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# UNIT 11 ICT AND ASSESSMENT

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## 11.1 INTRODUCTION

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The demands of today's classroom activities make both teachers and students learn many skills of teaching and learning. Teaching-learning process integrated with technology requires that students acquire higher-order thinking skills such as drawing inferences, analyzing, synthesizing, predicting, comparing, evaluating, etc. Use of multiple teaching strategies demands multiple forms of assessment. In the present classroom situation, information and communication technology is used in classroom not only for transacting learning experiences but also for carrying out student assessment. ICT plays an important role in assessing achievement of learners and finding out their grades. It also helps to report the learners' achievement to different stakeholders through electronic reporting systems. The present Unit focuses on the use of ICT as an assessment tool for learning. This Unit intends to help you evaluate your students using ICT based assessment tools.

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## 11.2 OBJECTIVES

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After going through this Unit, you will be able to:

- define the term assessment;
- differentiate between formative and summative assessments;
- explain the meaning of 'ICT based assessment'.
- explain the role of ICT in student assessment;
- describe how e-portfolio can be applied as an assessment tool;
- categorize the various softwares used for assessing objective and subjective items; and
- analyze the advantages and disadvantages of ICT based assessment.

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## 11.3 CONCEPT OF ASSESSMENT

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Before going into the details that how ICT can be used as an assessment tool, let us recollect the concept of assessment. The term ‘assessment’ in education means the procedure that is used to collect information about knowledge, attitude and skills of a learner. The word assessment is derived from the Latin word ‘assidere’ meaning ‘to sit down’ or ‘beside the learner’. According to AFT, NCME and NEA, 1990, assessment is:

“the process of obtaining information that is used to make educational decisions about students, to give feedback to the student about his or her progress, strengths and weaknesses, to judge instructional effectiveness and curricular adequacy and to inform policy” (AFT, NCME and NEA,1990,p.1).

From the above definition, one can make out that assessment is related with the appraisal of individuals’ performance. There are various ways to carry out assessment: oral, aural, written and performance based. Formative assessment requires a systematic and planned approach that arouses learning and displays what students know, understand, and do. It is used by both teachers and students for improvement of learning. Scriven (1991) defined it as “*Formative assessment is typically conducted during the development or improvement of a programme or product (or person, and so on) and it is conducted, often more than once, for in house staff of the programme with the extent to improve*”. If we analyse the definition, it is clear that the purpose of conducting formative assessment is to monitor the learning progress of the learner; it is also conducted to know whether the learning objectives have been achieved or not and to provide feedback on the teaching-learning process. Summative assessment is conducted to know the terminal behaviour of learner. The key word in summative assessment is “certification”. Summative assessment is conducted after completion of the whole course. Feedback provided in summative assessment is terminal in nature and can not be used for modification of learners’ behaviour because it is conducted at the end of a term. Learners get certificate or are promoted to the higher class based on summative assessment. (IGNOU, 2013)

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## 11.4 ROLE OF ICT IN ASSESSMENT

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We have discussed briefly the role of ICT in assessment in Unit 8 of this Course. In this Unit, we will discuss the role of ICT in assessment in details, particularly various types of ICT based assessment tools.

There are mainly two major forms of ICT based assessment. These are:

- Computer-Assisted Assessment or Computer-Aided Assessment (CAA);
- Computer-Based Assessment (CBA);

Computer-assisted assessment (CAA) refers to the use of computers to manage or support the assessment process and evaluate assignments. CAA is mostly used for scoring multiple-choice questions and questions with short-answer responses using optical mark reader (OMR). Computer Based Assessment is generally made through a computer. Computer based assessment means the use of digital tools for conducting assessment-related activity. Computer based assessment can be done using laptops, tablets, and even smart phones. The most common ways of computer-based assessment are the following:

- i) **Assessment embedded within e-learning modules:** This type is most similar to the original computer based training. Here, online assessments are embedded within larger e-learning modules so that students’ learning activities could take place on the computer. For example, a student may complete a full e-learning module with a final test at the end.
- ii) **Standalone online assessments:** In this, an instructor uses an online assessment creator to develop quizzes and tests, which students take using an online platform. Online or Web-based assessment can also be used to engage students in the teaching-learning process and measure their progress in learning on continuous basis. For example, a teacher after completion of his/her teaching may conduct a short quiz that students take on their smart phones.

## 11.5 WEB-BASED ASSESSMENT

In web-based assessment, digital technologies are used in planning and delivery of assessments, automatic marking and in reporting, storing and transferring of data. The existing evaluation system in many educational institutions consists of two components i.e. continuous and term-end evaluation. Online or web-based tests can be used in both forms of evaluation. There are several online objective and subjective type tests that are used for formative and summative assessments. In the subsequent paragraphs, we will discuss some objective and subjective tests that are delivered through online mode.

### Check Your Progress

**Notes:** a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

1) Differentiate between formative and summative assessment

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2) Differentiate between Computer-assisted Assessment and Computer-based Assessment.

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### 11.5.1 Tools for Assessing Objective Items

Technology mediated learning environment prompted educators to apply computer in students' assessment. Computer-based assessment (CBA) may be treated as the use of digital technology to collect, process, and report the results of assessment. The four components of CBA may be categorized as (1) assessment generation, (2) assessment delivery, (3) assessment scoring and interpretation, and (4) storage, retrieval and transmission. The University of Nottingham developed an e-Assessment management system known as **Rogô** to create and deliver online assessments. E-assessment uses computer and information technology to make the assessment process more efficient by automating functions. Objective questions like multiple-choice, fill in the blanks, multiple response, text box and matrix can be developed through online. The format of each objective type question is framed as follows:

**Objective type questions:** There are various types of objective type questions such as multiple-choice, fill-in-the blank, multiple response and text box. The format of each type of objective items is detailed below:

#### i) Multiple-choice question type

A question with three or four options is presented where only one option is correct. Options can be text, images or a combination of both. It consists of four parts as given below:

