STORYBOARD: PART B

LEARNING UNIT 2

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Teaching Basic Engineering AYB1558

Site format and look and feel information for consistency (for when building the site)

- Format: Tile image [insert image]
- Any other information:

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LEARNING UNIT STRUCTURE

myUnisa activity/resource: [Select Lesson activity/Content Pages/H5P Interactive Book]
Name: Planning to teach basic engineering

TABLE OF CONTENTS:

LIST OF LEARNING UNIT ACTIVITIES:

Activity 2.1: On Sledge Hammers

Typically a toolbox of an engineering artisan or technician is contained with various tools. Some of the tools are classified as force tools, and they include 1) Pliers, Clamps, and Tweezers; 2) Hammers, Chisels and Punches; 3) Measuring, Chisel, and Cut 4) Wrenches, Screwdrivers, and Spanners, 5) Allen Keys, Nut Drivers and Sockets etc.According to the German Phenomenologist Martin Heidegger the being of a thing including tools can either be present-at-hand or ready-to-hand. The visibility of tools in the basic engineering workshop make their presence noticeable or observable (can be seen or touched), however this do not guarantee readiness for utility or to be used. They may be gaze(able) in their objectively present state, but not ready to be used. They may be inaccessible to Basic Engineering students due to their lack of exposure (or skill) to use them, awkward applicability or broken. To this end, certain present things are not always ready-to-hand. Teachers must never assume that the students have skills to use tools in the basic engineering workshop. To further illustrate, I have included a video on use of sledge-hammerd at the end of this activity as well as the link (Jessica help me to develop one again).Sledgehammers are tools that are designed for heavy-duty including demolition of a construction or breaking huge rocks (in Basic Civil Engineering) or separating a tyre from the rim (in Basic Mechanical Engineering learning to use a sledge-hammer for the first time - Google Search*. You are now going to complete your first discussion activity for this learning unit. By actively participating in this discussion, you will not only deepen your own understanding and readiness-to-use workshop tools but will also gain valuable ideas for preparing to engage with workshop tasks. As basic engineering teachers it is important to share resources, engage in constructive discussions, and support each other in developing effective activities. Click on "Activity 2.1" to access the group discussion forum.*

What will you do:

1. Watch a short video 1. Learning To Use A Sledge-Hammer For The First Time... - YouTube 2. site visited on 07 August 2023 in which a woman is learning and being taught to use a sledgehammer for the first time.

2. Observe and make notes on everything you see in the video that gives an indication of the learning
3. Guided by your, what are the key strategies that the teacher is using to teach.

Discussion activity

In your notes, you may have mentioned the way the teacher models or demonstrates correct practice, particularly when he shows the learner how to lift the hammer and slide her hand along the handle as she swings the hammer. You may have spotted the way she imitates that practice as she starts to learn. You would no doubt have noticed the positive feedback (reinforcement) the teacher gives the learner when she succeeds. The theory that the teacher brought in to help her understand her actions was no doubt significant: the physics of the hammer, "allowing the weight to pendulum", and the physiology of the hammerer – the buttocks, back and hamstrings moving together. You may have noticed how the learner actively adjusts the way she swings the hammer as she learns from her previous attempts, and gets better and more confident each time. And, perhaps another aspect of the activity, how the teacher intervenes at various points, correcting the learner, giving her instructions about what to do: "take half a step forward", "bend your legs more", etc. You might have commented that learning is collaboration, between the novice and the more skilled teacher. Finally, you might have noticed how both the learner and the teacher talk about having learnt how to use a sledge hammer as "getting the feel of it", as having internalised it.

Key Concepts that can be used when in lesson when teaching the adult learners in community colleges, may include: instruction, modelling, feedback, reinforcement, conscious action, collaborative activity, internalisation.

