software you were using.
Reflecting on students' learning

You will by now want to summarise your reflections on your use of ICT in teaching your students. The following series of questions will help you think about what your students have learned as a result of the use of ICT in your teaching.

- What do you think the students achieved:
  - In the subject?
  - In developing their ICT skills?
- What evidence is there that specific learning objectives have been met?
- Were there any unexpected learning outcomes? If so, how did they arise?
- Were any of your learning objectives not met? If so, what impeded progress?
- What were the plus factors for the students in using ICT?
- Were there any negative factors for the students in using ICT?
- What contribution did the use of ICT make to advance:
  - The students' subject knowledge and understanding?
  - The students' ICT capability?
- If you offer these particular ICT activities again, what changes would you make?
- How do you plan to consolidate and build on the learning gains that the students have made?

Further development

After mastering the art of curriculum transaction with the ICT based model the road to development does not end. There should be scope for further improvement and enhancement. Some things that you can do to continue with this positive progress are listed below:

Teacher Educator’s Personal Action Plan

The purpose of this action plan is to enable teacher educators to reflect and to write an action plan, which would support their use of ICT, and their plans for further professional development in ICT.

Areas in which I have made progress

- Identify the areas of ICT in which you have made progress
• You should be able to compare your level of confidence at the beginning and at the end of the teaching with ICT based model. This should enable you to make comments like…I now feel more confident to plan ICT activities and I can now confidently teach and effectively manage a whole class using ICT.

How I plan to use my knowledge, skills and understanding of ICT to enhance my teaching.

• Explain your plans to make use of your knowledge, skills and understanding of ICT based model of curriculum transaction to enhance your teaching e.g. I plan to enhance my teaching by using ICT to prepare activities that could be easily adapted to meet the different needs and abilities of my students or I plan to make use of the automatic features of ICT in my teaching which will enable students to focus on the subject concepts and be able to ask questions and analyze results.

Areas in which I would like to make further progress

1. Targets (Identify up to a maximum of 3 targets per year)
2. Any planned reading / action / activity? e.g. further training, join a conference group, action research…
3. Who would you contact for support? e.g. principal, ICT Coordinator, ICT advisor…
4. By what time would you have achieved this?
5. What would be the expected impact of further professional development in ICT teaching methodologies on teaching and learning?

The road to betterment, enhancement and progress in ICT based teaching does not end here this is just the beginning. Start your journey and you are sure to reach your destination.
**Stage 6 Output Document**

**Evaluating the Impact of ICT**

<table>
<thead>
<tr>
<th>Reflect on the rationale you wrote at the start</th>
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<tbody>
<tr>
<td>What changes or additions would you make to it now? Why?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reflect on the use of ICT resources in the sessions</th>
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<tbody>
<tr>
<td>How has the use of ICT resources made a difference to the teaching and students learning?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reflect on the software, and/or Internet sites you have evaluated or used</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has the use of subject specific software, other ICT resources or Internet sites made a difference to the teaching and students learning?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reflect on the session(s) you planned, taught and evaluated; and the students’ work that you assessed.</th>
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</thead>
<tbody>
<tr>
<td>What benefits or impact did ICT have on the students work?</td>
</tr>
</tbody>
</table>
SELF EVALUATION

1. Ability to Reflect on practice of which strategies were effective and why.
   bad  inadequate  fair  good  excellent

2. Ability to use session Portfolio to assist in evaluating the impact of ICT.
   □  bad  □  inadequate  □  fair  □  good  □  excellent

3. Ability to reflect on students' learning of subject knowledge and understanding and the students' ICT capability.
   □  bad  □  inadequate  □  fair  □  good  □  excellent

4. Ability to chart development through Teacher Educator’s Personal Action Plan
   □  bad  □  inadequate  □  fair  □  good  □  excellent

5. Ability to identify areas in which progress has been made.
   □  bad  □  inadequate  □  fair  □  good  □  excellent

6. Ability to plan to use knowledge, skills and understanding of ICT to enhance teaching.
   □  bad  □  inadequate  □  fair  □  good  □  excellent

7. Ability to identify areas in which further progress can be made
   □  bad  □  inadequate  □  fair  □  good  □  excellent
Session Plan for the Use of ICT Based Model of Curriculum Transaction

Name: ____________________________________________________________

Paper: ____________________________________ Section __________________

Target audience __________ Group Strength ________________

Subject/topic


Details of Internet research

<table>
<thead>
<tr>
<th>Website</th>
<th>Content</th>
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Options of ICT Use


Selection of ICT resource and its Justification


### Learning Objectives

To be able to-

### Contribution of ICT to Learning Objectives

### Teacher and learner activities

<table>
<thead>
<tr>
<th>Teacher/learner activities-</th>
<th>ICT resource used</th>
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</thead>
<tbody>
<tr>
<td><strong>Strategies for managing use of ICT effectively</strong></td>
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<table>
<thead>
<tr>
<th><strong>Criteria for assessing learners’ work and monitoring progress</strong></th>
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<table>
<thead>
<tr>
<th><strong>Sample of ICT resource used</strong></th>
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</thead>
</table>
## Session Plan Coefficient of Correlation

### Subject/topic

Educational evaluation - **Coefficient of Correlation**

### Details of Internet research

<table>
<thead>
<tr>
<th>Website</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td><a href="http://www.youtube.com/watch?v=AdEE07PWeEA">http://www.youtube.com/watch?v=AdEE07PWeEA</a></td>
<td>Video on examples of correlation and its types</td>
</tr>
<tr>
<td><a href="http://thesaurus.maths.org/mmkb/entry.html?action=entryByConcept&amp;id=450&amp;langcode=en&amp;expand=0">http://thesaurus.maths.org/mmkb/entry.html?action=entryByConcept&amp;id=450&amp;langcode=en&amp;expand=0</a></td>
<td>Animation of coefficient of correlation</td>
</tr>
<tr>
<td><a href="http://www.youtube.com/watch?v=fN8cVnsM4GM&amp;feature=related">http://www.youtube.com/watch?v=fN8cVnsM4GM&amp;feature=related</a></td>
<td>Spearmans rank rule method explained</td>
</tr>
<tr>
<td><a href="www.medievalarchitecture.net/.../STATS_part4_week11_160507.ppt">www.medievalarchitecture.net/.../STATS_part4_week11_160507.ppt</a></td>
<td>Ppt on coefficient of correlation</td>
</tr>
<tr>
<td><a href="grc.depaul.edu/StudyGuide/New%20Correlation%20Presentation.ppt">grc.depaul.edu/StudyGuide/New%20Correlation%20Presentation.ppt</a></td>
<td></td>
</tr>
</tbody>
</table>
Define a rationale for the use of ICT in the topic:

Why use ICT? General statement

- Coefficient of correlation is an abstract concept. ICT helps in effective concretisation of this abstract concept.