- STEM - question or incomplete statement
- OPTIONS - suggested answers or completions
- DISTRACTORS - incorrect responses
- KEY - correct response

For eg. See the following question:

- 1) The capital of India is **Stem**
- |                    |            |   |                |
|--------------------|------------|---|----------------|
| <b>Key</b>         | a) Delhi   | } | <b>Options</b> |
|                    | b) Mumbai  |   |                |
| <b>Distractors</b> | c) Kolkata |   |                |
|                    | d) Chennai |   |                |

The full list of presentation option in multiple-choice type question is:

- Vertical Option Button
- Vertical Option Button (with 'other' text box)
- Horizontal Option Button
- Dropdown list (text only)

The question setter can also set the order that the options are displayed in:

- Display Order- All the options are displayed either in vertical manner or horizontal manner.
- Alphabetic - This option automatically sorts the answer choices or rows in alphabetical order.

- Random - The order of choices is randomized for each respondent that accesses the question.

### ii) Fill- in- the blank question type

A paragraph of text is presented with some words removed. The blanks can be completed either by typing the correct words or by selecting the correct words from a randomized dropdown list. The mode of filling in the blanks is created by the question setter.

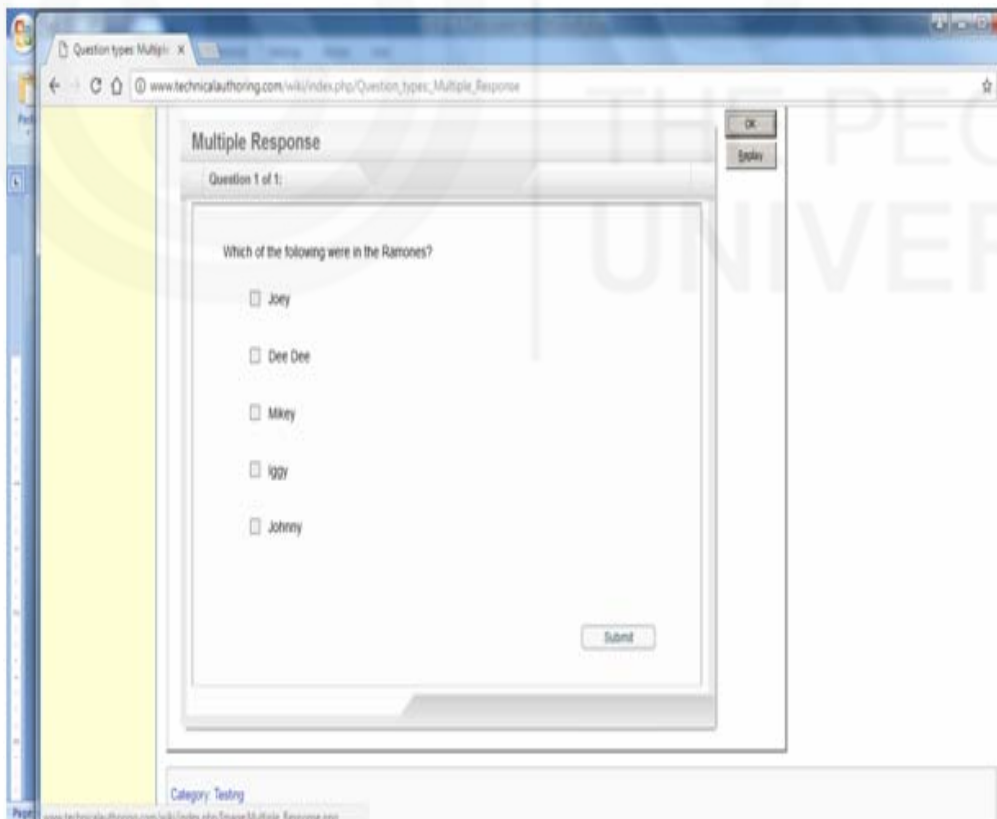
For example, \_\_\_\_\_ is the capital of India.

### iii) Multiple response question type

When there are more than one correct options that need to be selected for a question, the Multiple Response question type is used (see figure 11.1). The scoring method can be selected to give marks for selecting options correctly or to give a mark for the whole question. The options can be displayed in the following manners:

- Display Order
- Alphabetic
- Random

You can see an example of display order option of multiple response question item below:



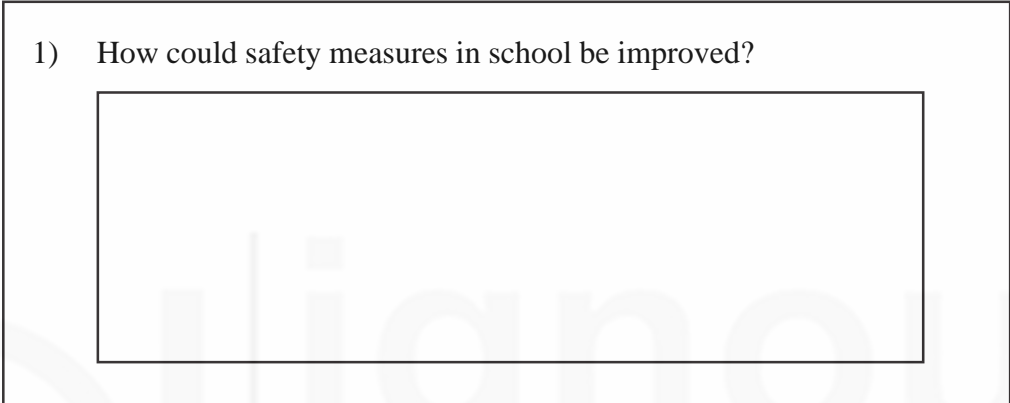
**Fig.11.1: Format of multiple response question**

Source: [www.technicalauthring.com](http://www.technicalauthring.com)

## Text box

In text box, questions that require answers to be typed into a text box are mainly used. Such questions need to be marked manually. Student responses are presented anonymously to the marker and there is an option for these responses to be marked second time. If second time marking has been used, the assessment system highlights the discrepancy of greater than one mark between the first and second marking for any question. The final mark is then manually selected.

