POST GRADUATE DIPLOMA IN EDUCATIONAL TECHNOLOGY (PGDET)
Course Code : MESP-135

MANUAL
FOR PROJECT WORK

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Letter to learners

Dear Learner

The programme, Post Graduate Diploma in Educational Technology (PGDET) comprises five courses. The programme is of 32 credits with four theory courses of six credits each and a project of 8 credits (a credit requires 30 hours of academic work relevant to the programme). The 'Project' is therefore, an integral component of the PGDET programme. It has been visualised as a set of activities that will enable you to:

● Apply the knowledge you have gained from the theoretical courses for carrying out various activities;

● Explore the ground realities pertaining to use of technology in educational processes.

This manual includes not only the activities that you should carry out but it also includes necessary information about the project. Therefore, **be sure to read this manual carefully before you begin the project.**

Even though you will be working on your own, you should not feel isolated. The theory courses and especially the instructions in this manual will enable you to carry out all the activities successfully. Further, to provide you with guided learning experience, the activities have been structured and step-wise directions are provided. However, you may contact us for assistance. Our contact details are mentioned in Table 1.

We would like to know about your experiences regarding the project. Please fill up the feedback format the end of this manual. Either scan the filled up form and mail it, or post it to us.

With best wishes

PGDET Coordinators

An overview of the manual

The first section of this manual includes frequently asked questions and their answers. The 2nd section describes the activities you need to carry out. These activities have been designed for helping you to explore the field realities pertaining to technology mediated teaching-learning processes. Hence, some activities will require sampling and construction of tools for data collection. As some of you may not be familiar with these processes, the 3rd section describes these briefly. You may read this section before carrying out the activities. The manual also includes a feedback form at the end. You must fill up the form and mail/post it to us.

About the activities

The activities have been designed in terms of the elements comprising a learning design (see unit1, MES134). The elements are -

- **Context** of the activity –to provide a theoretical perspective for the activity you would be carrying out;

- **Objective(s)** of the activity –to clarify why you should carry out the activity;

- **Your role** –to clarify in a step-wise manner the tasks you will perform;

- **Resource(s)-** to help you in locating the theoretical support required for an activity;

- **Learning outcome-** The activities are designed for facilitating theoretical understanding. To make the understanding assessable, it has been concretized as an 'output' of the activity.

- **Criteria for evaluation** of learning-The learning outcomes provide the criteria for evaluation of an activity.

The Credit(s) you earn from an activity has also been mentioned.

SECTION I: FREQUENTLY ASKED QUESTIONS

We have tried to list the frequently asked questions (FAQs) for the project. However, if you find that this list does not address your problems, you should contact us (Table1). The FAQs and their answers are as follows:

- **How do I select activities for the project work?**

From the activities listed for a course, you may select those you would like to carry out. **The only condition is that your choice must cover activities of at least two credits from each course.**

- **What about the activities with less than one credit?**

You may opt for more activity(s) from the same course so that you carry out activities of at least 2 credits for a course.

- **How many activities do I have to undertake?**

The number of activities is not important. It is the credit that matters. You may engage in as few as four activities, one from each course, provided you earn 2 credits for each course, and your total credits add up to eight.

- **Can I skip all the activities of a course and carry out 8 credits worth activities from the other courses?**

No. Even if the activities you carry out add up to 8 credits, by skipping all the activities of a course you would be leaving out a course. **You must carry out activities of at least 2 credits for each of the four courses.**

- **Will I have to go to various places for data collection?**

Some activities will require you to visit schools and/ other educational institutions in your neighborhood for collecting data. You should try to convince the authorities of these institutions about the objectives of your study and seek their permission before data collection. Instead of multiple visits to these institutions you may identify all those activities that can be carried out at an institution and try to collect data for all such activities simultaneously. Apart from your student's Identity Card, you may use the letter from our end.

Letter to the authorities of the institutions you may visit for your project work

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Dear Sir/Madam,

The programme, 'Post Graduate Diploma in Educational Technology' (PGDET) is being offered by the Indira Gandhi National Open University (IGNOU) through its School of Education. The PGDET programme intends to develop a workforce capable of integrating technology in teaching and training programmes, and includes a project based course.

Permission for visiting your institution will not only help the learner to successfully complete the project of the PGDET programme but will also contribute towards the greater cause of modernizing education. Therefore, your kind cooperation is solicited. It is requested that the bearer of this letter, who happens to be a student of PGDET, of IGNOU may kindly be permitted to visit your institution for work related to the project. The student's identity may be verified from his/her Identity Card issued by IGNOU.

Yours truly,
 PGDET Coordinators
School of Education, IGNOU, New Delhi-110068

● **Do I need a guide/supervisor for the project?**

No. You don't need supervisors. This manual has been designed for guiding you. However, as the activities are based on the theoretical courses of the PGDET programme, you must study these courses thoroughly before you begin the project.

● **Will the project work be evaluated?**

Yes, the project work would be assessed and grades will be awarded. You will also have to appear at a viva based on the 'project report' you submit.

● **How to write the report for an activity?**

The report will be the evidence of your having carried out the activity. It may include the following sections:

Introduction: The introduction should state the problem/issue/aspect that you will be studying. You may also state your perception of the significance of the activity and its benefits towards your learning.

Method of the study: You should explain the method/process/steps you have taken for carrying out the study. Some of the activities require you to collect data. In such cases you should describe the sampling technique; and tools and techniques used for data collection. You may also include a concise description of your experience of carrying out the activity.

Analysis and interpretation of the data: For activities involving data collection, the data, its analysis and interpretation are to be described. You should use technology for tabulating data and presenting it pictorially through graphs, charts and the like, and also for analyzing quantitative data. Figures &/ Tables should be numbered and captioned. Photographs are not essential but including relevant photographs would definitely be a good idea. However, you should take photographs only after seeking permission.

Conclusions: Some activities require data collection and interpretation. For such activities your conclusions and your reflection on the conclusions are to be included.

Reference: In case you refer to books, journals, and other documents or sources of information you should cite these within the text and also include the source in the reference section. You may see the units of the theory courses to understand how this is done.

*Annex***:** You should include the tools (observation schedule/ interview schedule/ questionnaire) you have developed for data collection in this section.

It is not necessary that these sections should comprise the report of all the activities you carry out. For activities not requiring these sections you may begin the report with an introduction, and describe the processes you carried out, and your experiences. You must also describe the output you developed.

● **Can I take content from various sources for preparing the project report?**

Reading content from various sources is definitely good but you must carry out the project on your own. You may use content from other sources but without copying it, and with proper citations. A project report with content copied from a source may be rejected.

- **In case of any problem, whom should I contact?**

Academic counsellors at study centers can help you. Further, you should feel free to contact us (Table 1):

Name	Telephone	Postal Address	Email
Sutapa Bose Ajith Kumar C.	011-29572942 011-29572940	School of Education, IGNOU, Maidan Garhi, New Delhi -110068	sbose@ignou.ac.in ajithchalil@ ignou.ac.in

Table 1

- **Activities pertain to different courses. How should I submit the reports of activities?**

  - The Project Report should include the reports of all the activities carried out.

  - Insert page number and bind/file the pages.

  - The report should have four sections, one for each course. At the beginning of every section you should mention the course code and course title, and then include the reports of the activities of the concerned course.

  - The report should be printed with double spacing in A4 sheets.

  - In case you attach any material like a pen drive/CD, mention it in the report.

  - You must keep a copy /softcopy of the Report before you submit it for evaluation.