Why use ICT to support teaching and learning?

- ICT helps in showing students examples of types of correlation which would otherwise be very difficult.
- Students consistently display high levels of interest, motivation and enjoyment when involved in ICT-related activities. They remain on task for sustained periods of time in meaningful activities.

Consider the advantages and disadvantages of using ICT resources for this topic.

ADVANTAGES

- effective concretisation of this abstract concept.
- high levels of interest, motivation and enjoyment
- Students remain on task for sustained periods of time in meaningful activities

DISADVANTAGES

- lots of preparation work for teacher
- effective only for small groups (max 30)

CONCLUSION

- teaching learning will be more effective and long lasting through use of ICT
Evaluating ICT Resources

<table>
<thead>
<tr>
<th>Title of resource</th>
<th>You tube video, animation of coefficient of correlation, Excel, PDF - spearmannotes.</th>
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</thead>
<tbody>
<tr>
<td>Type of resource</td>
<td>Flash video file, online animation, Excel, PDF</td>
</tr>
</tbody>
</table>

**DESIGN**

Would you find it easy to use? Why? - Yes, opening video, Excel and pdf is easy

Are there links to other web sites? - No

Are they useful? – n.a

How easy is it to get back to where the teacher started? - Very easy

Presentation, is it readable, or too zappy? - Simple containing only graphs.

What illustrations are used? Or animations? Do they enhance interest? - containing only graphs.

How have you customised it to suit the needs of the students?

- The video is 9min I have used only the part relevant i.e., first 4.54 min
- The animation was zoomed into for better visibility
- The PDF on spearmannotes was used as it is.
## CONTENT

What support materials come with the software?

- You tube download software is available for easy download of you tube videos.
- Video and Animation requires flash player which is also freely downloadable
- MS Excel is available on all computers
- Adobe reader software is freely downloadable

How appropriate is the language and information to the students you are working with?

- Language is simple and easily understandable

Are the activities suitably connected to the site content? - YES

How quick is it to access? (download time for students)

- The folder containing all the ICT resources was loaded on the desktop to facilitate instant access by students.
- The animation used is online and takes only a few seconds to access

## Options of ICT Use

1. Online Tutorial on Calculation of coefficient of correlation by true mean method.
2. Video on examples of correlation and its types
3. animation of coefficient of correlation
4. Spearman’s rank rule method explained

## Selection of ICT resource and its Justification

1. Video on examples of correlation and its types- a concrete explanation of correlation and its types which can be repeated till student understands concept and attain mastery over it.
2. animation of coefficient of correlation – helps to show various types of correlation on a mouse click
3. Excel worksheet – assists teacher in assessing the students understanding of the types of coefficient of correlation.
4. Spearman’s rank rule method PDF –self learning for students

**Learning Objectives**

To be able to-

- Understand the concept and types of coefficient of correlation
- Apply knowledge of types in new examples
- Analyse the types of coefficient of correlation and make predictions about the correlation
- Calculate coefficient of correlation by spearman’s rank rule method

**Contribution of ICT to Learning Objectives**

Mastery in understanding the concept and types of coefficient of correlation
Apply knowledge of types in new examples
Analyse the types of coefficient of correlation and make predictions about the correlation
Mastery in Calculating coefficient of correlation by spearman’s rank rule method

**Teacher and learner activities**

<table>
<thead>
<tr>
<th>Teacher/learner activities</th>
<th>ICT resource used</th>
</tr>
</thead>
</table>
| Students watch video which explains correlation and its types with appropriate examples. Students may watch video again if required. (Teacher as a facilitator, Self directed learning, Active learning, student centered learning.) Tr. asks questions and leads group discussion to assess students understanding. (Continuous assessment) | Computer lab, video uploaded onto all computers
Head phones.
http://www.youtube.com/watch?v=AdEE07PWeEA |
|---|---|
| Tr. shows animation of coefficient of correlation. Students understand the types of correlation and the numerical value it represents. (Teacher as a facilitator, active learning, student centered learning.) | Computer lab, LCD with internet connection.
http://thesaurus.maths.org/mmkb/entry.html?action=entryByConcept&id=450&langcode=en&expand=0 |
| Tr gives a sheet with two sets of values and instructions to prepare a graph using Excel and asks students to work in pairs and prepare a graph of correlation and to put an approximate value to it They then exchange places and evaluate the graphs of other students and then come back and analyse their own graph. (Continuous assessment, Active learning, student centered learning, reflective practice.) | Computer lab, Ms Excel |
| Tr asks students to work in pairs and go through the PDF doc which explains how to calculate coefficient of correlation by Spearman’s rank rule method. Students solve one example on their own in pairs. Students then exchange their sheets and evaluate the Sums solved by other students and then come back and analyse their own Sums. |

( **Teacher as a facilitator, Self directed learning, collaborative learning, Active learning, student centered learning Continuous assessment, reflective practice**)

| Computer lab, PDF uploaded onto all computers |

| C:\Users\Documents\ICT based model of teaching\coefficient of correlation |

| Students answer questions about the session. ( **Reflective practice.** ) |

| Feedback form |

| **Strategies for managing use of ICT effectively** |

- The video is 9min I have used only the part relevant i.e., first 4.54 min
- The animation was zoomed into for better visibility
- The folder containing all the ICT resources was loaded on the desktop to facilitate instant access by students.
- Students were instructed on how to access and use the various ICT resources planned for the session. |
Criteria for assessing learners' work and monitoring progress

Formative assessment was through observation, questions and discussions and graphs prepared by students.

Summative assessments was through a content test.

Teacher evaluates students understanding of coefficient of correlation through a content test.

Students answer questions about the session. (Reflective practice.)

Content test (Post test)

Feedback form

Sample of ICT resource used

Correlation Consternation

Gdawg Enterprises
Copyright © 2010
www.gdawgenterprises.com
Correlation Consternation

The graph below shows the relationship between the distance in miles a delivery truck traveled and the number of hours each delivery took.

Which best describes the relationship shown on the graph?

A. Negative Trend
B. Positive Trend
C. Constant Trend
D. No Trend

Justify (Explain) your answer.