The size of the text box is set by the question setter by selecting the number of rows and columns for the box. Textboxes have a maximum of 65,535 characters. A formatting toolbar can be included above the textbox (see fig.11.2) by selecting the Editor mode as given below:



1) How could safety measures in school be improved?

Fig.11.2: Format of a text box

## Quizzes

There are various softwares that can be used to assess objective test items in the form of quizzes. Quizzes which are conducted at the end of module (i.e. are ‘summative’) are referred to as **e-examinations**; quizzes which are designed to help students check their understanding and identify areas to focus on are referred to as ‘formative’.

Quizzes have a number of potential benefits such as follows:-

- **Inter-scorer reliability( the reliability and internal consistency among two or more individuals)** – It gives a score of how much homogeneity there is in the ratings given by different raters. Quizzes are marked objectively by computer.
- **Speed of marking for quizzes** – Results are available immediately without manual staff Marking.
- **Flexible provision of feedback** – Feedback may be provided both at individual question level for correct and incorrect responses, and overall for the test as a whole.
- **Reports** – Each question can be scrutinized via an automatically-generated report enabling examiners to check for any errors.
- **Re-usable questions** – A question bank can be built up and test items can be added and removed. Questions and answers can be randomized.

You would come to know the various softwares that can be used to develop quizzes from the Box-1.

**Learning pod** is an online quiz bank with 48,000 questions from trusted names like Kaplan. Teachers can remix, assign, and even print quizzes for their students.

**Socrative** is a smart student response system that empowers teachers to engage their classrooms through a series of educational games and exercises via smart phones and tablets. Teachers control the questions and games on their laptop, while students respond and interact through their smart phones/laptops.

**QuestBase** gives you the freedom to create quizzes, tests, assessments, exams or get feedback from surveys and polls.

**Moodle** provides a quiz tool that can be used for formative and summative assessment. It includes multiple choices and multiple response, true-false, short answer, and calculated questions. These questions are kept in a categorized database, and can be re-used within courses and even between courses. Quizzes allow multiple attempts. Each attempt is automatically marked, and the tutor can choose whether to give feedback or to show correct answers.

**QuizPedia** is a digital tool for quizzes in the classroom. Easy to add text, pictures and sound. Use quizzes to assess your student's level of understanding or make the students co-creators of their own learning by preparing quizzes themselves and then share them with their peers.

**The Hot Potatoes** suite includes six applications, enabling you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web. (For developing quizzes with hot potatoes go to the link. (<https://www.nacs.k12.in.us/cms/lib07/IN01906695/Centricity/Domain/46/Moodle%20IV.pdf>))

pdf)

**QuizStar** is a web-based quiz maker. Quizzes can be created, administered and graded automatically through QuizStar. It allows you to have a media repository which stores all your images and lets you attach them to multiple questions or quizzes.

(Source:<https://www.slideshare.net/skpulist/design-and-development-of-quizzes-with-hot-potatoes>)

### Practice on your own

Develop online quizzes based on any topic by using one of the softwares given in the above box.

## 11.5.2 Online/Web Based Assessment in Subjective Tests

Technology has made it possible to conduct subjective tests through online. It provides a complete score for an essay as well as feedback about usage of grammar, style and organization, and development of essay. Essay type tests are

an example of a constructed-response task where students reflect on a particular topic. The essays are generally evaluated for their writing quality. For assessing student answers to subjective tests, there are various online assessment tools such as questionmark perception, e-rater, calibrand marker and intelligence essay assessor. In the next paragraph, we will discuss the various softwares used for assessing subjective tests.

- i) **Questionmark Perception (QMP):** It is a software used for formative and summative assessment purposes. QMP provides scope for submission of answers to long answer type questions. Students can type their long answers in a text box and upload the file. Teachers can write, administer and report their assessments using computers.
- ii) **Electronic Essay Rater (e-rater):** It is a prototype automated scoring system which uses syntactic structures, discourse structure analysis, and topical content analysis to assign essay scores. It is built at Educational Testing Service (ETS) and uses a hybrid feature approach for scoring the essays.
  - a) **Syntactic structures:** Syntactic structures in essays are identified by Natural Language Processing (NLP). The different types of clauses and verbs used in a sentence are parsed with the help of Microsoft Natural Language Tool (MNL). Ratio of syntactic structure types used in an essay and in each sentence was computed as possible measures of syntactic variety.
  - b) **Discourse Structure Analysis:** It refers to analyzing written, spoken and signed language use or any significant semiotic event. It is an effort to interpret what the writer or speaker intended to communicate within a social context. In discourse analysis, 'cue words' and 'structures' are identified and then kept for computer-based discourse analysis. For example, cue words such as 'in summary' and 'in conclusion' are classified as conjuncts used for summarizing. Cue words such as 'perhaps' and 'possibly' are treated as belief words to express the belief of a writer to an argument given in an essay. For discourse analysis, you can use various tools such as *cohesion*, *coherence*, *parallelism*, *speech events*, *background knowledge*, *conversational interaction* and *co-operation principle*. Let us discuss in brief about these tools.

**Cohesion:** It refers to the connections that exist within texts in the form of linking different parts of a sentence. It is grammatical and lexical relationship within a text or a sentence.

**Coherence:** Coherence is grammatical and semantic interconnectedness between sentences that form a text. It is the semantic structure, not its formal meaning which creates coherence.

**Parallelism:** It means the comparisons or contrasts that go side by side in a literature. It helps to interpret the whole text.

**Speech events:** It is mainly concerned with the sayings of people in different contexts. Debates, discussions, quizzes, interviews etc. constitute speech events.

**Background knowledge:** It consists of two things- schema and script. Through background knowledge, one can actually tell the real situation and interpret actions.