  - The report should have a Cover Page.

Sample cover page

The **Project report of PGDET** offered by SOE, IGNOU is attached for evaluation. I may be informed about the **date of viva** at the address mentioned below.

Signature: Date
Name :
Enrôlement No.
Address: Email ID: Telephone:

- **Where should I submit the project report for evaluation?**

  You must submit the Project Report **to the concerned Regional Center of IGNOU**.

- **When should I submit the project report?**

  For the Term End Examination in June, you may submit the project report by 30th April and for the Term End Examination in December, you may submit it by 31st October. You have 4 years to complete the programme and you need to clear the Term End Examination and submit the assignments as well as the project report within this period.

- **What will be the criteria for evaluation?**

Logical presentation of the content and coherent communication of ideas in the activity reports is important. Further, we have mentioned the specific parameters of assessment (learning output, which is also the criteria for evaluation). Following assessment, the report would be graded on a five point scale in the following manner (Table 2):

Table 2: Grades and their interpretation

GRADE	INTERPRETATION	POINTS
A	Excellent	5 (Range: 4.5 & above)
B	Very Good	4 (Range: 3.5- 4.49)
C	Good	3 (Range: 2.5 –3.49)
D	Satisfactory	2 (Range: 1.5- 2.49)
E	Unsatisfactory	1 (Range: 0-1.49)

The grades assigned will be converted into their corresponding points. The average of the points will determine the grade for the project. For instance, if the grades obtained for the activities are A, C, C, D & E, the sum of the points will be 5+ 3+ 3+ 2+1=14 and the average will be 14/5= 2.8, i.e. C Grade (see Table 2). The project Report has 70% weight while viva will have 30% weight. You need to secure at least C Grade in the project report as well as in viva.

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SECTION II: ACTIVITIES

MES-131: EDUCATIONAL TECHNOLOGY: AN OVERVIEW

ACTIVITIES

Activity 1: Access to Information and Communication Technology and its use: an exploration

Credit-1/2

Context of the activity: ICT needs to be used regularly rather than occasionally. Further not only teachers should use it for teaching but learners should also use it during teaching- learning processes. Hence it is necessary to determine- 'who' uses ICT, for 'what' purpose, and 'how' frequently. This will help to determine not just an educational institution's access to ICT but also the nature of its use.

The **objective** of this activity is that you:

- Describe the ICTs available at 2 educational institutions; and

- Critique the nature of ICT use at these institutions.

Resources: Unit 5 (MES-131)

Your Role:

i. Select a government and a private educational institution (school/college/other educational institutions).

ii. Take permission from the head of the institution for your visit.

iii. Interview about 10 teachers and 20 students of the institutions to determine-

    a. the ICTs available in the institutions;

    b. the main users of ICT in a classroom/computer lab (teachers/students/both);

    c. the frequency of ICT use for teaching-learning purposes in a month;

    d. the purpose for which ICT is generally used during teaching-learning sessions ;

    e. ICT use for sharing information with parents;

iv. Interview 3 administrative staff to determine

    a. the administrative activities carried out using ICT;

    b. whether ICT is used regularly;

v. To corroborate the interview data you should observe the ICTs available and its use.

vi. Analyze the data collected to determine:

    a. The ICTs available;

    b. The ICTs used;

c. The frequency of ICT use by teachers, students, administrative staff in a month; and whether ICT is used regularly for teaching/administration/both;

d. Which group -teachers, students, administrative staff uses ICT the most (you may describe using percentage);

e. The purpose of use (by teachers, students, administrative staff).

vi. Develop a report (see next point- Learning output).

Learning output: A report of 500 words with the -

a. description of the tools you have used for data collection;

b. presentation of the data collected, and the findings;

c. interpretation of the findings.

Criteria for evaluation: data collected and its presentation; data analysis, the results obtained, and interpretations.

Activity 2: A study of national initiatives for enhancing access to academic resources

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Credit-1/2

Context of the activity : India is trying to enhance access to quality online educational resources through initiatives like e-pathshala, Swayamprabha, NROER, National Digital Library, and the like. These initiatives need to be assessed in terms of their utilization; and users' views about the quality of the resources.

The **objective** of this activity is that you:

● Determine the utilization of national initiatives for enhancing access to quality online educational resources ; and

● Report users' views on the quality of the resources.

Resource: Unit 6 (MES-131); web site of the concerned initiative like, e-pathshala, Swayamrabha and the like

Your role

i. Interview 30 teachers and 50 students of higher education/senior secondary level classes to determine whether they have

a. Used online educational resource available through national initiative(s).

b. For those who have not used, ask the reasons for not using the resources

ii. Identify 10 -15 people who have used/use the resource, to determine :

a. How frequently they used/use it - often/sometimes/rarely;

b. Whether they are satisfied with the quality of the resources;

      c.   The ease of navigation on the WebPages containing the resources;

      d.   Suggestions for improvement of the resources.

iii.   Use a few resources yourself for learning.

iv.   Analyze the data collected for determining the trends (findings) and match your experience with the findings for ii b-d

v.   Develop a report (see next point- Learning output)

Learning output: A report of about 500 words describing your data, findings, conclusions and reflections on the findings.

Criteria for evaluation: data collected and its presentation; data analysis, findings, and inferences.

Activity 3: Using technology for action research

Credit-1

Context of the activity: Research is an important activity in education and ICT facilitates it. Action research is carried out usually by teachers for solving immediate problems (such as the problem of bullying in a class; low attendance of some children; low achievement in a subject; lack of awareness in a locality for instance about the importance of washing hands, the components of a nutritious meal, and so on). ICT can support action research by supporting data collection and analysis, especially the analysis of quantitative data.

The **objective** of this activity is that you use ICT for carrying out an action research.

Resource: Unit 8, (MES-131)

Your role

i.   Identify a problem that requires research (so that you can use technology for data analysis, the research topic you select should require at-least some amount of quantitative data).;

ii.   Formulate objectives for the research (state what you want to research);

iii.   Select a sample comprising 30 teachers/ learners/ parents or other units as per the need of your study;

iv.   Use a free online survey tool developer, and develop an online survey tool for data collection. While developing the items ensure that some items seek quantitative data;

v.   Use the survey tool to collect data from the sample on aspects that will help you to understand the cause of the problem, and find its solution;

vi.   Use a software for data (quantitative) analysis; you may use free software;

vii.   Use technology to share your findings and experiences with your peers;

viii.   Develop a report (see next point- Learning output of the activity).

Learning output: A report of about 500 words describing the sample, the steps taken for the research, the experience of using ICT during various steps of the research; and the implications of using ICT for research.

Criteria for evaluation: research report**,** use of ICT; and reflections on the implications of ICT use for research.

Activity 4: Awareness about Open Educational Resources (OERs) and their utilisation

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Credit-1/2

Context of the activity: Educational resources available as Open Educational Resources (OERs) can be used for teaching instead of recreating resources. There are large repertoires of OERs but their utilization depends on awareness about these resources. It is therefore necessary to examine the level of awareness in this regard.

The **objective** of this activity is that you:

● Determine the level of awareness about OERs;

● Describe the extent of use of OERs.