Up!

Flash animation

To view this animation correctly you need Flash Player version 6 or later.

To increase or decrease the size of the animation, adjust the text size in your browser. (In Netscape or Mozilla: View > Text Zoom; In Internet Explorer: View > Text Size)
Preparing a graph

Step 1 - Launch Excel

Step 2 - Enter the data to be graphed. For the purpose of this lesson you will use data given. Enter it as you see below:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fruit</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Apple</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Orange</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Banana</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Grapes</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Peach</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Pear</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Cell A2 is selected, the select color extends around the cell

Step 3 - Highlight data to be graphed. Do not include the row with heading titles, only the names of fruit and the numbers. If your worksheet looks like the one above; put your cursor in cell A2, click hold the mouse button down and drag to cell B7. Highlighted data should look like the image below:

Step 4 - Select the Chart Wizard. That is done by going to the Insert menu and selecting Chart. You can also click on the Chart Wizard button on the Standard toolbar.

Step 5 - From the Chart Wizard box that opens select Chart type. Select X Y Scatter
- Select Finish and Chart Wizard puts your completed chart on the spreadsheet. You can see the finished product below.

- Now put an approximate value to the correlation
**Spearman’s rank correlation coefficient**

Scatter diagrams can be described as showing 'strong positive correlation' or weak 'negative correlation'. A correlation coefficient is a number that can measure the correlation between two variables.

An easy correlation coefficient to calculate is called Spearman's Rank Correlation Coefficient. This number varies between -1 and +1.

- A correlation coefficient of +1 means perfect positive correlation
- A correlation coefficient close to 0 means no correlation
- A correlation coefficient of -1 means perfect negative correlation

To calculate Spearman's Correlation Coefficient ($\rho$) for a set of data, you need to do three things:

- Rank the data
- Calculate the sum of the squares of the differences of the ranks using a table
- Substitute into the formula for Spearman's $\rho = 1 - \frac{6 \sum d^2}{n(n^2-1)}$

**Looking at the data**

Suppose measure the height and weight of 6 people...

<table>
<thead>
<tr>
<th>Height/cm</th>
<th>145</th>
<th>183</th>
<th>175</th>
<th>168</th>
<th>169</th>
<th>170</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight/Kg</td>
<td>45</td>
<td>82</td>
<td>89</td>
<td>65</td>
<td>66</td>
<td>70</td>
</tr>
</tbody>
</table>
# Session plan Memory Training Techniques

## Subject/topic

Educational Psychology- Memory training Techniques

## Details of Internet research

<table>
<thead>
<tr>
<th>Website</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.youtube.com/watch?v=9NROegsMqNc&amp;feature=related">http://www.youtube.com/watch?v=9NROegsMqNc&amp;feature=related</a></td>
<td>Video on using the memory training technique of loci and visualization and association</td>
</tr>
<tr>
<td><a href="http://www.google.co.in/#hl=en&amp;source=hp&amp;q=Memory+Skills+for+First+Flight+High+School+Students&amp;oq=Memory+Skills+for+First+Flight+High+School+Students&amp;aq=f&amp;aqi=&amp;aql=undefined&amp;gs_sm=e&amp;gs_upl=4103l12512l0l5l5l0l0l0l0l187l796l0.5l5&amp;bav=on.2,or.r_gc.r_pw.w.&amp;fp=ebb0e42e6320d5bc&amp;biw=1024&amp;bih=587">http://www.google.co.in/#hl=en&amp;source=hp&amp;q=Memory+Skills+for+First+Flight+High+School+Students&amp;oq=Memory+Skills+for+First+Flight+High+School+Students&amp;aq=f&amp;aqi=&amp;aql=undefined&amp;gs_sm=e&amp;gs_upl=4103l12512l0l5l5l0l0l0l0l187l796l0.5l5&amp;bav=on.2,or.r_gc.r_pw.w.&amp;fp=ebb0e42e6320d5bc&amp;biw=1024&amp;bih=587</a></td>
<td>Ppt was used to prepare own ppt on different techniques of memory training</td>
</tr>
<tr>
<td><a href="http://iteslj.org/t/ppt/punctuation.ppt">iteslj.org/t/ppt/punctuation.ppt</a></td>
<td>Ppt on punctuations was used to identify the memory training techniques used</td>
</tr>
</tbody>
</table>
Define a rationale for the use of ICT in the topic:

Why use ICT? General statement

• Techniques of memory training is a concept which can be explained through actual examples. ICT helps in effectively presenting a variety of examples of memory training techniques.

Why use ICT to support teaching and learning?

• ICT helps in showing students visual examples of memory training which would otherwise be very difficult.
• Students consistently display high levels of interest, motivation and enjoyment when involved in ICT-related activities. They remain on task for sustained periods of time in meaningful activities.

Consider the advantages and disadvantages of using ICT resources for this topic.

ADVANTAGES

• effective concretisation of this abstract concept.
• high levels of interest, motivation and enjoyment
• Students remain on task for sustained periods of time in meaningful activities

DISADVANTAGES

• lots of preparation work for teacher
• effective only for small groups (max 30)

CONCLUSION

• teaching learning will be more effective and long lasting through use of ICT
Evaluating ICT Resources

<table>
<thead>
<tr>
<th>Title of resource</th>
<th>You tube video, presentation on memory training techniques, flash ppt on 2 topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of resource</td>
<td>Flash video file, PPT</td>
</tr>
</tbody>
</table>

DESIGN

Would you find it easy to use? Why? - Yes, opening video, ppt is easy

Are there links to other web sites? - No

Are they useful? – n.a

How easy is it to get back to where the teacher started? - Very easy

Presentation, is it readable, or too zappy? - Simple containing visuals.

What illustrations are used? Or animations? Do they enhance interest? –yes animations were used.

How have you customised it to suit the needs of the students?

- The video is 5 min 33 sec I have used the full video
- The PPT was made by collecting various images from the internet.
CONTENT

What support materials come with the software?

- You tube download software is available for easy download of you tube videos.
- Video and Animation requires flash player which is also freely downloadable
- MS PowerPoint is available on all computers

How appropriate is the language and information to the students you are working with?

- Language is simple and easily understandable

Are the activities suitably connected to the site content? - YES

How quick is it to access? (download time for students)

- The folder containing all the ICT resources was loaded on the desktop to facilitate instant access by students.