**Conversational interaction:** It aims to understand how people manage interactions and also how social relationships are developed through interactions.

**Co-operation principle:** According to Grice (1975) in conversational exchanges, the participants are co-operating with each other based on four maxims. They are:

- 1) **Maxim of quantity:** The conversation must be as informative as is required but not more or less than is required.
- 2) **Maxim of quality:** While speaking, say only facts which are either true or have evidence
- 3) **Maxim of relation:** Use relevant words
- 4) **Maxim of manner:** Be clear, brief and orderly

**c) Topical content analysis**

A good essay relates to other good essays in use of its vocabulary patterns. E-rater evaluates the topical content of an essay by comparing the patterns of words it contains to those found in manually graded essays. It uses two different measures of content similarity for computation. First one is based on use of vocabulary in the essay as a whole and the other is based on the specific vocabulary used in the essay.

- iii) **Calibrand Marker:** It is an Internet or intranet based workflow application through which assessment can be carried out for formative and summative tests. It is mainly used for assessing essays and case studies.
- iv) **Automated Text Marker (ATM):** It is developed for assessing text contents and is particularly suitable for assessing short answers to closed-ended questions. A student's answer is automatically separated into smaller concepts. It mainly assesses basic grammars and text contents.
- v) **Intelligence Essay Assessor (IEA):** It is an Internet-based tool for scoring the quality of electronically submitted essays. The text is analyzed through **Latent Semantic Analysis (LSA)**. This package permits students of a course to log on the web and submit their essay for evaluation. LSA analyzes essays by capturing their meaning and comparing them with high quality similar texts. There is possibility of re-submission of essay after the comments given by the experts. This software is applicable both for formative and summative evaluation.

Through the use of Latent Semantic Analysis (LSA), IEA analyzes essay semantics. LSA is a statistical model of word usage that compares the semantic similarity between texts. It is based on the assumption that there is some 'underlying' or latent' structure in the manner of word usage across documents and statistical techniques are used to estimate the latent structure. It generates a matrix of occurrences of each word in the essay and then decomposes the word-by-document matrix into a set of factors. Through an analysis of association of words and documents, the method produces a representation of words that are used in similar contexts and are more semantically associated.

vi) **eWrite:** It is an online writing assessment tool which provides immediate diagnostic feedback on students’ skills on the following categories:

- Narrative
- Descriptive
- Report
- Persuasive writing

Students type plain text into the online system. Students don’t have any access to dictionaries. Planning and editing time is built into the assessment. eWrite automatically marks the students’ writing and then produces a detailed report highlighting the strengths and weaknesses of each student’s answers. If assignment is submitted by a group, then interactive group reports will be generated.

vii) **eMarking Assistant:** You could mark students’ assignments and grade papers in Microsoft Word using eMarking Assistant. **eMarking Assistant** helps you provide comprehensive feedback when marking assignments or grading papers by using any version of Microsoft Word. It helps you:

- provide easier and quicker feedback using reusable comment.
- use and share reusable comment banks.
- record and embed audio comments in the assignment.
- do repetitive tasks using your own detailed automated analytic e.g. rescaling, totaling, and converting marks.
- to do Google searches on highlighted phrases in Word.
- download and upload graded assignments and marks.

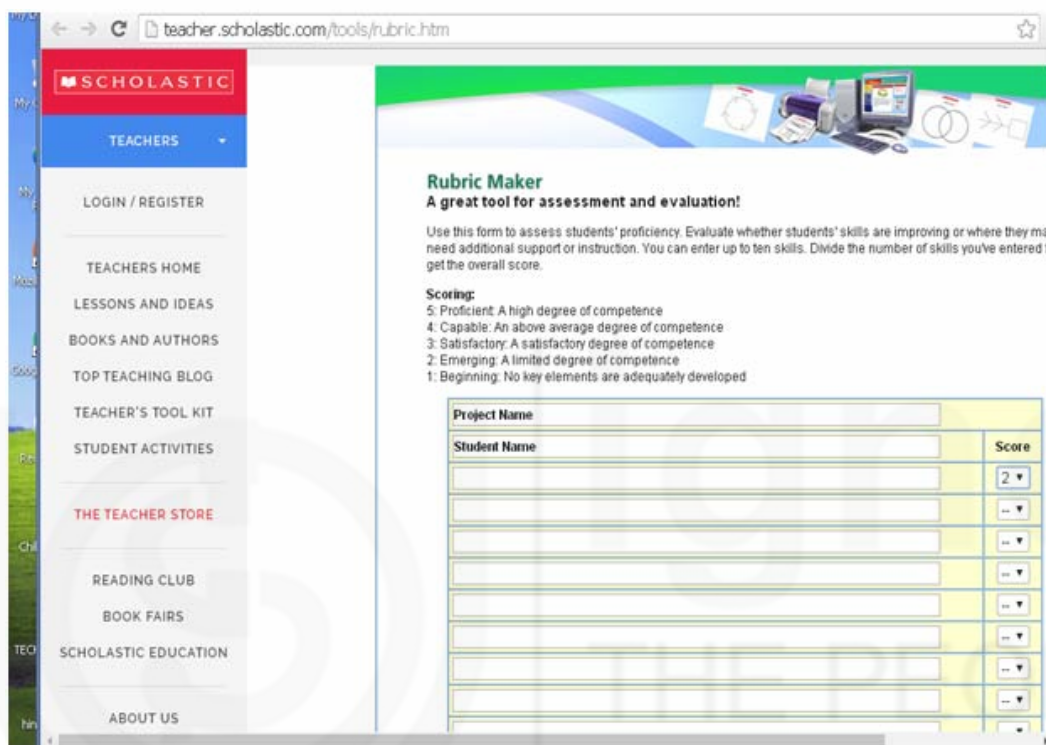
viii) **Automated Analytic Rubrics:** It contains several examples of grading rubrics for marking essays and projects. It allows you to create detailed



Fig.11.3: Homepage of rubistar

Source: rubistar.4teachers.org/

automated analytic rubrics and marking sheets using any version of Microsoft Word for Windows. After adding your marks, images, sounds or hyperlinks in MS Word, then press button on a floating toolbar or press function keys to highlight performance standards. After calculating the weighted marks, then calculate the total and rescaled mark. Find the percentage and then convert it to a grade. Once you have completed the rubric or marking sheet, you can copy and paste the rubric into another document or online system to return to the student. There are different websites such as Rubi Star (see Fig. 11.3), Rubric Maker (see Fig.11.4) and iRubric for developing rubrics by teachers.