Resource: Unit 8 (MES-131); Unit 4 (MES-133)

Your role

i. Choose 2 educational institutions. These may be senior secondary schools, colleges, universities or other educational institutions

ii. Select a sample of about 30 teachers and students from these educational institutions.

iii. Prepare a questionnaire for assessing the sample group's awareness about-

    a. the concept of OERs

    b. benefits of OERs for teaching and learning

    c. repositories of OERs

    d. licenses for use (of OERs)

iv. Use an OER for teaching/learning

v. Analyse the data obtained and match your experiences of using an OER with the findings for iii b.

vi. Prepare a report (see next point-   Learning output)

Learning output: A report of about 300 words describing the process of data collection, presentation of data; the findings and your reflections on the findings.

Criteria for evaluation: data and its presentation; data analysis, the results obtained, and inferences.

Activity 5: A Study of the management of ICT

Credit-1/2

Context of the activity : ICT use in educational institutions needs to be managed. This requires processes such as visualizing the needs, procuring technology as per the needs and maintaining technology. The creation of an enabling culture that encourages effective use of technology is also a key strategy for management.

The **objective** of this activity is that you discuss with teachers and principals the steps taken for procuring and managing technology in educational institutions.

Resource: Unit 7 (MES-131); Unit 8 (MES-133)

Your role

i.   Contact about 25-30 teachers. You may also include the principals of a few schools/colleges/ other educational institutions.

ii.   Develop an interview schedule with items that help you to understand the respondents' views on–

    a.   ICT needs of their institution;

    b.   measures adopted for procuring ICT facilities;

    c.   maintenance of ICT facilities;

    d.   barriers to ICT procurement and maintenance;

    e.   barriers to ICT use;

    f.   measures adopted for creating an enabling environment for ICT use;

iii.   Analyze the data collected.

iv.   Prepare a report (see next point- Learning output).

Learning output: A report of about 500 words describing the data, the findings and your reflection on the findings.

Criteria for evaluation: data collected and its presentation; data analysis, depiction of the results obtained, inferences, and interpretations.

Activity 6: Determination of awareness about the legal perspective of ICT use

Credit-1/2

Context of the activity: ICT use in education has several perspectives. For instance, there is a legal perspective that calls for prudence in using and sharing online content. Hence, awareness about the legal perspective of ICT use needs to be examined.

The **objective** of this activity is that you describe ICT users' level of awareness about the legal perspective of ICT use.

Resource: Unit 2 (MES-131)

Your role

i.   Contact about 15 teachers and 20 students of higher education institutions;

ii. Develop an interview schedule with items that help you to assess the respondents' understanding of–

    a.   Copyright of online content, the consequences of its violation, and measures that ensure safe use of content;

    b.   Implications of 'copying' online content for projects and assignments;

    c.   Consequences of indiscreet postings on social media;

    d.   Consequences of indiscreet sharing of content using social media;

    e.   Consequences of use of ICT that violates privacy and dignity of individuals/groups;

iii. Analyze the data collected.

iv. Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words describing the process of data collection, the data and its presentation; the findings and your reflection on the findings.

Criteria for evaluation: data collected and its presentation; data analysis; inferences, and reflections.

Activity 7: Determination of awareness about the impact of prolonged use of ICT on health

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Credit-1/2

Context of the activity: ICT use in education has several perspectives. One of these is health. Prolonged use of ICT by children and young people implies lesser engagement in sports and outdoor physical activities.

The **objective** of this activity is that you describe the level of awareness about the impact of prolonged use of ICT on health.

Resource: Unit 2 (MES-131)

Your role

i.   Contact about 20 parents, and 20 students of classes V to VIII;

ii. Develop an interview schedule for parents that help you to assess-

    a.   Parents' views on advantages and disadvantages of ICT use by children;

    b.   Number of hours children use ICT gadgets;

    c.   Parents' views on the benefits of outdoor games and reading books over prolonged use of ICT.

iii.   Develop an interview schedule for children that help you to assess –

      a.   Number of hours children use ICT gadgets;

      b.   Number of hours children engage in sports;

      c.   Number of hours children read books;

      d.   Views on the benefits of outdoor games, and reading books;

      e.   Views on the benefits of using ICT for entertainment;

iv.   Analyze the data collected.

iv.   Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words describing the process of data collection, the findings and your reflection on the findings.

Criteria for evaluation: data and its presentation; inferences, and reflections.

Activity 8: Gender and language as barriers to ICT use: A study

Credit-1/2

Context of the activity: Apart from access to the hardware, access to software may be a barrier to ICT use. For many users the language in which content is usually available over Internet may restrict its use. Further, unless the user is from a socially privileged section, women may have lesser access to technologies than men. These issues need to be studied.

The **objective** of this activity is that you determine the impact of gender and language (of online content) on ICT use.

Resource: Unit 2 (MES-131)

Your role

i.   Contact about 30 families (preferably those that are not from the privileged section) and determine through an interview whether -

      a.   The women (including the girl child) have as much access to ICT (hardware) as the male members of the families.

      b.   Whether the family can access content in languages other than English.

ii.   Analyze the data collected for determining the trends.

iii.   Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words describing the process of data collection, presentation of data; the findings and your reflection on the findings.

Criteria for evaluation: data collected and its presentation; the inferences, and reflections.

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MES-132: COMPUTER IN EDUCATION

ACTIVITIES

> ### Activity 1: Access to computer peripherals and softwares: A survey

Credit-1/2

Context of the activity: Peripheral devices of computers help us to provide inputs, get outputs, and store data. Software is used for carrying out various functions like word-processing, developing presentations and so on. Therefore, access to these resources vis a vis teaching –learning requirements at educational institutions has to be examined.

The **objective** of the activity is that you:

● develop an inventory of the peripheral devices of the computers at a school computer lab;

● list the software available ; and

● In the light of the teaching-learning needs, critique the adequacy of the peripherals and software.

Resource: Unit 1, MES 132

Your Role

i. Visit the computer lab of any school. With the help of the computer lab in-charge/concerned teacher list the various computer peripherals of each computer of the lab.

ii. List the software available.

iii. Fill the inventory (see the framework for inventory) with information pertaining to peripherals and software.

iv. Interview the computer lab in-charge/teacher and ask the following:

    a. Are the peripherals in working condition?

    b. Are the peripherals adequate for teaching the school subjects or some more are needed?

    c. Are the software licensed or unlicensed versions?

    d. Who uses the software more-teachers or students?

    e. Which Free and Open Source Software could be installed in the lab so as to make the lab experience enriching for the students?

v. Analyze the data collected for determining the trends.

vi. Fill up the inventory columns pertaining to suggestions.

vii. Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words describing the process of data collection, the findings (inventory) and your reflection on the findings. Include the inventory you have prepared in the report.

Criteria for evaluation: findings**;** suggestions for improving the lab; basis for the suggestions; and the inventory.

Framework of Inventory (add rows as per your needs)

Number of computers	Peripheral devices		Software Details		Suggestions	
	Type available	Are the peripheral devices in working condition?	Are the software licensed?	Are the software used?	From teachers and/ computer lab in-charge	Your suggestions for improvement

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Activity 2: Using open resources for teaching

Credit-1/2

Context of the activity: See Activity 4 of MES 131

The **objective** of this activity is to enable you to navigate an online repository of open resources for learning (OERs & RLOs) and identify resources that suit your needs and purpose.

Resource: Unit 3, MES-132; Unit 4, MES133; Unit 6, MES-134. For OERs you may use repositories like that available at the website www.nroer.gov.in. For RLOs you may use repositories available at https://www.nottingham.ac.uk/nursing/sonet/rlos/rlolist.html.old (websites may not be permanent; use those you can access).