Options of ICT Use

- Andie bells loci method
- Video on using the memory training technique of loci and visualization and association
- Ppt was used to prepare own ppt on different techniques of memory training
- Ppt on punctuations was used to identify the memory training techniques used
Selection of ICT resource and its Justification

- Video on loci method- a concrete example of how to use loci and visual imagery for remembering things which can be repeated till student understands concept and attain mastery over it.
- Ppt – explaining different types of memory training techniques
- Internet search – encourages self learning

Learning Objectives

To be able to-

- Understand the concept and types memory training techniques
- Apply knowledge of types in new examples
  - Analyse the types of memory training techniques and state where they can applied

Contribution of ICT to Learning Objectives

Mastery in understanding the concept and types of memory training techniques Apply knowledge of types in new examples

Analyse the types of memory training techniques and reflect about their application
<table>
<thead>
<tr>
<th>Teacher/learner activities</th>
<th>ICT resource used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students watch video which demonstrates loci and vivid imagey as memory training techniques. Students may watch video again if required.</td>
<td><a href="http://www.youtube.com/watch?v=9NROegsMqNc&amp;feature=related">http://www.youtube.com/watch?v=9NROegsMqNc&amp;feature=related</a></td>
</tr>
<tr>
<td><em>(Teacher as a facilitator, Self directed learning, Active learning, student centered learning.)</em> Tr asks questions and leads group discussion to assess students understanding. <em>(Continuous assessment)</em></td>
<td>Computer lab, video uploaded onto all computers</td>
</tr>
<tr>
<td></td>
<td>Head phones.</td>
</tr>
<tr>
<td>Teacher asks the students to go through the ppt on memory training techniques in pairs and discuss. <em>(Teacher as a facilitator, active learning, student centered learning.)</em></td>
<td>Computer lab, PPT uploaded onto all computers</td>
</tr>
<tr>
<td>Tr assesses students with a ppt showing different graphs of correlation and students are asked to put an approximate value to it. Tr asks questions and leads group discussion to assess students understanding <em>(Continuous assessment, Active learning, student centered learning.)</em></td>
<td>Computer lab, LCD with internet connection. [C:\Users\Documents\ICT based model of teaching\memory_skills.ppt](C:\Users\Documents\ICT based model of teaching\memory_skills.ppt)</td>
</tr>
<tr>
<td>Tr asks students to work in pairs and search internet and download 3 images for each memory training technique</td>
<td>Computer lab, PDF uploaded onto all computers [C:\Users\Documents\ICT based](C:\Users\Documents\ICT based)</td>
</tr>
</tbody>
</table>
They then exchange places and evaluate the images of other students and then come back and analyse their own images.

*(Teacher as a facilitator, Self directed learning, collaborative learning, Active learning, student centered learning Continuous assessment, reflective practice)*

| Teacher evaluates students understanding through content test. *(Continuous assessment.)* | Content test (Post test) |
| Students answer questions about the session. *(Reflective practice.)* | Feedback form |

**Strategies for managing use of ICT effectively**

- The video is 5.33 min I have used fully
- The PPT was made by editing 3 PPT’s on the same topic.
- The folder containing all the ICT resources was loaded on the desktop to facilitate instant access by students.
- Students were instructed on how to access and use the various ICT resources planned for the session.

**Criteria for assessing learners' work and monitoring progress**

Formative assessment was through observation, questions and discussions images saved.
<table>
<thead>
<tr>
<th>Summative assessment was through a content test.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher evaluates students understanding of memory training techniques through a content test.</td>
</tr>
<tr>
<td>Students answer questions about the session. (Reflective practice.)</td>
</tr>
<tr>
<td>Feedback form</td>
</tr>
</tbody>
</table>
Student Teacher Work Document

Here's an example of a picture icon chart:

- toothpaste on toothbrush
- brush teeth
- top teeth 1 minute
- bottom teeth 1 minute
- rinse
**Chunking**

- "Chunk": unit of perception or memory
- Chunking depends on presentation and what you already know
  M W R C A A O L I B M F B I B
  MWR CAA OLI BMF BIB
  BMW RCA AOL IBM FBI
- 3-4 digit chunking is good for presenting unrelated digits

---

**USA MSN GCSE NBC**

**X IBM SAT ATT PHD X**
CRANIAL NERVES

How do you remember that the twelve cranial nerves are olfactory, optic, common ocular motor, pathetic, trigeminal, external ocular motor, facial, auditory, glosso-pharyngeal, pneumogastric, spinal and hypoglossal?

What a very good question and unless you are a medical or biology student it is probably not one that you have asked yourself very often. However, the solution to the problem will serve to demonstrate a type of mnemonic that is very useful. In his book 50 Best Memory Methods and Tests, Michael Dansel cites that one way to remember this sequence of words is to take the first letter of each nerve and make up a memorable sentence from them. So we take the first letters (olfactive, optic, common ocular motor, pathetic, trigeminal, external ocular motor, facial, auditory, glosso - pharyngeal, pneumogastric, spinal and hypoglossol) and this gives us:


The sentence that Dansel uses is as follows:

Out of common practice, the expert finds a good plaster stops haemorrhages.
ROCK FORMATIONS

There are stalactites and stalagmites. These are rock formations that can be found in caves and are pinnacles of rock that hang down from the ceiling or reach up from the floor in a cave. But which hang down and which reach up?

The answer is that stalactites hang down and stalagmites reach up.

One way to remember this is that when the tights hang down, the mites run up!

Another mnemonic to help remember this is that the two words differ in the sixth and seventh letters - using the SIXTH letter, stalaCtites come from from the Ceiling, and stalaGmites come from the Ground. My thanks to Yap2 for sending in this one.

And the relevant (F E L) (L E F):

So how do you remember which is a 1st, 2nd or 3rd order lever? When I was studying mechanics at college I was faced with the same problem so I wrote out the initials for load, effort and fulcrum as follows:

<table>
<thead>
<tr>
<th>1st Order</th>
<th>2nd Order</th>
<th>3rd Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>F</td>
<td>L</td>
</tr>
<tr>
<td>F</td>
<td>L</td>
<td>E</td>
</tr>
<tr>
<td>L</td>
<td>E</td>
<td>F</td>
</tr>
</tbody>
</table>

So to remember the different classes I imagined a flea called Ethel having a fall so: ETHEL (E F L) the FLEA (F L E) FELL (F E L).