Source: Prepared by Moll, 2020 for the Department of Higher Education and Training (DHET)

When you want to indicate a learning outcome, or any one of the other icons such as assessment criteria, discussion, self assessment etc, use the AutoText entry to quickly add it:

a. Place the cursor where you want to insert the learning outcome.

b. Go to the "Insert" tab, then in the "Text" group, click "Quick Parts", and then "AutoText".

c. Select the AutoText entry you want from the list under the STORYBOARD category.

Remember to give these tasks a name and instructions to the student on what they must do in the task. Use the preformatted entry and edit it up to do so. Any activity icons used are set up to add to the list of activities table – just right click and update the table when you have added your activities.

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2.1 INTRODUCTION, OUTCOME AND ASSESSMENT CRITERIA

Teaching processes in basic engineering require a thorough planning. It is often said that, 'failing to plan is *as good as* planning to fail'. In other words failing to plan is a self-ordered trap that should always be prevented in the teaching and learning situations. It is associated with many dangers that may impact negatively on students and educators. For example, it may result to ineffective learning of essential topics and crucial details may be skipped in unreflective rush that leads nowhere. Learning environment may be disorganised, lesson sequencing confused, deadlines uncertain and expectations unclear. Also, it may result to lack of coherence, structure, and students engagements. Students may feel illprepared for assessments and teachers may struggle to identify areas where students are struggling, in turn this will constrain teachers abilities to provide the necessary support. Contrary, where the teaching processes are outcomes oriented, planning becomes unavoidable.

Increasingly, educators use outcomes to guide their teaching strategies, to develop appropriate assessments and to monitor the progress of their students towards achieving objectives that are desirable in their learning environments. Outcomes are often viewed as the foundation for designing the learning programmes, teaching, and assessment. They help teachers to ensure that the teaching and learning processes are well-targeted, focused and purposeful. The outcome of this learning unit is planning.

A good outcome should be linkable to assessment criteria which outlines guidelines and standards for evaluating the degree to which the targeted outcome is fulfilled.

Learning outcome

This learning unit has the outcome of enabling you to use a plan to teach basic engineering in adult learning contexts.

We will know if the learning outcome of using a plan to teach basic engineering has been met, when we satisfy alignment in the outcome and assessment criteria.

Assessment criteria

To achieve the desired outcomes of this learning unit, we can align our studies to the following assessment criteria:

- *Relevant learning objectives for the teaching of basic engineering are clearly formulated.*
- *Lesson plans for teaching basic engineering are developed with the aid of a template.*

- *Suitable learning activities to teach basic engineering are adequately prepared.*
- *Appropriate teaching and learning strategies for adult learners of Basic Engineering in the planning are incorporated*
- *The planning process of teaching Basic Engineering is reflected on.*

2.1.1 Teacher in the planning process

As a teacher in adult, community, and continuing education, creating a comprehensive lesson plan may be useful thing to help with structuring the lessons and ascertaining effective teaching. We have already mentioned that, teachers are human agents who have been influenced by various beliefs, values, ethical principles (axiological stance). Some may be tempted to think that engineering belong to 'hard sciences' (we know less about soft ones) which can only be acquisitioned and less experienced. Such thinking may influence us to interpret humanistic values as frivolities that serve to cloud mastery of the 'hard' engineering content. However, most effective strategies for teaching basic engineering may not always be created by those revered as hard engineers. Teaching and learning theories developed in the education field guide classroom instruction and facilitates students' grasp of the related subject matter and/or content. The values guide individual's teaching philosophy.

2.1.2 Teaching Philosophy

Teachers are situated somewhere, as such each teacher has a philosophy s/he uses to construct together with the students (where possible) an environment that is conducive for learning. As a lecturer of this module I am driven by the ideal of social change (Bowles and Gintis, 2002, read p.1-2). As such, I am likely to adopt styles of teaching and philosophies of education that are amenable to change. I draw from conflict theorist who explain that inadequate performance of the working-class students may not be adequately explained in terms of their individual attributes that handicap their creativities to respond to educational opportunities. These theorist point instead to the unequal nature of capitalist societies and seek to demonstrate the inevitability of failure among the proletarian and sub-proletarian young people and adults. From this perspective the education system is primarily a means for reproducing the existing structure of social and educational in equalities (Lauder, Brown, Dillabough, & Hasley, 1997:11). Given that the majority of the students who will attend the community colleges will most likely come from the underclass groupings, it may be useful for us as educators in this sub-sector to be intentional about teaching for social justice and change. Put differently, to paint the content we teach in colours that will make the problems we have identified and are trying to correct through the means of education to be visible to the students. This will prepare the students who come to our virtual or face-to-face

classrooms to becoming the agents of change wherever they will be as students and graduates.