**Fig.11.4: Homepage of Rubric Maker**

**Source:** teacher.scholastic.com/tools/rubric.htm.

- ix) **Marking Mate:** It gives an overall evaluation of your assignment. Instead of marks, figures of happy, normal or unhappy faces are awarded for each area that marking mate has assessed. Your total scores are calculated by assigning 2 points for each happy face, 1 point for each normal face and 0 point for each unhappy face. At the bottom of the report card, a summary comment regarding the areas to improve (in highlighted text) will be given. A format of Marking Mate is given in the Figure 11.5.

#### **Practice on your own**

Evaluate an essay answer in marking mate and prepare a report on the results you received.

- x) **Markin:** It is a Windows's programme that imports a student's text for assessing directly from a document file. It provides a comprehensive set of tools that enable the teacher to mark and annotate the text. After assessment, the document is saved as an XHTML document, in which the teacher's marks and annotations are in coloured text. When the student opens this document in a web browser and click on the marks, s/he could see the details about the nature of teacher's comments. A sample markin screenshot is given Fig. 11.6 and a sample marked test is given Box. 2.

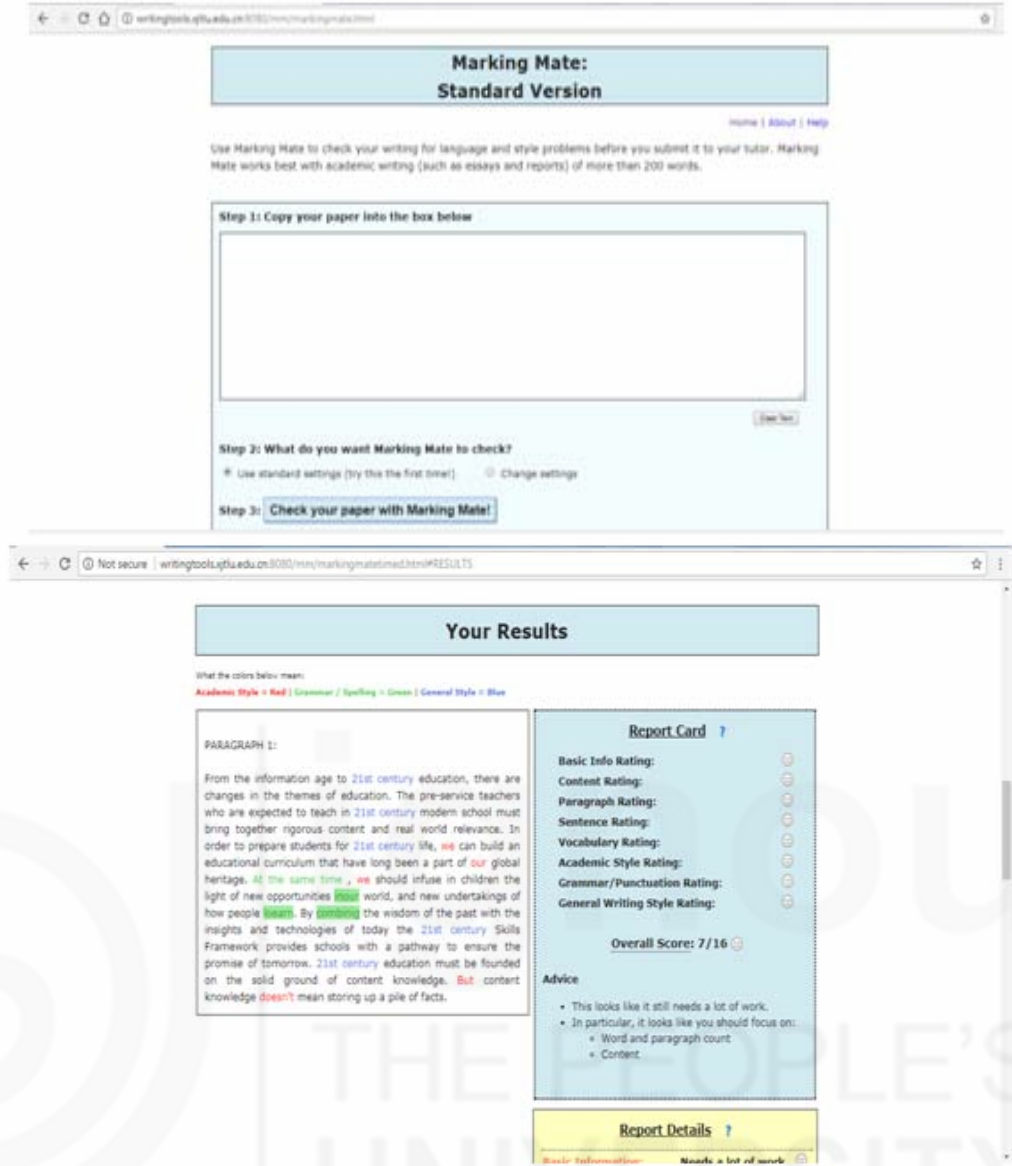


Fig.11.5: Homepage of Marking Mate

Source: writingtools.xjtlu.edu.cn:8080/mm/markingmate.html

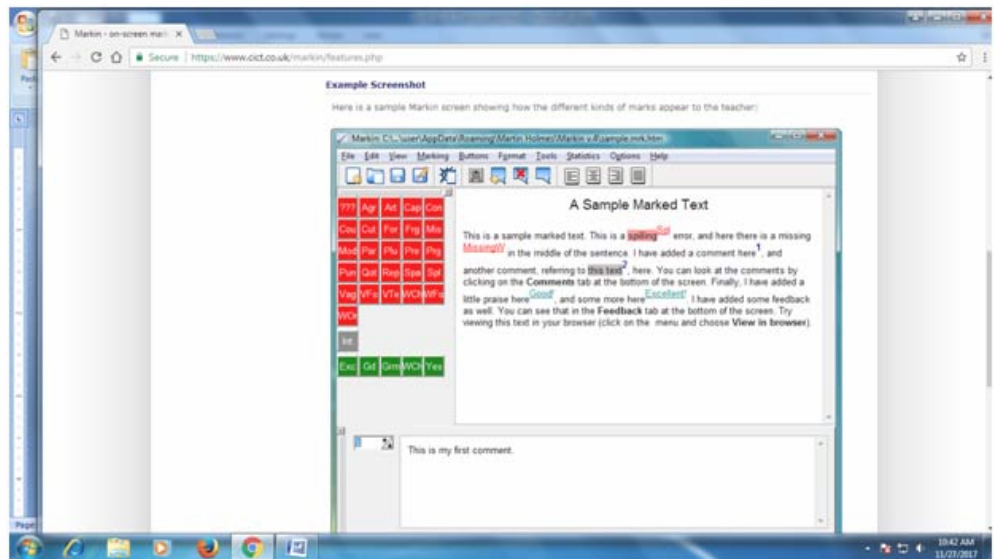


Fig.11.6: A Sample of Markin Screenshot

Source: http://www.cict.co.uk

### A Sample Marked Text

This is a sample marked text. This is a spelling error, and here there is a missing {\*} in the middle of the sentence. I have added a comment here<sup>1</sup>, and another comment, referring to this text<sup>2</sup>, here. You can look at the comments by clicking on the **Comments** tab at the bottom of the screen. Finally, I have added a little praise here {\*}, and some more here {\*}. I have added some feedback as well. You can see that in the **Feedback** tab at the bottom of the screen. Try viewing this text in your browser (click on the menu and choose **View in browser**).

#### Content

This is some feedback about the content of the essay. You can include hyperlinks in your feedback if you want to. In the output, hyperlinks will be normal Web links; in the Markin editing environment, you can Control+Click on them to go to the URL of the link.

#### Language

This is some more feedback, this time about the language used in the essay. You can write any kind of styled text you like in the feedback box. Text can be in **different colours** if you want to distinguish one kind of feedback from another.

#### 85%

- 1) This is my first comment.
- 2) This is my second comment.

#### Statistics

Instances	Annotation	Explanation	Help link	Categories	Value	Points lost	Points gained
					<b>Totals</b>	<b>-2</b>	<b>2</b>
1	MissingW	Missing word or words		Grammar	-1	-1	
1	Spl	Spelling		Spelling	-1	-1	
1	Excellent!	Excellent! Well done.		Content	1		1
1	Good!	Good!		Content	1		1

Source: <https://www.cict.co.uk/markin/sample.mrk.htm>