Now every time that I think about levers and which type is what class, I just recite "Ethel the flea fell". I then think "Ethel = E F L, so a first order lever (Ethel is the first word of the mnemonic) has the fulcrum between the effort and the load" and so on. I know it sounds crazy and perhaps a little silly, but I did that over 15 years ago and I can still remember it. That is how powerful this seemingly innocent play on words and imagery can be.
CARE OF CLIENT IN TRACTION

T - Temperature
R - Ropes hang freely
A - Alignment
C - Circulation check (5 P’s)
T - Type & location of fracture
I - Increase fluid intake
O - Overhead trapeze
N - No weights on bed or floor

© 1994 Nursing Education Consultants
Session Plan Group work Pair work

**Subject/topic**

English Education – Group work pair work

**Details of Internet research**

<table>
<thead>
<tr>
<th>Website</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.youtube.com/watch?v=91GL21bCjAE&amp;feature=related">http://www.youtube.com/watch?v=91GL21bCjAE&amp;feature=related</a></td>
<td>Video on examples of group work and pair work</td>
</tr>
<tr>
<td>CD Rom - Shaping the way we teach English</td>
<td>Interactive module with videos on group work and pair work in the classroom</td>
</tr>
<tr>
<td><a href="http://www.slideshare.net/ctjonline/pair-work-group-work">http://www.slideshare.net/ctjonline/pair-work-group-work</a></td>
<td>About pair work and group work</td>
</tr>
</tbody>
</table>

**Define a rationale for the use of ICT in the topic:**

**Why use ICT? General statement**

- Group work pair work is a practical concept. ICT helps in organizing effective demonstrations of this practical concept.

**Why use ICT to support teaching and learning?**

- ICT helps in showing students examples of types of group work pair work organizations in the classroom which would otherwise be very difficult.
- Students consistently display high levels of interest, motivation and enjoyment when involved in ICT-related activities. They remain on task for sustained periods of time in meaningful activities.
Consider the advantages and disadvantages of using ICT resources for this topic.

ADVANTAGES

- effective demonstration of this practical concept.
- high levels of interest, motivation and enjoyment
- Students remain on task for sustained periods of time in meaningful activities

DISADVANTAGES

- lots of preparation work for teacher
- effective only for small groups (max 30)

CONCLUSION

- teaching learning will be more effective and long lasting through use of ICT

Evaluating ICT Resources

<table>
<thead>
<tr>
<th>Title of resource</th>
<th>Interactive CD ROM containing interactive videos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of resource</td>
<td>Flash video, Slideshare presentation</td>
</tr>
</tbody>
</table>

DESIGN

Would you find it easy to use? Why? - Yes, opening CD ROM and slide share presentation is easy

Are there links to other web sites? - No

Are they useful? – n.a

How easy is it to get back to where the teacher started? - Very easy

Presentation, is it readable, or too zappy? - Simple containing only graphs.

What illustrations are used? Or animations? Do they enhance interest? – containing videos of actual classroom organizations of group work and pair work.
How have you customized it to suit the needs of the students?

- The CD ROM contains 5 modules only one module will be used
- The slide share presentation was used as it is.

## CONTENT

### What support materials come with the software?

- Video requires flash player which is also freely downloadable
- MS word/ PowerPoint is available on all computers

How appropriate is the language and information to the students you are working with?

- Language is simple and easily understandable

Are the activities suitably connected to the site content? - YES

How quick is it to access? (download time for students)

- The folder containing all the ICT resources for the session was loaded on the desktop to facilitate instant access by students.
- The CD ROM used was copied and inserted into CD drives of all computers

### Options of ICT Use

- You tube Video on examples of group work pair work
- Slide share presentation
- CD ROM

### Selection of ICT resource and its Justification

- Interactive Video of examples of group work pair work - concrete examples which can be repeated till student understands
- Slide share presentation which helps students in understanding theoretical background of group work pair work.
**Learning Objectives**

To be able to-

- Understand the concept of group work pair work.

- Analyse the aspects of group work pair work.

**Contribution of ICT to Learning Objectives**

Better understanding of the concept of group work pair work.

Analyse the aspects of group work pair work.

<table>
<thead>
<tr>
<th>Teacher/learner activities</th>
<th>ICT resource used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students go through the Slide share presentation and in pairs prepare a summary of group work pair work</td>
<td><a href="http://www.slideshare.net/ctjonline/pair-work-group-work">http://www.slideshare.net/ctjonline/pair-work-group-work</a></td>
</tr>
<tr>
<td>(Teacher as a facilitator, Self directed learning, Active learning, student centered learning.) They then exchange places and evaluate the summary of other students and give their comments and then come back and analyse their own summary</td>
<td>Power point loaded onto all computers</td>
</tr>
<tr>
<td>(continuous assessment, reflective learning)</td>
<td></td>
</tr>
<tr>
<td>Students go through the interactive CD ROM in pairs and check points of their summary and answer the questions Students may repeat again if required.</td>
<td>Computer lab, CD ROM loaded onto all computers</td>
</tr>
<tr>
<td></td>
<td>Head phones.</td>
</tr>
</tbody>
</table>
(Teacher as a facilitator, Self directed learning, Active learning, student centered learning, continuous assessment, reflective learning)

Tr asks questions and leads group discussion to assess students understanding. (**Continuous assessment**)

(Teacher as a facilitator, active learning, student centered learning.)

### Strategies for managing use of ICT effectively

- The CD ROM used was copied and loaded into CD drives of all computers
- The folder containing all the ICT resources was loaded on the desktop to facilitate instant access by students.
- Students were instructed on how to access and use the various ICT resources planned for the session.

### Criteria for assessing learners' work and monitoring progress

Formative assessment was through observation, questions and discussions and summary prepared by students.

Summative assessments was through a content test.

| Teacher evaluates students understanding of Group work pair work through a content test. Students answer questions about the session. (**Reflective practice.**) | Content test (Post test ) Feedback form |
Sample of ICT resource used

#1 Viewing Points
PAIR AND GROUP WORK,
EXAMPLE A
Observe...

- Role of the teacher? Students?
- Group management techniques?
- Purpose of using group work?
Making Pair Work and Group Work Effective

Strategies to overcome the challenges

Amanda Bradford
English Language Fellow
Belém, Brazil

Different Combinations of Group Work

Some suggestions about what usually works best....

- **Pairs** - dialogue practice, vocabulary drills and grammar review
- **Groups of 5** - problem solving activities
- **Groups of 4** - introductions and social interactions
- **Groups of 3** - discussions
APPENDIX 5– Content Test

This content Test is part of the Ph.D. research conducted by Prof. Shaheen A Shaikh.