Your role

i.   Select a topic that you would like to teach.

ii.   Visit an online repository of OERs/RLOs.

iii.   Identify any five resources that you can use for teaching the topic.

iv.   Explain how the resources would benefit the instructions you plan to impart.

v.   Modify any two resources as per your instructional needs.

vi.   Prepare a report (see next point- Learning output)

Learning output: A report of about 300-500 words. The report should mention- the website; describe the repository, and in particular the resource you have selected; and the reasons for selecting it. Describe the modification you have carried out. Attach relevant screen shots.

Criteria for evaluation: description of the suitability of the resource selected vis a vis the topic to be taught; modification carried out and its purpose; and the screen shots.

Activity 3: Becoming data wise

Credit-1/2

Context of the activity: Data processing is easier with technology. However knowing this is not enough. There is a need to practice it.

The **objective** of this activity is to enable you to use software for data processing.

Resource: Units 3, MES-132.

Your role:

i.   Collect the scores obtained in a test by 25 learners of two sections of a class/ scores obtained for two subjects; or you may use data like that for average rainfall or temperature of a locality in the months of 2018 and 2019.

ii. Use a spreadsheet to analyze the scores obtained.

iii. Present the data pictorially (charts and graphs).

iv. Process the data for finding the answers to the following questions:

    a.   What are the highest and lowest scores in each set?

    b.   What is the mean score of each set?

    c.   How many scores are above the mean score in each set?

    d.   Which set has higher mean?

iv. Analyze the data collected.

v.   Draw inferences and interpret these.

vi. Prepare a report (see next point- Learning output)

Learning output: A report of 300-500 words that describes the data (include pictorial representations); outcomes of analysis and your interpretations of the findings.

Criteria for evaluation: The data and its presentation of data;   inferences and their interpretation.

Activity 4: A survey of awareness of cyber security measures among school teachers

Credit: 1/2

Context of the activity and its objectives: While using ICT it is important to follow cyber security measures. Cyber crimes are of various types but some precautions can enhance safety. This requires awareness about the safety measures and this should begin at schools.

The **objective** of the activity is that you:

● determine the level of awareness of school teachers about security measures that lessen the threat of cyber crimes; and

● Project teachers' level of awareness through a poster.

Resource: Unit 4-5, MES-132; https://ictcurriculum.gov.in/mod/page/view.php?id=1246 (websites may not be permanent; you may visit others in case you cannot access this).

Your role:

i. Take a sample of about 30 school teachers.

ii. Develop a questionnaire/interview schedule with items that will elicit information about teachers' level of awareness about :

    a. the concept of cyber crimes and cyber security

    b. Signs and symptoms of threats to cyber security

    c. Security measures for enhancing safety against cyber crimes

    d. Steps for protecting data

    e. Steps to be taken following a cyber attack

iii. Analyse the data you have collected and classify the level of awareness -as high, moderate, and low.

iv. Draw inferences about the aspects you have examined and interpret these.

v. Prepare a report (see next point- Learning output)

Learning outputs: the report that describes **a.** the data, its presentation, analysis, conclusions and your reflections on it. **b.** a poster based on the survey results to highlight safe practices that teachers must follow to ensure cyber security. Enclose in the report an image of the poster

Criteria for evaluation: The data and its presentation, conclusions, reflections on conclusions and the image of the poster.

Activity 5: Preparing slides for presentation on keeping digital data safe

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Credit: 1/2

Context of the activity: same as that of the previous activity

The **objective** of the activity is that you create slides for making a presentation on the topic 'steps for securing digital data'.

Resource: Units 3-5, MES 132

Your role:

i. Develop 8-10 slides for a presentation

ii. Record an audio and video of your/your peer's narrative of securing digital data, using your phone. You may edit these using an editing software.

iii. Apart from text, insert in the slides, suitable images, the audio and video that you have recorded.

iv. Share the presentation with your peers and take feedback from them.

v. Prepare a report (see next point- Learning output)

Learning outputs: A report of about 300 words that describes the steps you have taken for inserting text, audio and video in the slides. Enclose in the report the screen shots of the slides.

Criteria for evaluation: The description of the steps taken for including content (audio, video and the like) in the slides; and the screen shots of the slides.

Activity 6: Evaluation of websites and bookmarking web pages

Credit: 1/2

Context of the activity: Websites should be easy to navigate, have links that are functional and provide complete, updated and relevant information. Evaluating websites is therefore important and useful web pages should be bookmarked for facilitating subsequent retrieval. Learning to create and manage bookmarks therefore, saves time and efforts while accessing content and you must practice it.

The **objective** of this activity is that you:

● Evaluate the usefulness of web pages;

● Select web pages, create and organise bookmarks for retrieving them later;

● Use bookmarks to locate resources.

Resource: Unit 2, MES132

Your role:

i. Visit a few websites having information about-

● In-service teacher education programmes offered by universities;

● MOOC courses for teacher education;

● Museum;

● Current affairs;

● Educational Technology.

ii. Evaluate the usefulness of the web pages you have visited.

iii Create bookmarks for 10 web pages that you feel are useful; organise these bookmarks into five different folders; and rename the folders as per their category.

iv. Use the bookmarks to access the websites.

v. Prepare a report (see next point- Learning Output)

Learning output: A report of about 500 words that describe your views about the websites and the

reasons for selecting and bookmarking some of these; the steps followed for creating and organising bookmarks; the benefits of bookmarking.

Criteria for evaluation: evaluation of websites/web pages; steps followed for creating and organising bookmarks; description of utility of bookmarking.

Activity 7: A study of use of assistive technology

Credit: 1/2

Context of the activity: Assistive technologies enable those with special needs to learn and communicate. These technologies can be classified into various categories. However, whether these technologies are being used by those with special needs has to be examined.

The **objective** of this activity is that you describe the use of various categories of assistive technologies by learners with special needs.

Resource: Unit 7, MES132

Your role:

i. Assistive technologies can be classified into different categories. Select learners with special needs who could benefit from each category of assistive technology;

ii. Interview the learners to find out :

    a. How they navigate the challenges in their daily lives;

    b. Whether they are aware of assistive technologies;

    c. Whether they use assistive technologies for learning;

    d. In case they are not using assistive technologies, the reasons for it;

    e. Examine how the features of assistive devices can fulfill the needs of these learners.

iii. Analyze the data collected for determining the trends.

iv. Draw inferences and interpret them.

v. Prepare a report (see next point- Learning output)

Learning output: A report of 500 words that describe the data, inferences, and your interpretations.

Criteria for evaluation: the data and its presentation, your inferences and interpretations.

Activity 8: Exploring the use of assistive technologies and universal learning design

Credit: 1/2

Context of the activity: Teachers need to adopt strategies that facilitate learning in inclusive classrooms having children with diverse needs. Various technological solutions and the use of universal learning design (ULD) are integral parts of these strategies.

The o**bjective** of this activity is that you explore and describe the use of assistive technology in classrooms.

Resource: Unit 6-8, MES132

Your role:

i.   Visit 3 schools that admit children with special needs.

ii. Interview teachers to collect information about:

    a.   Their access to technology for creating inclusive learning environment;

    b.   Utilization of technology for creating inclusive learning environment in classrooms;

    c.   The use of ULD for teaching classes having children with special needs;

    d.   The problems faced while using technology for making classrooms inclusive;

    e.   The barriers to adoption of ULD.

iii. Analyse the data and draw inferences. Interpret the inferences.

vi. Prepare a report (see next point- Learning outputs)

Learning outputs: A report of about 500 words that describe the data, the findings and interpretations.

Criteria for evaluation: The data and its presentation; the findings and interpretations.