#### xi) E-portfolios

An e-portfolio is a digitized collection of artifacts, resources, and accomplishments of an individual or group that forms part of personal online spaces called as digital learning platforms. This collection can be text-based, graphic or multimedia elements archived on a CD or DVD or on a web site. E-portfolios are generally used as a means of supporting the formative and summative assessment of the collections of works produced by students. They can also act as powerful tools for encouraging online collaboration and for both self and peer assessment. As a learning and assessment tool, an e-portfolio may comprise artifacts and also expresses a reflective dimension. When used as a learning tool, e-portfolio contains the following:

- reflects on what learners understand
- encloses the main learning points
- proposes their future plans for learning

A portfolio can be seen both as a product and a process. As a product, it displays the collection of work documents of learners in their learning environment. Whereas, as a process-oriented tool, e-portfolios allows learners to monitor their own learning continuously, get feedback of their learning and reflect on their learning performance.

### xii) Web PA

ICT can be used for assessing group work by peers. In group work, there is a possibility of getting the same team mark for each student regardless of individual performance. In this context, introduction of WebPA as a group assessment tool makes a difference to the criticism of acquiring equal marks to team members without considering their individual performance.

WebPA is an online peer assessment tool that allows each student in a team to score individual contributions to group work. It allows each team member to assess the contribution made by their group members towards the final group mark based on the indicators decided by the teacher. Individual mark for each member is then calculated by the system. It allows students to assess their own and others' contribution, thereby leading to increased engagement in group work.

#### Procedure of WebPA

The following is the procedure of WebPA:

- Create a form that contains different questions and assessment criteria that your students can use to mark their team members. Once developed, this form can be re-used further.
- Create the groups you need and allot students to each group.
- Create an assessment schedule when it starts.
- You can assess your peer group now.
- Each student gets a weighting and the weighting is then multiplied by the group mark to finalize the actual mark.
- You can also put limit to peer assessment mark of a group. For example, you may want only 50% of the group mark to be done by the peer group, in that case the mark is calculated as follows:

Suppose the weightage of each student in a group is 1.1

Actual mark of the group =  $1.1 \times 80\% = 88\%$

If 50% of the group mark should be peer assessed then,  $1.1 \times (50\% \text{ of } 80\%) + (50\% \text{ of } 80\%) = 84\%$

**Source:** [webpaproject.lboro.ac.uk/welcome/what-is-webpa/](http://webpaproject.lboro.ac.uk/welcome/what-is-webpa/)

#### Benefits of Peer Assessment

Through peer assessment students develop deep self-evaluation skills. In order to assess others, students must have a good understanding of the assessment

criteria and the assignment task. This promotes a positive approach to learning. Through this, students learn the variety of ways a work could be done thus leading to greater engagement in the learning process.