The Topic of the Research is A Study of the Effectiveness of an ICT Based Model of Curriculum Transaction for Teacher Educators.

The Research Guide is Dr. Smita Phatak

Please cooperate and oblige.

Content Test

Student Teacher’ Name : ___________________________________

Name of The College : ______________________________________
Content Test On Coefficient Of Correlation

1. What do you understand by the term correlation?
__________________________________________________________________
__________________________________________________________________

2. What is positive correlation?
__________________________________________________________________
__________________________________________________________________

3. What is negative correlation?
__________________________________________________________________
__________________________________________________________________

4. Identify the type of correlation.
   a) Income and education. We find that people with higher income have more years of education.

   b) Education and years in jail—people who have more years of education tend to have fewer years in jail.

   c) Crying and being held—among babies, those who are held more tend to cry less.

5. Can you make predictions about the type of correlation?
   a) TV viewing and class grades -

   b) Happiness and behavior problems—

   c) CET scores and college achievement—
6. Calculate Coefficient of Correlation and Interpret it.

<table>
<thead>
<tr>
<th>HEIGHT</th>
<th>SHOE SIZE</th>
<th>R1</th>
<th>R2</th>
<th>D</th>
<th>D²</th>
<th>∑ D²</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>42</td>
<td></td>
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<td>166</td>
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<td>46</td>
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<td>179</td>
<td>48</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>187</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Identify the type of correlation and estimate the value of coefficient of correlation and give your interpretation.

a) [Scatter plot]

b) [Scatter plot]
Content Test on Group Work and Pair Work

1. What are the advantages of pair/group work?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

2. What are the disadvantages of pair/group work?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

3. What is the teacher’s role in pair/group work?

_____________________________________________________________________

4. What is the student’s role in pair/group work?

_____________________________________________________________________

5. Which language skills – LSRW - are practiced during pair/group work?

_____________________________________________________________________

6. Arrange the following activities in a group work lesson in correct order:
   1,2,3,4.

   Monitoring the Pair/Group activity - _____
   Ending the Pair/Group activity - ______
   Introducing the Pair/Group activity - _____
   Designing the Pair/Group activity - _____
7. Classify the following under the following headings

D - Design       I- Introduction       M – Monitoring       E – Ending

- Specify instructional objectives.
- Share your rationale for using pair/group work.
- Make the task challenging.
- Let students ask questions.
- Provide closure to the pair/group activities. Oral reports: Written reports:
- Connect the ideas raised to course content and objectives.
- Set ground rules for pair/group interaction.
- Decide on group size.
- Decide how you will divide students into pairs/groups.
- Plan sufficient time for pair/group work.
- Try to predict students’ answers.
- Prepare written instructions for the students.
- Explain the task clearly.
- Monitor the pairs/groups but do not hover.
- Be slow to share what you know.
- Clarify your role as facilitator
- Ask students to reflect on the pair/group work
- Give instructions
Content Test On Memory Training Techniques

1. What is memory training?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. Explain the following memory training techniques with 1 example

Mnemonics:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Chunking:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Rhyme and Rhythm:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. Identify the memory techniques used in Presentation 1 and comment on its effectiveness

________________________________________________________________________
4. Identify the memory techniques used in Presentation 2 and comment on its effectiveness

5. Match the technique with the example

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Acrostic (or sentence)</td>
<td>B. The rhyme “Thirty days hath September, April, June, and November” to remember the months of the year with only 30 days in them.</td>
</tr>
<tr>
<td>3. Acronym</td>
<td>C. For a shopping list, imagine bananas in the entryway to your home, a puddle of milk in the middle of the sofa, eggs going up the stairs, and bread on your bed.</td>
</tr>
<tr>
<td>4. Rhymes and alliteration</td>
<td>D. To remember the name Rosa Parks and what she’s known for, picture a woman sitting on a park bench surrounded by roses, waiting as her bus pulls up.</td>
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<td>5. Chunking</td>
<td>E. The sentence “Every good boy does fine” to memorize the lines of the treble clef, representing the notes E, G, B, D, and F.</td>
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<td>6. Method of loci</td>
<td>F. Remembering a 10-digit phone number by breaking it down into three sets of numbers: 555-867-5309 (as opposed to 5558675309).</td>
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APPENDIX 8 - Questionnaire – Teacher Trainee Feedback

This questionnaire is part of the Ph.D. research conducted by Prof. Shaheen A Shaikh.

The Topic of the Research is A Study of the Effectiveness of an ICT Based Model of Curriculum Transaction for Teacher Educators.

The Research Guide is Dr. Smita Phatak

Please cooperate and oblige.

Student Teacher’ Name : ________________________________

Name of The College : ________________________________

Note : This questionnaire has been used to get feedback from you about the session. Please be honest and give your responses after careful consideration.
Teacher Trainee feedback about the session - Please √ the correct option

Preparation

1. Rate the preparation done by the teacher educator for the session.
   □ bad  □ inadequate  □ fair  □ good  □ excellent

Use of Teaching Aid / ICT Tool

2. Rate the teaching aid / ICT tool selected for use.
   □ bad  □ inadequate  □ fair  □ good  □ excellent
3. Rate the contribution of the teaching aid / ICT Tool in enhancing learning?
   □ nil  □ poor  □ fair  □ high  □ very high

Management of Session / Activities

4. Rate the teacher educator’s presentation of the material in an organized manner.
   □ bad  □ inadequate  □ fair  □ good  □ excellent
5. Rate the presentation of teaching points with suitable examples.
   □ bad  □ inadequate  □ fair  □ good  □ excellent
6. Rate the sequencing of activities organized by the teacher educator.
   □ bad  □ inadequate  □ fair  □ good  □ excellent
7. Rate the management of transition from one activity to the other.
   □ bad  □ inadequate  □ fair  □ good  □ excellent

Teacher Educators Role

8. The teacher educator responded to your difficulties.
   □ never  □ seldom  □ sometimes  □ often  □ always
9. Did the teacher educator give individual attention?
   □ never  □ seldom  □ sometimes  □ often  □ always
10. Enthusiasm of teacher educator during the session.
    □ nil  □ poor  □ fair  □ high  □ very high
11. Teacher educator played an active role in the teaching learning process.
    □ never  □ seldom  □ sometimes  □ often  □ always
Student Teachers Role