MES-133: SELECTION AND INTEGRATION OF TECHNOLOGY IN EDUCATIONAL PROCESSES

ACTIVITIES

Activity 1: Examination of the style of communication used in educational video programmes

Credit-1/2

Context of the activity: Instructions including that imparted through medium/media involve communication. Studying how an educational message is communicated is hence important. Communication is verbal as well as non verbal. Verbal communication can be critiqued in terms of the style of presentation, the quality and authenticity of the content, the pace of delivery, the ability to inform and/ explain, and other such factors. Non verbal communication may be critiqued in terms of body posture, gestures, eye contact, facial expression, and so on.

The **objective** of this activity is that you critique the style of communication used in any four educational video programmes.

Resource: Unit 1, MES 133

Your Role: Your role would comprise the following activities:

i.   Videos on different topics are available at NROER, Swayamprabha and many other digital repositories. Select **four** videos from a repository(s) and watch these carefully. Observe the presentation skills of the presenter.

ii.   In the light of the characteristics of effective communication, critique the verbal and non-verbal communication of each video.

iii. Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words. The report should mention the repository, and in particular the video programmes you have selected; and critique the verbal and non verbal communication.

Criteria for evaluation: the critique of verbal and non verbal communication for each of the four videos.

Activity 2: The use of various media/channels of communication for instructional purpose: An exploration

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Credit-1/2

Context of the activity: Teachers need to communicate with learners on a continuous basis and ICT offers several media/channels of communication. These include social media, emails, online discussion forums, and the like. It is important to explore the use of these communication channels by teachers.

The **objective** of this activity is that you explore how teachers are communicating with learners.

Resource: Unit 1, MES 133

Your Role: Your role would comprise the following activities:

i.   Select about 30 teachers teaching in schools and conventional (teaching face to face in classrooms)higher education institutions;

ii.   Either interview teachers or distribute questionnaires (you may also use online survey) to determine whether -

    a.   Teachers use ICT for communicating with learners.

    b.   In case teachers use ICT for communication,

        ❑   Which medium do they prefer for communication?

        ❑   In a week how frequently do they use technology for communication?

        ❑   Generally for which purpose do they communicate?

    c.   If they do not use technology for communication, what are the reasons for it?

iii. Prepare a report (see next point- Learning output)

Learning output: A report of about 300-400 words. The report should include the data, the trends emerging from data, inferences and reflections on the inferences.

Criteria for evaluation: the data and its presentation, findings, and their interpretations.

Activity 3: Selection of appropriate technology

Credit-1/2

Context of the activity: 'Selection' of technology is a process that takes into consideration the pedagogic potential of technologies vis a vis the nature of the content to be taught. This is necessary for utilizing the potential of technology effectively.

The **objective** of this activity is that you select appropriate technology (s) for teaching a particular content.

Resource: Unit 3, MES 133; Unit 2-5, MES 134

Your Role: Your role would comprise the following activities:

i.   Select 5 content areas that you would like to teach;

ii.   Select appropriate technology(s) for teaching the content and justify the selection in the light of the content to be taught;

iii. Prepare a report (see next point- Learning Output).

Learning output: A report of about 300-500 words. The report should include justification of technology selection vis a vis the content to be taught.

Criteria for evaluation: justification of technology selection

Activity 4: Development and evaluation of Open Educational Resource (OER)

Credit-1/2

Context of the activity: see the activities pertaining to OER (Unit 4 , MES 133).

The **objective** of this activity is that you –

- Develop OERs

- Select appropriate creative common license for the OER

- Publish OERs

Resource: Unit 4, MES 133; Unit 6 , MES 134

Your Role: Your role would comprise the following activities:

i.   Select any one topic for teaching;

ii.   Select the medium you will use for teaching the content;

iii. Develop instructional content;

iv.   Assign a creative commons license to the content to make it an OER;

v.   Evaluate the OER using the TIPS framework;

vi.   Publish the OER (software like many authorwares and even that for developing slides for presentation, provide option for publishing the content)

vii. Prepare a report (see next point- Learning Output).

Learning output: A report of about 300-500 words. The report should justify the choice of media, the steps taken for content development, screen shots/images of the constituent parts (like slides) of the OER; outcomes of evaluation of the OER.

Criteria for evaluation: justification of the choice of media, the steps taken for content development, screen shots/images of the constituent parts (like slides) of the OER and outcomes of evaluation of the OER.

Activity 5: Application of TPACK framework for developing instructional strategy

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Credit-1/2

Context of the activity: Technology facilitates teaching and learning but it needs to be integrated into instructions for utilizing its potential. Technology integration needs a framework, and TPACK is one such framework that guides technology integration.

The **objective** of this activity is that you –

- Select appropriate technology (s) for teaching the content;

- Develop a strategy for integration of the technologies selected into instructional processes, using the TPACK framework;

Resource:

Units 3 & 5, MES-133; Unit 2, MES-134

Examples of application of TPACK

The steps to diagnose and address malnutrition (content) can be taught using social media (technology) through the project method (pedagogy). Similarly microscope (technology) is useful for teaching the concept of cells (content) through demonstration method (pedagogy).

Your Role: Your role would comprise the following activities:

i. Apply TPACK to select pedagogy, content and technology for teaching 5 topics.

ii. Justify the selection of pedagogy, content and technology by explaining the relation among these three aspects in the context of the topic to be taught

iii. Prepare an instructional strategy mentioning the topic, instructional objectives, the content to be taught, the technology to be used for providing learning experiences.

iv. Teach a group of 4-5 learners using the instructional strategy.

Prepare a report (see next point- Learning Output).

Learning output: A report of about 500 words. The report should include justification of pedagogy, content and technology selection; description of the instructional strategy and its implementation.

Criteria for evaluation: justification of pedagogy, content and technology selection; description of the instructional strategy

> **Activity 6: Designing an interactive instructional strategy that blends real and virtual learning space**

Credit-1

Context of the activity: Learning spaces are no longer confined to classrooms. Teachers can extend the learning space by adding to the learning space of classrooms the virtual teaching-learning space. Therefore learners can learn from places outside classrooms, and if asynchronous technology is used, they can learn at a timing of their choice, often at their own pace. Further, the blending of learning spaces can be designed for making teaching-learning an interactive process, and creating learning environments that are engaging, effective, and adaptive to individual needs.

The **objective** of this activity is that you -

● Develop a strategy for teaching through an interactive teaching-learning process.

● Integrate asynchronous technology to face to face teaching to blend real and virtual learning space.

Resource: Unit 6, MES 133

Your Role: Your role would comprise the following activities:

i. Select a group of 4-5 learners who have access to the internet and are willing to interact online on a topic. If you are a teacher select your students.

ii. Select a topic which is interesting to the learners. The topic can pertain to films, music, sports, politics, environment, and so on.

iii. Select a technology for facilitating interactions.

iv. Develop a strategy (plan) for teaching by facilitating interactions. The strategy needs to clarify-

   a. the mechanisms for interactions (whether you will use a discussion forum or chat or other technologies for the interactions);

   b. your role in facilitating interactions (for example by awarding grades for questions and feedback);

   c. the schedule of interaction vis a vis the various aspects of the concept to be taught;

   d. measures you will adopt for keeping the interactions focused;

   e. the learning outcomes you expect;

v. Set the rule that every learner/participant should respond to the question you ask and respond to at least two of the responses of their peers. Thus ensure that learners/participants interact with you and with each other.

vi. Teach the group some aspects of a topic in face to face manner and select some aspects on which there can be online discussions. Ask a few thought provoking questions everyday for one week to initiate the discussion.

vii. To encourage and sustain interactions, respond as soon as possible to each comment/answer posted by a learner. Post messages that keep the discussions focussed, and encourage interaction among peers and also with you.

viii. Examine the impact of the online discussions on face to face teaching and vice versa.

ix. Prepare a report (see next point- Learning Output).