Frequent formative feedback is possible through peer assessment and this may positively influence the work of students. Peer assessment reduces your workload by giving some responsibility to students. In some cases, it helps to reduce the pressure upon you to manage larger class and to give feedback to them.

### Benefits of WebPA

The following are the benefits that student gains by using WebPA:

- It saves time of teachers.
- It gives a picture of contribution of each group.
- Records are stored in a central place.
- It helps you provide timely feedback to learners.
- It provides an opportunity to reflect upon the group work process.
- It increases interpersonal skills of students such as communication, reflection, team spirit.
- It gives students an opportunity to express their views within a comfortable environment.
- It affects the behavior of students as they come to know that they are assessed by Teachers.

### How to use WebPA

The following are the steps you need to follow in order to use WebPA ([webpaproject.lboro.ac/uk/student-guidance/](http://webpaproject.lboro.ac/uk/student-guidance/))

#### i) How to Log into WebPA

In the login screen, enter you 'user name' and 'password' before clicking on the 'login' button. Once you have logged into WebPA, you are taken through to the WebPA Home page. Among the list of all the open assessments, if you want to take one of the assessments, you need to click on the button next to the assessment labelled 'Take Assessment'. If you follow the 'My Assessments' link, then you can access a list of all the assessments that have been set for you to take and all the finished assessments. If you submit marks to an assessment, then it shows 'Completed'. If you fail to complete an assessment, then it is marked 'Did not submit'. The '**view feedback**' link only appears once the assessment's deadline has passed.

#### ii) Taking an Assessment

While taking an assessment you are presented with a screen. At the top of the page is a link back to your assessment list. Clicking on this link cancels the assessment and take you back to that screen. If you have entered any marks, they will be forgotten. The assessment can be viewed or taken at any time until the closing deadline. But, remember if you do not take the assessment you may be punished when the marks are calculated.

After the link to return to the assessments link, is an explanation as to how the assessments work. Take time to read this line and if you don't understand then seek advice from your teacher.

Under the explanation of the assessment system there may be some introductory text from your teacher. If your teacher has decided to provide further information about your assessment it will be displayed in this section. You must enter a mark for every member of your team, including yourself. If you have missed some marks out, you will receive a warning when you try to submit the assessment.

### **iii) How to mark your team members**

The rest of the assessment screen is taken up with the assessment form. This form consists of different assessment criteria. Each criterion will examine certain aspects of your group's performance, and the key skills you should have employed.

There may be a description of below the criterion to help you understand what is being assessed. The description of the criterion is optional. Every criterion can have descriptions of what the different scores mean. Different teachers may use different marking schemes, so these scores and their descriptions may vary. The score descriptions are optional. If there are descriptions, you need time to read them for clarification of how to score the criterion.

Finally, there is the marking area. Each member of your team, including you, has his/her own row. Across the top are the different scores you can allocate for this criterion. For every member of your team, click the appropriate radio-button to assign them the mark you want. Typically, the scoring range will be something like 1 to 5 or according to the range fixed by the teacher.

You repeat the marking process for every member and for every criterion or skill. You must give everyone a mark for your scores to be accepted. If you miss out a mark then you will be warned and asked to check your assessment. When you have completed the assessment and are ready to submit, click the 'save marks' button.

Once you have clicked the 'save marks' button, you will receive an on-screen confirmation of the submission. You have now completed the assessment and can return to the assessment list, or log out of the WebPA system.

### **iv) Feedback**

Your teacher can select for all to receive feedback on how you have done in the assessment. If feedback is available for an assessment, then a 'view feedback' link will be displayed next to the finished assessment on the 'My Assessments' page. 'Finished Assessment' will only happen after the deadline for the assessment submission is over.

The WebPA system compares the marks that you have received, with the marks that your team members have received, and report on your performance. This feedback is only descriptive, if you want the grade, then you need to contact your teacher.



**Check Your Progress**

**Notes:** a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

3) Write any three benefits of quizzes.

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4) Mention any three benefits of WebPa.

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**11.6 ELECTRONIC SUPPORT AS A TOOL IN THE ASSESSMENT PROCESS**

Having dealt with objective and subjective tests, you might be thinking about other uses of computer for assessment purposes. In addition to using electronic packages to create unique tests, it is possible to use the computer to generate different tests automatically.

**Question banks:** Electronic selection of questions from a bank is one possibility for the electronic generation of tests. Creation of a question bank is done by several staff members from different institutions, who collaborate to share questions in the form of question bank. From this, a huge number of different tests can be generated.

**Electronic recording and analysis of results:** Technology offers a tool for assessment related activities like recording, analysis, general storage and management of results. There are a wide range of spreadsheets, statistical packages and database packages (e.g. Excel, Lotus 1-2-3, Database, SPSS, Minitab, Access), in which it is easy to enter data manually, if results are not already in electronic form. But care must be taken while generating data files.

Results from several assessments, entrance tests, courses or modules can be collated quickly, easily and accurately for discussion at examination boards, and the volume of paper required for long term storage can be reduced. Further, any trends within the data can be fully explored, which in turn provides valuable feedback for the academic team.

**Electronic seminars and Conferencing:** Computer and web-based technologies are used for presenting seminar/conference papers. Students who are participating in the seminars/conferences submit their papers through e-mails or online discussion forum. A teacher can work as the moderator of the discussion group and offer comments to the group members. There is possibility of peers to give their comments in online discussion forum.

**Diagnostic tools of assessment:** There are varieties of diagnostic tools which are used by teachers for student assessment. In the next section, we discuss two diagnostic tools i.e. i) diagnosis and ii) thesys that are used for assessment.