As lecturers in the University of South Africa we are ethically bound to search for frameworks that give light to the ideal of “shaping futures in the service of humanity”. This future-gazing slogan throws all of us towards teaching for the future. Individuals who fully grasp soccer often tutor those they deem as less disposed to the football gaming that the ball ought to go to spaces where the player will be, rather than where s/he is at the moment of passing (sending it on). Figure 2.1 provides a mental schema for adopting a theory of change among a sea of ideas. Theory-U draws from systems thinking, organisational development, mindfulness of the individual and collective intelligence of a group. It provides us with insights on how individuals, organisations and societies can move towards transformative change. The theory provided seven stages such as suspending assumptions, observing, feeling, connecting to sources of creativity (letting-go and letting-come), prototyping, embodying, and enacting.

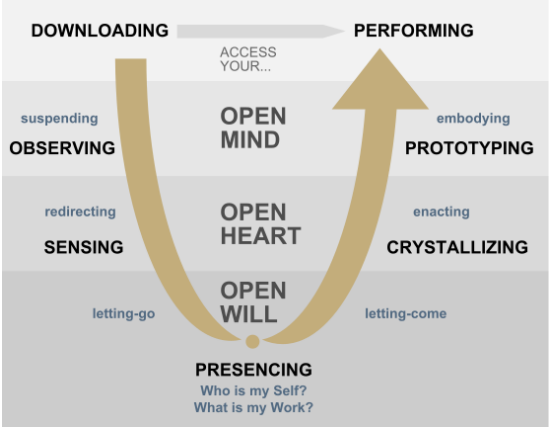

Figure 2.1: Theory U Processes

Source: Adapted from File:Theory U image.svg - Wikimedia Commons, visited on 31 Jul. 23.

This theory caters for the broad context of change wherein knowledge of engineering makes the contribution. Unlike soccer analysts musicians on the other end emphasise the basics. That, firstimer musicians might benefit enormously from mastery of the basics in music craft. Later improvisations and creativity stem from this basic understanding on the music craft. In this module we are burdened with teaching basic engineering, thus are predominantly preoccupied with basics of the teaching craft. However, mastery for such basics are not themselves the end point of teaching, they serve to prepare student for improvisations and future creativities throughout the students engineering careers.

Contrary to conflict theories which are preoccupied with change, some students may adopt as their philosophy structural-functionalism theory which teaches that various institutions

(such as education, economy, religion, government) within a society work together for the good of that society. In terms of this perspective the burden of education is to ‘align’ students to the visions, structures of opportunity (e.g. labour markets) as well as cultural mores of that society. This is where the language of skills mismatch is borrowed, within this tradition when young people are not employed it is because of their personal deficits they either lack or have skills that are misaligned. While such explanations are attractive to the dominant classes, their useful insights may be upsetting in contexts where youth opportunities are dwindling. Absence or fewer employment opportunities cannot be blamed on the very youth that aspires to access them. In these terms, pervasive skills-mismatch can be deemed to be resulting from twisted-explanations.

INSERT INCLUSIVE DESCRIPTION FOR SCREEN READERS

I have shared my teaching philosophy as a lecturer, now it is time for you to develop your own. For the purpose of this unit I will guide the construction of your teaching philosophy in the following way:

Activity

My Teaching Philosophy (Borrowed from the module TPN2602).