Learning output: A report of about 500 words. The report should describe your experience of facilitating interactive learning using a discussion forum and its impact on learning. It should also include screen shots of the pages showing comments/responses

Criteria for evaluation: description of your experience of using a discussion forum for teaching; its advantages and disadvantages, and screen shots of the pages showing comments/responses.

Activity 7: Use of technology for assessment: A study

Credit-1

Context of the activity: Technology is used in many ways for assessing learning, and one such use is for online tests. Entrance tests held at the national level are now mostly online. Learning about the experience of those taking the test is therefore necessary.

The **objective** of this activity is that you describe learners' experience of online assessment.

Resource: Unit 7, MES 133

Your Role: Your role would comprise the following activities:

i. Select about 30 individuals who have taken online entrance tests (for example joint entrance tests/ mock tests) and about 4 teachers who prepare learners for these tests.

ii. Either conduct an interview or distribute a questionnaire (you may also use online survey) with items that will determine-

    a. Whether teachers use ICT for assessment in classrooms on a regular basis;

       ❑ If yes, the technologies used and their purpose;

       ❑ If no , the reasons for it;

    b. Perception of advantages and disadvantages of online tests during entrance examinations; the fairness of tests and other such pertinent aspects.

iii. Prepare a report (see next point- Learning output)

Learning output: A report of about 300-500 words. The report should describe the data the findings and interpretations of the findings.

Criteria for evaluation: the data, the findings and interpretations of the findings.

Activity 8: A study of tools used for school management

Credit-1/2

Context of the activity: ICT facilitates storage, collection, processing and sharing data. Hence ICT is used for management of educational institutions. Therefore, it is necessary to know about the tools being used for processes like admission, accounting and so on and also about the ERP used in educational institutions.

The **objective** of this activity is that you will describe the technologies used for the administrative activities of educational institutions.

Resource: Unit 8, MES 133

Your Role: Your role would comprise the following activities:

i. Visit any two educational institutions that use ERP.

ii. Interview the concerned staff to know about

    a. the tools (software) used for various administrative processes like admission, management of finance, recording data pertaining to student and staff profile, evaluation of learning, and so on and how these facilitate their work;

    b. any five features of the ERP used and their role in administration of the institution

    c. problems/shortcomings of the tools and the ERP.

iii. Prepare a report (see next point- Learning output)

Learning output: A report of about 500 words. The report should describe the tools and the corresponding functions; and the features of ERP.

Criteria for evaluation: description of the tools and the corresponding functions; the features of ERP; and the problems/shortcomings of the tools and the ERP.

MES-134: DESIGN, DEVELOPMENT AND DELIVERY OF COURSEWARE

ACTIVITIES

> **Activity 1: Using a model of instructional design for designing instructions**

Credit-1/2

Context of the activity:

An instructional design (ID) guides the development of instructional content. Robert Gagne described a series of nine events for ID. These nine events remain pertinent but there are now many models of ID.

The **objective** of this activity is that for teaching a concept, you select a model of ID and use it to design instructions.

Resources: Unit 1- 6 (MES-134)

Your Role:

i. Select a concept that you would like to teach and a model of ID for designing instructions for it.

ii. In the light of the content to be taught and the model you have selected develop a 'plan' that describes the steps you will take for designing instructions.

iii. Develop a report (see next point- Learning output)

Learning output: A report of 500 words describing your plan for the steps to be taken for designing instructions. You should also include your reflections on the advantages and the shortcomings of the model.

Criteria for evaluation: description of the steps (components) of a model of ID in the light of the content to be taught; and your reflections.

Activity 2: Development of learning design

Credit-1/2

Context of the activity:

IDs are popular and still in use but a learning design is a relatively new development. Unlike an ID it focuses on learning and hence, it clarifies the tasks learners would be doing. Hence the emphasis is on the learning outcomes, instead of instructional objectives.

The **objective** of this activity is that for teaching a concept, you develop a learning design.

Resources: Unit 1 (MES-134)

Your Role:

i. Select any four concepts that you would like to teach.

ii. Develop a learning design for teaching each of these four concepts.

iii. Develop a report (see next point- Learning output)

Learning output: A report of about 400-500 words describing the elements (components) of the design vis a vis the concept to be taught.

Criteria for evaluation: description of the elements (components) of the design.

Activity 3: Need Survey for determining audience profile

Credits-1

Context of the activity: Need survey helps to construct the audience profile. It involves assessment of learning needs and determination of demographic details pertinent for courseware development.

The **objective** of this activity is that you carry out need survey and use the information it yields for designing a courseware and planning its delivery.

Resources: Unit 2-6 (MES-134)

Your Role: Your role would comprise the following activities:

i. Select a target group with about 20 people for whom you want to develop the courseware.

ii. Develop the necessary tools, which could be questionnaire &/interview schedule for data collection. One section of the tool must include items for eliciting demographic details. The other section must assess the level of learning, and the learning experiences required.

iii.   Collect data; and organize and analyze the data.

iv.   Draw your inferences about demographic and learning needs;

v.   Prepare the audience profile based on your inferences;

vi.   State the objectives of the courseware, the main concepts to be taught and the delivery mechanisms based on the need survey.

vii.   Prepare a Report(see next point- Learning output)

Learning output: A report of about 600 words that includes the data, the findings, the profile of the target group generated on the basis of the findings; the objectives of the courseware and the main concepts to be taught in the light of the learning needs you have identified, the delivery mechanisms to be adopted vis a vis the audience profile you have developed.

Criteria for evaluation: the data, findings, the profile of the target group; the objectives of the courseware, the main concepts to be taught and the delivery mechanisms to be adopted.

Activity 4: Structuring content and developing instructional objectives

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Credit-1/2

Context of the activity:

The content to be taught needs to be structured so that the ideas with which learners are familiar are presented first. Hence for organizing the content to be taught it has to be analysed through procedures like task analysis and concept mapping. Instructional objectives not only reflect what would be taught but also the sequence in which it would be taught. Thus instructional objectives indicate the structure of the content.

The **objective** of this activity is that for the content pertaining to a concept you would like to teach, you:

●   Carry out task analysis and concept mapping; and

●   Formulate instructional objectives pertaining to the cognitive domain.

Resources: Unit 1, 2 (MES-134)

Your Role:

i.   Select any four concepts that you would like to teach.

ii.   For each concept develop a concept map, and also carry out task analysis.

iii.   Formulate at least three instructional objectives of different levels of the hierarchy of learning, for each concept

Learning output: The concept maps; and task analysis; and instructional objectives developed for each concept.

Criteria for evaluation: see learning output

Activity 5: Development of self learning material for the print medium

Credits-2

Context of the activity: Self learning material (SLM) in the print medium as well as text based instructions imparted through the web requires the ability to communicate through text for facilitating self learning.

The **objective** of this activity is that you develop a SLM unit for the print medium.

Resources: Unit 3 (MES-134)

Your Role:

i.   Select any concept that you would like to teach.

ii.   Write the instructional objectives.

iii.   Develop the structure of the unit and then its first, middle and end parts (the SLM should be of about 1500 words).

iv.   Ask your peers (2-3) to read the SLM and give feedback.

v.   Use the feedback for improving the SLM.

