

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING



Field Support Programme for Technical Diploma in
Secondary Education

SELF STUDY MODULE
TECHNICAL EDUCATION

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Ministry of Education and Vocational Training

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1.0 INTRODUCTION

Technical education self-instructional module has been designed to assist you as a technical student teacher to acquire the necessary practical skills. Also the module will equip you with pedagogical skills required for teaching technical/vocational subjects.

The module will guide you to make self-evaluation in teaching process and self preparation for your coming national examination. It will also lead you to go through your respective subjects of specialization in performing various related activities. You have gone through the discussion about the meaning of technical education, its importance to the society and in daily life.

Module preparation focused on three areas of specialization to benefit all civil, mechanical and electrical engineering students.

It is hoped that you will perform each activity in promoting the competences expected.

HOW TO USE THE MODULE

This module is activities oriented and self instructional field support. It is therefore, encouraged that student teacher learns by doing and relates the already covered classroom theories with field practical. The module consists of various activities developed from each topic, which reflect the realised competences.

Module also requires various content consultations from the area of specialization as well as environment and bridge the theory and practical components at the field in order to become an effective teacher. To each activity performed remember to keep the source of information in your diary, portfolio and to write report.

TOPIC ONE:
VOCATIONAL AND TECHNICAL EDUCATION IN TANZANIA

Brief Explanation:-

This topic introduces the meaning of Technical Education, its historical development, causes of change and the position of vocational and technical education in the education system in Tanzania. You are therefore required to put what you have learnt into practice to achieve the competences identified, To enable the acquisition of the competences you need to do the given activities thoroughly.

Historical development

Competences:- You need to develop the following abilities

- Contextualize the roles of Vocation and Technical Education in the society.
- Analyse the historical changes of development.
- Identify various factors which influence changes.

Activities:

1. Describe the role of Technical education and Technical Teacher.
2. Identify and explain the development phases of technical education in Tanzania.
3. Explain and elaborate major factors which have influenced changes in vocational and Technical Education in Tanzania.

Evaluation

- (i) Can I analyse the impact of Technical Education and Technical Teacher in my Society?
- (ii) After surveying the phases, which one had a National development image, and why?
- (iii) How did these changes weaken or strengthen the subject of my specialization.

Trend, position and policies of vocational and technical Education in Tanzania.

Competences:

- Describe the trends of vocational and Technical education in different parts of the world.
- The position of technical education levels in the educational structure of the country.
- Analyse the policy governing vocational and Technical education in Tanzania.

Activities:

1. Compare various trends of Vocational and Technical education of the world.
2. Avail a flow chart of the national education structure of your country.
3. Discuss with your friends the circulars and policies of Vocational and Technical Education in your country.

Self assessment

- (i) Does the trend favour the technical education progress in Tanzania? Comment.
- (ii) Can I elaborate the objective of each level?

TOPIC TWO: THE PSYCHOLOGY OF LEARNING

Brief Explanation:

This topic is aimed at reminding you about the meaning, origin and branches of psychology in general and educational psychology in particular. Furthermore, it enlightens the role of psychology in education, concept formation and attainment as well as factors which cause individual differences in abilities and personality.

Competences:

- Assess effects of emotional behaviour on learning
- Differentiate among some of these branches and to match them with their users.
- Analyse factors and impact on learning focusing on Piaget's theory.

Activities

1. Find out the meaning of psychology, its role in education.
2. Describe the importance of psychology in daily life.
3. Explain and discuss teaching and learning theories.
4. Give students an opportunity to explore factors which facilitate learning
5. With respect to your field, assign student activities to perform then monitor the concept formation and attainment.

Self assessment

- (i) Match branches of psychology with actual users.
- (ii) Describe incidents of use of psychology theory at work.
- (iii) Evaluate Behaviourists and Constructivism theories of cognitive development
- (iv) Relate morality with behaviour (e.g. sex, gender etc.
- (v) Report how emotional behaviour relates to learning.
- (vi) What challenges did your student face in forming and attaining concept?
- (vii) You as a student teacher, what are sociological challenges do you face during teaching?

TOPIC THREE: METHODS OF TEACHING AND TRAINING

Brief Explanation:

The topic is designed to update and uplift the theoretical knowledge, skills, attitude and pedagogical practical in teaching confidently by applying the achieved knowledge and skills.

The topic comprises of teaching model, monotony in a classroom setting, and how to organize a lesson. To attain the above knowledge and skills you are directed to perform the respective activities.

Competencies

The following abilities have been expected to be developed.

- Distinguish various models of teaching/training and its applications.
- Integrate the learning taxonomies in real life situation.
- Discover and control monotony in teaching and learning.
- Assess student motivation.
- Organize effective teaching and training.

Activities:

1. Select a particular model of teaching and learning then prepare a lesson to teach and assess its effectiveness.
2. Visit a classroom session of an experienced teacher; note any sense of monotony in his/her teaching and learning process.

Self assessment

- (i) Determine how the selected model is better than others.
- (ii) Was there any identified monotony? Can I explain the causes and how to control it?
- (iii) Am I able to identify the four basics of organising a lesson?
- (iv) Can I evaluate my own teaching and that of others?

TOPIC THREE

INSTRUCTIONAL MEDIA

Brief Explanation:

This topic has exposed you on techniques and principles of establishing a basis for choosing and evaluating the use value of the learning instructional media. This result on effective use of educational technology in your teaching and recognise the potentiality of a particular types of teaching equipment, though your school might not have in your area but would be useful if you will find out an alternative strategy to overcome such situation. Note that it is time to check their applicability and relevance in the process of teaching and learning.

Competences

You have expected to develop the following abilities.