12. Rate the level of your motivation/interest in the session.
   □ bad   □ inadequate   □ fair   □ good   □ excellent
13. Were you active participants in your own learning?
   □ never   □ seldom   □ sometimes   □ often   □ always
14. Were you directly involved in the learning process?
   □ never   □ seldom   □ sometimes   □ often   □ always
15. Were you able to choose what to learn and when you need to learn it?
   □ never   □ seldom   □ sometimes   □ often   □ always

Collaborative Learning

16. Was interaction and cooperation among students encouraged?
   □ never   □ seldom   □ sometimes   □ often   □ always
17. Did the teacher monitor learning by you in groups / pairs?
   □ never   □ seldom   □ sometimes   □ often   □ always

Assessments

18. Was assessment of your learning interwoven with teaching?
   □ never   □ seldom   □ sometimes   □ often   □ always
19. Rate the assessment tasks organized by the teacher educator.
   □ bad   □ inadequate   □ fair   □ good   □ excellent

Overall Impression

20. What is your overall impression about the session?
   □ bad   □ inadequate   □ fair   □ good   □ excellent
### APPENDIX 9 - Teacher Trainee Feedback Scores of Experimental Group

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APPENDIX 11 - List of Peer Teacher Educators

1. Prof. Anita Belapurkar – H.G.M. Azam College of Education
2. Prof. Gargee Mitra - H.G.M. Azam College of Education
3. Prof. Pushpa Patil - H.G.M. Azam College of Education
4. Prof. Manju Purohit - Arihant College of Education
5. Prof. Darade Dnyaneshwar - Arihant College of Education
6. Prof. Rameshwari Shende - Arihant College of Education
7. Prof. N.M. Harale– P.M.E.T’s College of Education
8. Prof. Shabana Qazi - P.M.E.T’s College of Education
9. Prof. Sameer Shaikh- P.M.E.T’s College of Education
APPENDIX 12 - Questionnaire –Peer Teacher Educator Feedback

This questionnaire is part of the Ph.D. research conducted by Prof. Shaheen A Shaikh.

The Topic of the Research is A Study of the Effectiveness of an ICT Based Model of Curriculum Transaction for Teacher Educators.

The Research Guide is Dr. Smita Phatak

Please cooperate and oblige.

_________________________________________________________

Questionnaire –Peer Teacher Educator Feedback

Teacher Educators’ Name : ______________________________________

Name of The College : ______________________________________

Note : This questionnaire has been used to get feedback from you about the session. Please be honest and give your responses after careful consideration.
Peer teacher educator feedback about the session - Please √ the correct option

Planning and Preparation

1. Rate the level of research done by the teacher for the session.
   □ bad □ inadequate □ fair □ good □ excellent
2. Rate the level of planning done by the teacher for the session.
   □ bad □ inadequate □ fair □ good □ excellent
3. Rate the level of preparation done by the teacher for the session.
   □ bad □ inadequate □ fair □ good □ excellent
4. Rate the session plan prepared by the teacher educator.
   □ bad □ inadequate □ fair □ good □ excellent

Use of Teaching Aid / ICT Tool

5. How was the teaching aid / ICT tool selected for use?
   □ bad □ inadequate □ fair □ good □ excellent
6. Has teaching aid / ICT tool been used to further educational objectives?
   □ never □ seldom □ sometimes □ often □ always
7. Rate the handling of teaching aid / ICT tool by the teacher educator.
   □ bad □ inadequate □ fair □ good □ excellent
8. Rate the justification of the use of teaching aid / ICT tool by the teacher.
   □ bad □ inadequate □ fair □ good □ excellent

Management of Session / Activities

9. Rate the teacher educator’s presentation of the material in an organized manner.
   □ bad □ inadequate □ fair □ good □ excellent
10. Rate the presentation of teaching points with suitable examples.
    □ bad □ inadequate □ fair □ good □ excellent
11. Rate the sequencing of activities organized by the teacher educator.
    □ bad □ inadequate □ fair □ good □ excellent
12. Rate the management of transition from one activity to the other.
    □ bad □ inadequate □ fair □ good □ excellent
Teacher Educators Role

13. How did the teacher educator respond to the student teacher’s difficulties?
   □ never □ seldom □ sometimes □ often □ always

14. Did the teacher educator give individual attention?
   □ never □ seldom □ sometimes □ often □ always

15. Rate the enthusiasm of teacher educator during the session.
   □ nil □ poor □ fair □ high □ very high

16. Teacher educator played an active role in the teaching learning process.
   □ never □ seldom □ sometimes □ often □ always

Student Teachers Role

17. Rate the level of student teacher’s motivation/interest in the session.
   □ bad □ inadequate □ fair □ good □ excellent

18. Were the student teachers active participants in their own learning?
   □ never □ seldom □ sometimes □ often □ always

19. Were the student teachers directly involved in the learning process?
   □ never □ seldom □ sometimes □ often □ always

20. Were the student teachers able to choose what to learn and when they need to learn it?
   □ never □ seldom □ sometimes □ often □ always

Collaborative Learning

21. Was interaction and cooperation among student teachers encouraged?
   □ never □ seldom □ sometimes □ often □ always

22. Did the teacher educator monitor learning by student teachers in groups / pairs?
   □ never □ seldom □ sometimes □ often □ always

Assessments

23. Was assessment of student teacher’s learning interwoven with teaching?
   □ never □ seldom □ sometimes □ often □ always

24. Rate the assessment tasks organized by the teacher educator.
   □ bad □ inadequate □ fair □ good □ excellent
Overall Impact

25. What is your overall impression about the session?
   □ bad  □ inadequate  □ fair  □ good  □ excellent

Qualitative Feedback

26. What were the negative factors for the students in the session?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

27. What were the plus factors for the students in the session?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

28. What should the teacher educator do differently next time the teacher carries out the session?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

29. What classroom organization factors do you think were important in the session?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

30. Comment on the effectiveness of the session in achieving teaching objectives.

____________________________________________________________________
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### APPENDIX 13 - Peer Teacher Educator Feedback Scores