Using insights you gain from your extended reading of the U-Theory, write a brief teaching philosophy that guides your teaching. Include aspects such as

- Why you want to be a teacher:
- What do you think you know about teaching?
- What do think is needed to let you be competent in what you need to know?
- What age would you like to teach and why?
- How do you believe teaching should take place?
- How do you believe learners learn best?
- Why you believe teaching is an important profession?
- How do you believe you can make difference through education?

2.2. LEARNING OBJECTIVES DEFINED

It is useful to start by establishing precise learning goals that bring out what you want your students to be able to do and understand at the end of the unit. These goals should be in line with the course material and serve as a guide for both the teacher and the students. Well-defined objectives serve as a reference point for teachers at all stages of the learning process, whether it be understanding fundamental engineering principles, working out simple issues, or acquiring practical skills. The learning objectives in engineering context must incorporate educational technology tools and resources to enhance learning. In 21st century or the times of late modernity, such tools may include virtual labs, simulation software, and online resources

2.2.1

2.3 STRUCTURED PLAN FOR TEACHING BASIC ENGINEERING

An organized plan helps teachers maintain a clear course roadmap and guarantees that students have a thorough comprehension of the material.Teaching Basic Engineering requires a well-thought-out plan that encompasses the fundamental concepts of the field while engaging students effectively. In a structured plan for teaching basic engineering, lesson sequencing of information involves allocating instructional material to promote gradual understanding and application of fundamental ideas while leading students from easier to more challenging topics. It helps to develop a thorough and scaffolded understanding of engineering principles while fostering problem-solving skills and critical thinking abilities. Additionally, it entails creating a progression of interconnected units and lessons, incorporating practical applications and real-world experiences. In turn, these help to increase relevance, periodically assessing student understanding, promoting interactive learning, and flexibility that is needed for adapting the lesson sequence based on feedback. Planned assessments can include *quizzes, tests, projects* at strategic points to gauge student understanding and adjust instruction. They help teachers find creative ways of integrating relevant skills such as problem-solving, critical thinking, communication, and teamwork into the lesson. The blend of these skills prepare students for the multifaceted demands of engineering practice.

The teaching plan can start with foundational concepts and gradually progress to more advanced ones. Ensure that each lesson builds upon the previous one, by creating a scaffold for learning.This helps to ensure that the engineering curriculum is arranged as building block so that students can grasp the interconnections between different topics. Basic engineering teachers must remember to introduce practical application and real world examples early enough. So that student could learn how to apply engineering concepts that are geared towards solving real-world problems. This can be accomplished by integrating hands-on activities, experiments, projects, or simulations to enhance classroom engagements through interactive strategies like group discussions, peer teaching, and collaborative projects are incorporated.

Assessments provides opportunities for giving feedback to both students and teachers. This is the reason why each unit (sometime even the single lesson) ends with reflections. When students reflect on their learning they expand learning opportunities, reinforce their understanding and retain information. Teaching Basic Engineering requires a well-thought-out plan that encompasses the fundamental concepts of the field while engaging students. A

structured plan not only helps educators maintain a clear roadmap for the course but also ensures that students receive a comprehensive understanding of the subject matter.

2.3.1 Lesson Planning

Developing effective lesson plans for teaching basic engineering often involves the use of templates that provide a structured framework to ensure comprehensive coverage of essential topics and effective pedagogical strategies. These templates typically consist of several key components, enabling educators to create organized, coherent, and engaging lessons.Teachers explicitly state the lesson's learning objectives and goals, outlining what they want their students to know and be able to do at the end of the class. These goals act as a framework for the entire class, assisting teachers in focusing on the most important outcomes. In this part, the lesson's relevance to real-world engineering applications and integration with broader curricular goals are also highlighted.

Thereafter educational material and activities are covered in detail. This section opens with a succinct summary of the main ideas that will be covered throughout the lesson. The instructional sequence is then broken down, describing how the class will proceed from introduction through application. To improve understanding, educators may use *visual aids, diagrams, or multimedia components* depending on the material. In order to encourage active learning and the application of concepts, *case studies, simulations, group discussions, and hands-on activities* are all deliberately incorporated.