- i) **DIAGNOSYS:** It is a knowledge based package to investigate mathematics skills on entry to university. Teacher will identify the areas relevant for test. The test is adaptive, that is, every student gets different set of questions and they cannot alter them. Students attempt the test in computer. As students answer correctly or incorrectly, the computer selects a new question from its bank in order to check more fully on the specific skills of that student. Hence, it is not necessary to attempt the whole series of questions. The diagnostic report can be made available for either the student or the teacher. Individual or class profiles can be provided.
- ii) **THESYS:** It is another diagnostic tool used for assessment. It is a package designed as a formative self-assessment tool for students preparing a project report. It contains a series of questions examining the structure and content of the report. It also provides detailed suggestions on where additional information would be required in order to achieve a higher grade. An estimate of the grade that the project would obtain is also provided.

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## 11.7 USE OF BLOGS FOR ASSESSMENT

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Paquet (2003) refers to the term 'blog' which was initiated by Jorn Barger in 1997, as a log of the web — or weblog. It is like a website with reflective entries. It can be used as a noun and a verb. In its simplest form, it is a website with dated entries, presented in reverse chronological order and published on the Internet. The word 'blog' is both a noun and a verb. People who maintain a blog are called bloggers. The act of posting to a blog is called blogging and the distributed, collective, and interlinked world of blogging is the blogosphere. A blog allows individual students to keep a record of their learning progress. It is a record of what they have learnt, with reflective comments about their learning effectiveness and forms a narrative of their self-assessment. As a teacher, you can follow each student's blog, adding supportive comments as appropriate. This can, of course, be done at any time, and at any place where there is access to the Internet..

A blog offers interaction with reflective comments and also the ability to interlink related ideas. Other members of the community can also comment on blog entries to suggest additional considerations and explorations of the idea presented and promote further reflection and thought regarding a stated viewpoint.

The **advantages** of using blog as an assessment tool are:

- It can assess critical and analytical thinking.

- It can promote creative, intuitive and associational thinking (creative and associational thinking in relation to blogs being used as brainstorming tool and also as a resource for interlinking, commenting on interlinked ideas).
- It can promote analogical thinking.
- It has potential for increased access and exposure to quality information.
- It can combine solitary and social interactions.

Within a **pedagogical perspective** a blog can support:

- comments based on literature readings and student responses.
- a collaborative space for students to act as reviewers for course-related materials.
- an online gallery space for review of works, writings, etc. in progress, making use especially of the commenting feature.
- teachers encouraging reactions, reflections and ideas by commenting on their students' blogs.
- development of student portfolios.

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## 11.8 ADVANTAGES AND DISADVANTAGES OF ICT BASED ASSESSMENT

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Till now, we have discussed the various softwares that can be used to assess objective and subjective items. Now, let us examine the advantages and disadvantages of ICT based assessment. As suggested by Harvey and Moge (1999), the advantages for using computer in assessment are:

- Quick and accurate assessment of large numbers of assignment.
- Monitoring of student responses.
- Offering assessment in an open access environment.
- Saving assessment in a folder for longer time.
- Reuse of assessment whenever required.
- Assessment can be stored and reused.
- Immediate feedback can be given.
- Peer assessment and group assessment can be done by using chat-rooms and discussion boards.
- Participation of students in online discussions can be evaluated from the transcript

The following are the disadvantages of ICT based assessment:-

- Interruptions occurred in hardware and software system may affect the continuous assessment of learners.
- Control of access to both questions and student data may result in security issues.
- Accessibility to computers may lead to equity issues in ICT based assessment.
- Familiarity with screen-based work and variations in speed of the Internet connections affect student performance.

**Check Your Progress**

**Notes:** a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

5) List the two diagnostic tools used for assessment purpose

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6) What are the advantages and disadvantages of ICT based assessment?

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**11.9 LET US SUM UP**

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In this Unit, we began our discussion on the concept of assessment, and major types of assessment, We explained the differences between computer assisted assessment and computer based assessment. We discussed various online tools that are used for assessing objective and subjective types of questions. WebPA which is an online peer assessment tool which allows each student in a team to score individual contributions to group work. Peer feedback leads to better learning due to the evaluative processes used. We also explained how different types of questions that are used in conventional tests can be converted into online tests. In the we discussed advantages and disadvantages of ICT based assessment.

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**11.10 SUGGESTED READINGS AND REFERENCES**

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## 11.11 ANSWERS TO CHECK YOUR PROGRESS

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- 1) Formative assessment is to monitor the learning progress of the learner; it is also conducted to know whether the learning objectives have been achieved or not and to provide feedback on the teaching-learning process. Summative assessment is conducted to know the terminal behaviour of learner.
- 2) Computer-assisted assessment (CAA) refers to the use of computers to manage or support the assessment process and evaluate assignments. CAA is mostly used for scoring multiple-choice questions and questions with short-answer responses using optical mark reader (OMR). Computer Based Assessment is generally made through a computer. Computer based assessment means the use of digital tools for conducting assessment-related activity. Computer based assessment can be done using laptops, tablets, and even smart phones
- 3)
  - i) **Speed of marking for quizzes** – Results are available immediately without manual staff marking.
  - ii) **Flexible provision of feedback** – Feedback may be provided both at individual question level for correct and incorrect responses, and overall for the test as a whole.

- iii) **Reports** – Each question can be scrutinized via an automatically-generated report enabling examiners to check for any errors.
- 4) i) It gives a picture of contribution of each group.
  - ii) Records are stored in a central place.
  - iii) It helps you provide timely feedback to learners.
- 5) Diagnosis and thesys
- 6) Advantages:
  - Quick and accurate assessment of large numbers of assignment
  - Monitoring of student responses
  - Offering assessment in an open access environment
  - Saving assessment in a folder for longer time
  - Reuse of assessment when and then required
  - Assessment can be stored and reused
  - Immediate feedback can be given
  - Peer assessment and group assessment can be done by using chat-rooms and discussion boards
  - Participation of students in online discussions can be evaluated from the transcript

Disadvantages:- Interruptions occurred in hardware and software system may affect the continuous assessment of learners

- 1) Control of access to both questions and student data may result in security issues.
- 2) Accessibility to computers may lead to equity issues in ICT based assessment
- 3) Familiarity with screen-based work and variations in speed of internet connections will affect student performance