Learning output: The SLM and the feedback

Criteria for evaluation: see learner output.

Activity 6: Evaluation of courseware

Credits-2

Context of the activity: Evaluation of courseware is integral to instructional designing. The information generated from the evaluation informs revision.

The **objective** of this activity is that you evaluate courseware in different media.

Resources: Unit 2 (MES-134)

Your Role: Your role would comprise the following activities:

i.   Select courseware in different media (a unit of a PGDET course; an educational audio, a video, and a multimedia programme).

ii.   You may download the unit, and the audio, video and multimedia programmes.

iii.   Read/Listen/ watch the courseware carefully. Evaluate these along the following dimensions:

    a.   Printed courseware – content selection, title, language (clarity, lucidity); adequacy, authenticity and relevance of the content; structuring, sequencing and organization of the content; introduction, objectives, and conclusion; pedagogic features, assessment tools; illustrations,, and referencing.

    b.   Audio courseware – content selection vis a vis the potential of audio medium, title, language (clarity, lucidity); adequacy, authenticity and relevance of the content; structuring, sequencing

and organization of the content; introduction (mechanisms for hooking);and conclusion; format; sound effects

c. Video courseware – content selection vis a vis the potential of video medium, title, language (clarity, lucidity); adequacy, authenticity and relevance of the content; structuring, sequencing and organization of the content; interactivity; assessment tools; introduction (mechanisms for hooking); conclusion, format; audio (quality and sound effects), visuals (relevance, pedagogic value); aesthetics of the presentation.

d. Interactive multimedia programme – ease of navigations; interactivity of the content; rest same as for video

iv. Highlight the improvements required in the courseware in the light of the critique;

v. Develop a report (see next point- Learning Output)

Learning output: A report of about 600 words that includes the title of the courseware; source of the courseware (such as website; company/organisation that produced the audio/video/multimedia CD/DVD); your critique about the aspects you have examined. Description of the improvements required in the courseware in the light of the critique.

Criteria for evaluation: critique about the aspects you have examined. Description of the improvements required in the courseware in the light of the critique.

Activity 7: Script writing for audio and video programmes

Credit: 1.5

Context of the activity: For audio programme the script has to be written for the 'ears' so that hearing can lead to 'learning'. Hence the script needs to substitute visuals with suitable and powerful audio. Educational video programmes are however meant for learning mainly by 'seeing', and the script has to be written accordingly

The **objective** of this activity is that you write a script for

● an audio programme (of about 10 minutes duration); and

● a video programme (of about 10 minutes duration)

Resource: Unit 4, 5 (MES-134)

Your Role: Your role would comprise the following activities:

i. Select content, which is suitable for

a. audio programme

b. video programme

ii. Select format for the audio and video programmes;

iii.   Write a script for the audio and video programmes;

iv.   Get the script evaluated by two or three peers and collect feedback from them for improving the script.

v.   Revise the script on the basis of the feedback

Learning outcome : the suitability of the content vis a vis the medium; format, unrevised script, the feedback and the revised script .

Criteria for evaluation: see learning outcome.

Activity 8: Preparation of Storyboard

Credit:1/2

Context of the activity: Storyboards help to plan a video/multimedia programme. It depicts the text, audio and visual components of a video, and for interactive programmes it also shows the links for navigation.

The **objective** of this activity is that you develop a storyboard for a video programme of about 10-15 minutes duration.

Resources: Unit 6 (MES-134)

Your Role: Your role would comprise the following activities:

i.   Select content for the courseware and summarise it;

ii.   Decide the sound effects and the type of music you would use, and the points at which these would be used;

iii.   Decide the system of navigation and the linkages.

iv.   Develop the constituent sections of the story board depicting the use of various media;

v.   Assemble the sections of the story board as a flow chart

vi.   Prepare a report (see next point- Learning Output)

Learning outcome : Summary of the content to be taught; description of the sound effects and the type of music to be used, and navigation links; the story board;

Criteria for evaluation: see learning outcome

Activity 9: Development of multimedia courseware

Credit: 1.5

Context of the activity: Multimedia courseware requires learners to use multiple sense organs for receiving information. Developing such courseware requires an authorware that can assemble the courseware in different media.

The **objective** of this activity is that you develop multimedia courseware using an authorware.

Resources: Unit 6 (MES-134)

Your Role: Your role would comprise the following activities:

i.   Select a unit of a course of PGDET for converting it into a multimedia courseware;

ii.   Prepare a story board and use it for building the course content.

iii.   Use a free authorware for online course generation and -

     o   Write the course title and other information for annotating it.

     o   Develop a repertoire of images, text, audio and video recordings (you may download or use your phone to record audio and video programmes of 3-4 minutes duration).

     o   Develop an exercise for assessment.

iv.   You may publish the courseware (optional).

v.   Prepare a report (see next point- Learning Outcome)

Learning outcome: Description of the steps you have taken; and the corresponding screen shots.

Criteria for evaluation: see learning outcome

Activity 10: Survey to determine the utilization of educational programs of IGNOU

Credit: 1/2

Context of the activity: IGNOU delivers a large number of educational programmes through the broadcast and the non broadcast mode. The utilization of these programmes by learners needs to be studied. .

The **objective** of this activity is that you assess the extent of utilization of the programmes delivered through broadcast and the non broadcast mode

Resource: Unit 7 (MES-134)

Your Role: Your role would comprise the following activities:

i.   Visit the nearest study center/programme study center of IGNOU on a weekend.

ii.   Interview the study center staff to determine the :

     a.   Availability of CDs/DVDs of IGNOU's programmes

     b.   The approximate number of learners using the CDs/DVDs in a week.

     c.   Availability of facilities for attending teleconferencing sessions and their use by learners.

iii.   Collect data on the following aspects from at least 25 learners:

     a.   Frequency of utilizing the recorded programmes available at the study center (Audio-video cassettes and CDs, teleconferencing facilities, etc.) in a month.

     b.   Frequency of watching programmes on Gyan Darshan in a month.

c. Frequency of listening to Interactive Radio programmes of IGNOU in a month.

d. Perceptions regarding relevance and quality of the programmes.

e. Reasons for high/ moderate/rare/non utilization of the recorded and live programmes.

f. Suggestions for improving the quality of educational programmes

iv. Organize the data collected, analyse it and draw your inferences

v. Prepare a report (see next point- Learning Outcome)

Learning outcome: data, its analysis, findings and interpretations

Criteria for evaluation: see learning outcome

Activity 11: Learning with Apps and MOOCs

Credit: 1

Context of the activity: Use of apps and MOOCs for delivering instructions are gaining popularity. Learners' experience in this regard needs to be examined. Gaining firsthand experience is one way of examining this.

The **objective** of this activity is that you critique the instructions delivered through an app and a MOOC.

Resources: Unit 7 (MES-134)

Your Role: Your role would comprise the following activities:

i. Select a mobile app and a short duration MOOC (2-3 weeks requiring a few hours of learning in a week)

ii. Use the app for learning using your phone. Enroll in the MOOC and start learning;

iii. On the basis of your experience critique the content and the mode of delivery. For the app as well as for the MOOC you may critique the quality of the content delivered; the suitability of the delivery timings, the delivery mode (asynchronous/synchronous); the pace of delivery; user friendliness, ability to teach, assess, give feedback and support learning and other aspects you think are pertinent.

iv. Prepare a report (see next point- Learning Outcome)

Learning outcome : The report of about 600 words that describes the app as well as the MOOC (the platform offering it; the course you studied; the summary of the content taught; duration; and so on); the critique of the learning experiences.