Ordinarily the final step of a lesson plan should outline assessment strategies. This comprises both summative evaluations, which test overall concept mastery, and formative assessments, which track students' comprehension as it changes throughout the course. Assessing methods, such as quizzes, talks, exercises in problem-solving, or project presentations, are described in length by educators. It is specified with clarity what will be considered when evaluating student performance, assuring fairness and uniformity in the process. This is followed by teacher’s reflections wherein teachers evaluate the success of the lesson, noting any tweaks or alterations that could be required for later engagements with the teaching this lesson.

The use of comprehensive template for developing lesson plans in basic engineering teaching streamlines the planning process, enhances instructional consistency, and enables educators to focus on effective content delivery and student engagement, ultimately fostering a more impactful learning experience.

2.3.2 Lesson Plan Exampla

Activity 2.2: Electric Circuit

Students will need to click on a link to take them to the lesson plan design on Moodle platformt.

Date: 08/08/2023…… Subject: Teaching Basic Engineering
Year 1: ……. Number of learners in class: 50…..
Lesson topic: **Introduction to Electrical Circuit** ……..
Lesson duration: 60 minutes

Learning objectives :

- Understand the basic components of an electrical circuit.
- Differentiate between series and parallel circuits.
- Analyze and solve simple electrical circuit problems.

Materials and resources

- Whiteboard and markers
- Projector for visual aids
- Pre-made circuit components (bulbs, batteries, wires, switches)
- Handouts with circuit diagrams

Introduction (5 Minutes)

Understanding basic electrical circuits is a fundamental skill that empowers engineers and individuals alike to harness, manipulate, and innovate with electrical systems, contributing to technological advancement and improving quality of life.In the context of environmental sustainability and community development, understanding fundamental electrical circuits is of utmost importance. Understanding circuits is essential for building energy-efficient systems and promoting responsible resource consumption in terms of environmental sustainability. Circuit-savvy engineers can create sophisticated control systems that maximize energy use, reduce waste, and improve the integration of renewable energy sources. Communities may lessen their carbon footprint, ease the burden on conventional energy networks, and support the global effort to address climate change by managing electricity distribution and use effectively. Additionally, a knowledge of circuits paves the way for the development of intelligent systems that monitor and modify energy consumption in real-time, creating an environment-conscious society and opening the door for more sustainable urban planning and infrastructure.

Main Content:

1. Components of an Electrical Circuit: (15 minutes)

- Define key terms: voltage, current, resistance, and Ohm's Law.
- Present the main components of an electrical circuit: power source (battery), conductors (wires), loads (bulbs), and control elements (switches).
- Use visual aids to illustrate the components and their connections.

2. Series Circuits: (15 minutes)

- Explain the concept of series circuits, where components are connected end to end.
- Describe how current flows through a series circuit and how the total resistance adds up.
- Use circuit diagrams to show series connections and calculations.

3. Parallel Circuits: (15 minutes)

- Introduce parallel circuits, where components are connected side by side.
- Discuss the characteristics of parallel circuits, including voltage across components and total current.
- Present advantages and disadvantages of parallel circuits.
- Use diagrams and calculations to reinforce the concepts.

Activities and Exercises:

1. Circuit Building and Analysis: (10 minutes)

- Divide students into pairs or small groups.
- Provide pre-made circuit components and ask students to build a simple series and parallel circuit.
- Instruct them to measure voltage, current, and resistance in each circuit.
- Guide students in analyzing the measurements and comparing the characteristics of both circuit types.

Assessment: Mini-Quiz: (10 minutes)

- Distribute a short quiz with multiple-choice and short-answer questions related to circuit components, series, and parallel circuits.
- Assess students' understanding of the material covered in the lesson.

Homework/Assignments:

- Assign a set of practice problems involving calculations for series and parallel circuits.
- Ask students to research and present real-world examples of series and parallel circuits in engineering applications.