- Analyse the various instructional media.
- Use media and appropriate instructional technologies.

Activities:

1. Select available instructional media suitable for teaching lesson of your field and assess the properties of each media.
2. Visit a computer lab and/or Internet cafe then discuss with attendant or technician the differences between software and hardware.
3. Give at least six important aspect that well designed instructional media should achieve in the teaching and learning environment.

Self assessment

- (i) How instructional media enhance teaching and learning process?
- (ii) Am I able to select suitable instructional media?

**TOPIC FIVE:
INSTRUCTIONAL TECHNIQUES**

Brief Explanation:

The main purpose of this topic is to promote the acquisition and appropriate use of the methods by analysing quality of a good instructor, his/her roles and various steps of instruction. The topic make you able to describe the role of an instructor in a school or college and demonstrate the steps of instruction. You are encouraged to make use of your experience from what you are doing at school and use the facilities and resources available in order to perform the activities accordingly.

Competence:

Developing appropriate instructional techniques.

Activities

1. Choose one topic from your respective field and present a lesson which involve various instructional techniques and assess its effectiveness.

Self assessment

- (i) Can you analyse the techniques used?
- (ii) Which was more effective? Why?
- (iii) Were they related to the lesson?

TOPIC SIX

WORKSHOP PLANNING

Brief Explanation:

Dear student teacher, welcome to this interesting topic of workshop planning. The topic has equipped you with the important knowledge, techniques, and basic principles that enabled you to plan a training workshop. The topic enriched you by integrating classroom and field work activities. You are asked to read unit seven of the workshop planning and text books in order to remind yourself with basic concepts related to this topic.

Competence

Ability to plan a training workshop.

Activities

1. Survey your working school compound and select a suitable place for erecting a new workshop building of your field.
2. Analyse with your colleague the specification for training workshop building.
3. Basing on your respective field of specialization prepare a task which will lead your students to describe the workshop lay out.

Self assessment

- (i) Is there any suitable area for building a new workshop? State why?
- (ii) How the specification for training workshop differs from that of industrial workshop.
- (iii) Comment on the students result in terms of machine, equipment, tools, office, store and working space arrangement.

TOPIC EIGHT

CURRICULUM DEVELOPMENT

Brief notes:

This topic is vital to arouse interest in understanding what curriculum is all about main components and how systematic development process takes place. One of the role of teacher is to give advice on reviewing curriculum in regular intervals. This involves you in giving feedback from what you teach and student learnt. Make thorough check up as you perform various activities so as to apply and improve your curriculum understanding.

Competences

- Making use of curriculum theories to classroom practices.
- Analyse the curriculum content.

Activities:

1. Enumerate all the possible definitions of curriculum.
2. Assess the effectiveness of current curriculum component of your teaching subjects and compare with the need of societies.

Self assessment

- (i) Assess the commonalities from the definitions you have made? Give comments on the commonalities.
- (ii) Does the current curriculum meet the need of the society? Give reasons.
- (iii) What do you think will be good curriculum?

TOPIC EIGHT

WORKSHOP MANAGEMENT

Brief Explanation:

The workshop management topic focused on stimulating your understanding on how to manage the workshop of your subject at individual and school level. The topic activities covered the type and styles of managements, workshop regulations, training resources and workshop personnel administration. Therefore, make sure of your understanding of the topic in order to develop the competences expected. It is my hope that you will make use of these experiences in order to be able to do various activities under this topic for the development of the competences required.

Competences

- Management of both industrial and training workshop.
- Maintaining the required quality.

Activitie:

1. Choose school and industrial organisation to investigate differences of training workshop and industrial workshop.
2. Produce a document on how to store and issue portable machines, tools and materials to teachers, workers and students. Outline guidelines for current security measures.
3. Investigate all aspects of workshop training resources, procurement, mode of storage used and maintenance available through: Personal observation, interviews with users and management
 - (i) Are the result match with your expectation? Comment on the outcome.
 - (ii) Assess the role of industrial management to that of training, then give suggestion
 - (iii) Use feedback from the investigated results to assess your understanding

Self assessment

Explain how the competences acquired in the activities above will facilitate your daily teaching.

TOPIC NINE

PREVENTIVE MAINTENANCE

Brief Explanation:

The topic covered an outline overview on how to take advanced measure to minimise or prevent often maintenance by observing or emphasising the cleanliness rules, regulations, workshop safety procedures and to formulate schedule for routine maintenance with less effective cost. Make use of the experiences from school based learning of your field work in order to link with what you learnt at the college in performing activities included in this topic

Competences:

- Effectively use of resources.
- Associate the impact of unrequired maintenance towards the community and other sector in National development.

Activities

1. The government has handed over a new workshop to your school, you are asked to design the preventive maintenance strategies for effective running. Describe the procedures.

Self assessment

Assess the quality of your designed preventive maintenance strategies. Does it meet the requirement?

TOPIC TEN: PRODUCTIVE ACTIVITY

Brief Explanation:

The topic is reflect on the accumulated experiences, knowledge and skills. The knowledge enabled the individual to interact in many productive activities within the society. Through this topic, you will be able to reveal the role of production in a training workshop to assess the job performance and the role of student in production.

Competences

- Design the productive work in training workshop.
- Describe management of production in a school.

Activities

1. Sensitize your student's ability by giving them live work to do e.g. erecting a toilet wall, designing a two way switching lamp, remove and fix a tyre in a car, making a wood arm chair etc. Lead them to outline the required procedures to perform the work, closely monitor every stage and make advise when necessary.
2. Prepare a lesson which will lead the student to analyse factors of production and entrepreneurship.

Self assessment

Did the students managed to explore the procedure required?

Give comments on the challenges you have faced.