Criteria for evaluation: see learning outcome

Activity 12: Visit to a recording studio

Credits-1/2

Context of the activity: Audio and video programmes may be planned outside the studio but these are recorded and often edited and stored within studios.

The **objective** of this activity is that you examine the process of development, editing and storage of audio and video programmes within a studio.

Resources: Unit 4-5 (MES-134)

Your Role: Your role would comprise the following activities:

i.   Seek permission from the studio authorities and visit an audio &/video recording studio;

ii.   Go to the various units and interview the functionaries to understand the process of recording, editing, storage, archiving, and cataloguing.

iii.   Organize the information collected and prepare a report (see next point- Learning Outcome).

Learning output: The report of about 500 words describing the process of production and storage.

Criteria for evaluation: see learning output.

SECTION III: DATA COLLECTION AND ANALYSIS

For some activities you will have to collect and analyse data to arrive at findings. Some of you may not be familiar with these processes. This section includes a brief discussion about these processes. You may read books on Research Methodology to gain a better understanding of these aspects.

Data: Data is of two types. Quantitative data is expressed as numbers. For example, 11 out of thirty-three schools have internet facilities; only 2 schools allow children to use it. Qualitative data however comprises narratives like your response to the question 'why did you enroll in the PGDET programme. A study can involve both quantitative and qualitative data. Or it can use either of these two types.

Sampling

From whom will you collect data? Sampling is required because you cannot collect data from everybody/ all units, i.e. the entire population of teachers, learners, schools and so on. A sample comprises a relatively small number of individuals units (individuals/objects/events) that represent the population. There are many techniques of sampling but random sampling help us to generalize about the population. However, randomization is a complex process. Since you are not engaging in 'research' in true sense, you may use convenience sampling method and select individuals from whom you can conveniently collect data.

Tools for data collection

There are many types of tools for collecting data. But the activities included in your project require mainly questionnaires, observation, and interview.

Questionnaires : A questionnaire is a tool for data collection that requires the respondents to respond to the 'items' (questions or statements) in writing. The items can be of two types **open** and **closed.** Closed items require short responses like 'yes/no'; 'true/false'; selecting an option, and so on. Some examples of closed type of items are as follows:

Choose an option:

● Educational technology impacts learning- Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

● I watch TV -4/5/6/7 'days in a week

● Do you watch Gyan Darshan ? -Yes/ No

● Indicate which television programmes you enjoy the most, using the numbers 1-6 with 1 for the most preferred programme.

News: _____   Musical shows:_____

Films:_____   Comedy shows:_____

Soaps:_____   Other(s):_____

Open items require detailed responses. Examples of open questions are :

Why did you take up teaching profession?

What are the reasons for enrolling in PGDET?

How to make schools attractive to children?

How is the policy for inclusiveness implemented?

Response to closed items is structured and easy to analyse. Responses to open-ended questions can also be structured if the item is designed for structured response. An example of such an item is-

State two reasons because of which cell phone are used as an educational tool.

The question is designed to keep the response focused and have a structure comprising the two reasons.

You may include either closed/open questions or both open as well as closed items in the questionnaire but see to it that you do not require your respondents to write extensively. You should reflect upon the objectives of the study (activity) for designing the questionnaire so that it performs its intended functions. You should also ensure that the questionnaire is comprehensive i.e. it has items seeking information on all the relevant aspects. You must use simple language while developing the items and avoid terms with which the respondents are not familiar. The questionnaire should neither be too long to tire the respondent nor so short that the data it yields is insufficient. You can mail the questionnaire/ use online surveys / administer questionnaire in a face to face mode. To logically sequence the questions (items) you should determine what to ask first and what should be asked subsequently.

Observation: Observation is a common technique for data collection. It can be used to collect data about the behaviour of an individual in a real life situation, about a situation, like teaching-learning situation, the infrastructure of an institution, a classroom, administration in a school, and so on. Before making observations, be sure about exactly what you are looking for. For instance, if your objective is to observe the infrastructure for educational technology in a school, you may analyze this in terms of the rooms/hall, furniture, technological devices (types and number; hardware and software), and so on and collect data for each aspect. You may therefore develop an observation schedule. Note what you observe and analyze the notes. Observation can lead to quantitative data like number of computers, or qualitative data like how these are used.

Interview: An interview requires a schedule which includes closed &/ open items. Therefore, it can lead to quantitative data like number of children in a class as well as qualitative data like how they are taught to use computers. The latter generate in-depth and detailed responses. An interview is therefore similar to a questionnaire but the responses are oral. It is usually carried out in a face-to-face situation. It is important to determine the objectives of collecting data through interview and then list the questions. The questions should be logically sequenced.

As an interviewer you should first establish rapport with your subjects, and explain the objective of the interview. You should also be a good listener (an audio/video recorder may be used or notes may be taken). It is also important that an interviewee is not judged during an interview and the interviewer is free from biases about the interviewee. For example we may ask whether the interviewee uses technology for teaching but on hearing that s/he doesn't, we should not judge that not using technology is an outdated idea.

Method of study: A research study can be carried out by various methods. Survey is one of the methods. It requires data from individuals/units of a particular place or organisation.

Analysis and interpretation of data

Data analysis leads to findings. Data collected should be organized systematically and analysed for arriving at findings. The findings need to be interpreted and reported. You may organise data under different heads for example data pertaining to teachers; that for learners; that for parents and so on. For processing quantitative data you can count, and express the findings as percentage like 33.33 % of the schools studied have internet facilities. Technology can be used for organizing data. Technology also helps to use statistical techniques for analyzing quantitative data. However for the purpose of this project, using technology for determination of mean and percentages will suffice.

Qualitative data is rich with in-depth and detailed information. The responses to open ended questions of a questionnaire or an interview schedule, involving in-depth information about people, events, situations, content from documents, are some examples of qualitative data. Content analysis is one of the methods of analyzing qualitative data. You have to organise the data, read and reread it to determine the underlying patterns (trends). For example you may find that the trend emerging from the data is 'absenteeism at schools increases as board examinations approach'; 'computers available for students are not used regularly by students', and so on.

Conclusions and Interpretation of results

Following the analysis of the data it has to be interpreted. Interpretations are often based on reflections. A researcher needs to reflect on the findings while interpreting them. Interpretations and reflections are carried out against things that are ideal/standard/correct. For example it is ideal that students should attend school, and against this you may reflect on the finding that students' attendance at tutorials is more than that at schools in class XII. You may critique low attendance at schools and interpret this finding as -students prefer tutorials over schools; parents support students' absenteeism at schools; as far as attendance of students is concerned, tutorial are outperforming schools; and the like.

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FEEDBACK FORM

Dear student

Carrying out the project work of PGDET must have been a unique experience for you. Please spare some time and on the basis of your experiences, fill up the feedback form. You should feel free to express your views as this will help us in improving the project. You may attach extra pages if you find that the space provided is inadequate.

1. To what extent was the theoretical background included in the first four courses useful for carrying out the project? Mention the activities that need more theoretical support.

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2. Which activities do you feel are useful and which should be discarded? Justify your responses.

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3. Difficulties faced in carrying out the activities (a brief note):

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4. Does the time required to carry out the activities you have chosen match the credits assigned to these? If not how much time was actually required?

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5. Has the project strengthened learning? How?

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