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### Teacher Educators Role

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**Collaborative Learning**

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<tr>
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<td>Never</td>
<td>Seldom</td>
<td>Sometimes</td>
<td>Often</td>
<td>Always</td>
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<td>Seldom</td>
<td>Some Times</td>
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<td>3</td>
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<td>Inadequate</td>
<td>Fair</td>
<td>Good</td>
<td>Excellent</td>
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<td>Experimental Group</td>
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<td>7</td>
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### APPENDIX 14 - List of Teacher Educators used to test Usability of ICT based Model of curriculum transaction For Teacher Educators.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name Of Teacher Educators</th>
<th>Name of the College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Reshma Nigade</td>
<td>Arihant College Of Education</td>
</tr>
<tr>
<td>2.</td>
<td>Rameshwari Shende</td>
<td>Arihant College Of Education</td>
</tr>
<tr>
<td>3.</td>
<td>Dnyaneshwar Darade</td>
<td>Arihant College Of Education</td>
</tr>
<tr>
<td>4.</td>
<td>Jagtap Anita</td>
<td>Arihant College Of Education</td>
</tr>
<tr>
<td>5.</td>
<td>Patil Yogesh</td>
<td>Arihant College Of Education</td>
</tr>
<tr>
<td>6.</td>
<td>Archana Desai</td>
<td>H.G.M. Azam College of Education</td>
</tr>
<tr>
<td>7.</td>
<td>Gargi Mitra</td>
<td>H.G.M. Azam College of Education</td>
</tr>
<tr>
<td>8.</td>
<td>Pushpa Patil</td>
<td>H.G.M. Azam College of Education</td>
</tr>
<tr>
<td>9.</td>
<td>Shaheen Ansari</td>
<td>H.G.M. Azam College of Education</td>
</tr>
<tr>
<td>10.</td>
<td>Namrata Kamble</td>
<td>H.G.M. Azam College of Education</td>
</tr>
<tr>
<td>11.</td>
<td>Farheen Shaikh</td>
<td>Guardian College of education</td>
</tr>
<tr>
<td>12.</td>
<td>Nilofer Momin</td>
<td>Guardian College of education</td>
</tr>
<tr>
<td>13.</td>
<td>N.M. Harale</td>
<td>P.M.E.T. College of Education</td>
</tr>
<tr>
<td>14.</td>
<td>Shabana Qazi</td>
<td>P.M.E.T. College of Education</td>
</tr>
<tr>
<td>15.</td>
<td>Sameer Shaikh</td>
<td>P.M.E.T. College of Education</td>
</tr>
</tbody>
</table>
APPENDIX 15 - Questionnaire – Usability Of The ICT Based Model Of Curriculum Transaction for Teacher Educators

Teacher Educator’s Name : _____________________________________

Name of The College : _________________________________________

Subject Taught : _______________________________________________

Aim : To Study The Usability of the ICT Based Model Of Curriculum Transaction For Teacher Educators

Note : This questionnaire has been used to get feedback from the Teacher Educators who are going to use this ICT based model for curriculum transaction. The main purpose of this Questionnaire is to study the usability of the ICT based model for curriculum transaction. Questions are classified under the different criteria of usability quality components.

1. Understandability

2. Learn-ability

3. Objective Achievement

4. Operability

5. User Satisfaction

6. Applicability
UNDERSTANDABILITY

1. Is the ICT based model easy to understand?

Yes [ ] No [ ]

If no, please state the reason.
______________________________

2. Is it easy to understand Constructivism as the theoretical base of this ICT based model?

Yes [ ] No [ ]

If no, please state the reason.
______________________________

3. Are the principles of the ICT based model easy to understand?

Yes [ ] No [ ]

If no, please state the reason.
______________________________

4. Is it easy to understand the procedure of the ICT based model?

Yes [ ] No [ ]

If no, please state the reason.
______________________________
5. Is it easy to understand the stages to be followed in the ICT based model?
   Yes ☐ No ☐
   If no, please state the reason.
   ____________________ __________________________________

6. Were you able to understand the reflective material given for each stage?
   Yes ☐ No ☐
   If no, please state the reason.
   ____________________ __________________________________

7. Were you able to understand the Sample Session plans of the ICT based model?
   Yes ☐ No ☐
   If no, please state the reason.
   ____________________ __________________________________

**LEARNABILITY**

8. Was it easy to learn how to use the ICT based model?
   Yes ☐ No ☐
   If no, please state the reason.
9. Were you able to achieve the objectives set up for the ICT based model?

Yes [ ] No [ ]

If no, please state the reason. __________________________________________________________________________________________

10. Will the student teachers be able to learn effectively through teaching by this ICT based model?

Yes [ ] No [ ]

If no, please state the reason. __________________________________________________________________________________________

11. Were the self evaluation questions helpful in enhancing learning of the ICT based model?

Yes [ ] No [ ]

If no, please state the reason. __________________________________________________________________________________________

**OBJECTIVE ACHIEVEMENT**

12. Does the ICT based model help in fulfilling the goal of enabling the teacher educator to effectively plan, design, develop, conduct, assess and evaluate curriculum transaction using ICT?
13. Does the ICT based model of curriculum transaction help in fulfilling the objectives stated in the model?

Yes  ☐  No  ☐  

If no, please state the reason.

______________________________________________________________

14. Are the stages for the use of the ICT based model appropriately sequenced?

Yes  ☐  No  ☐  

If no, please state the reason.

______________________________________________________________

15. Is it possible to use constructivism as highlighted in the ICT based model while conducting the session?

Yes  ☐  No  ☐  

If no, please state the reason.

______________________________________________________________
16. Is it possible to use the principles highlighted in the ICT based model while conducting the session?

Yes [ ] No [ ]

If no, please state the reason.

______________________________________________________

17. Is it easy to follow the procedure stated while conducting the session?

Yes [ ] No [ ]

If no, please state the reason.

______________________________________________________

**USER SATISFACTION**

18. Do you think the ICT based model will help you in effective curriculum transaction through ICT?

Yes [ ] No [ ]

If no, please state the reason.

______________________________________________________

19. Do you like the ICT based model of curriculum transaction?

Yes [ ] No [ ]
If no, please state the reason.

____________________ __________________________________

APPLICABILITY

20. Can this ICT based model be applied for teaching theory component of any subject in the B.Ed. curriculum?

Yes [ ] No [ ]

If no, please state the reason.

____________________ __________________________________

21. Can this ICT based model be used by D.Ed. teacher educators?

Yes [ ] No [ ]

If no, please state the reason.

____________________ __________________________________

22. Can this ICT based model be used by Student teachers

Yes [ ] No [ ]

If no, please state the reason.

____________________ __________________________________
23. Can this ICT based model be used by school teachers?

Yes [ ]  No [ ]

If no, please state the reason.

__________________ ____________________________________________

24. What did you like about the ICT based model?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

25. What changes would you suggest to be made in the ICT based model?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Sign ________________________________