Conclusion: (5 minutes)

- Summarize the key points covered in the lesson.
- Highlight the practical importance of understanding electrical circuits in engineering.

Provide a short overview of what they can expect when they click on the link and provide the depth information in the Forum sub-section of the storyboard. EG. You are now going to complete your first discussion activity for this learning unit. By actively participating in this discussion, you will not only deepen your own understanding of the pre-writing and planning phase but will also gain valuable ideas for pre-writing activities to implement when teaching writing to your learners. Share resources, engage in constructive

discussions, and support each other in developing effective pre-writing activities. Click on "Activity 4.2" above to access the group discussion forum.

2.4 EXAMINING OWN TEACHING PLAN

Examining and refining a teaching plan is an essential part of ensuring effective teaching and learning. When evaluating a teaching plan for Teaching Basic Engineering 1, it may be useful to consider the following principles:

Clear Learning Objectives: Begin by assessing the clarity and specificity of your learning objectives. These objectives should outline what students are expected to know, understand, and be able to do by the end of the unit. They should be measurable, achievable, relevant, and time-bound (SMART). Clear learning objectives guide your instructional decisions as a teacher and help students understand the purpose of the course content that is contained in the study unit.

Alignment with Content and Assessment: Check for alignment between your teaching methods, content delivery, and assessment strategies. Are your teaching materials and activities directly connected to the learning objectives? Likewise, do your assessments (quizzes, assignments, exams) effectively measure whether students have achieved those objectives? This alignment ensures that what you teach and how you assess are closely linked.

Engaging and Active Learning: Evaluate the variety and effectiveness of your instructional strategies. Are you incorporating a mix of teaching methods such as lectures, group discussions, hands-on projects, and practical exercises? Active learning techniques encourage student participation, critical thinking, and application of concepts. Consider how you can make the learning experience more engaging and interactive.

Differentiation and Inclusivity: Examine how you accommodate diverse learning styles, backgrounds, and abilities. Your teaching plan should address the needs of all students, including those with different levels of prior knowledge and learning paces. Provide multiple ways for students to access content, collaborate, and demonstrate understanding. Inclusive teaching practices foster a supportive and equitable learning environment.

Feedback and Improvement: Integrate mechanisms for ongoing feedback and reflection. Regularly gather input from students about their learning experiences and their perceptions of the course's effectiveness. Use this feedback to make timely adjustments to your teaching plan. Additionally, engage in self-reflection to identify

areas for improvement. Continuously refine your teaching strategies based on evidence and insights gained from both student feedback and your own observations.

By considering these principles, you'll be able to critically evaluate and enhance your teaching plan for Teaching Basic Engineering 1, ultimately leading to a more effective and impactful learning experience for your students.

Activity 1.2: Test your knowledge

Used to indicate an independent activity that will deepen a student's understanding. It is important that students complete all activities as they can contribute to their continuous assessment. Activities can include H5P such as Arithmetic Quizzes, Crosswords, Dialog cards, Dictation, in-Lesson writing and text export, Drag and drop with images or words, Fill in the blanks and many others.

2.5 ENGINEERING LEARNING TARGETED ACTIVITIES

[Add content here]

Reflection

This icon indicates that the student must pause and reflect. You could request them to do it with a resource, like a notebook, or you can use the H5P documentation tool to create a textbox that the student can export.

2.6 REFLECTIONS ON THE PLANNING PROCESS

Reflecting on the planning process for teaching Basic Engineering provide valuable insights for improving future instruction. As you review the planning process, you realize the need for striking the right balance between theoretical concepts and practical application. While it is important to provide students with a solid foundation of engineering principles, there is value in incorporating more hands-on activities and real-world examples. This balance helps to foster a deeper understanding of the subject matter and enhance students' problem-solving skills. The reflection process helps you to think about the missing gaps, for instance the imperative inclusion wherein the learning environment permits all students to thrive. Upon reflection, you see the potential for improvement in the future. For instance, considering to explore more diverse teaching strategies and materials to cater to different learning styles, abilities, and cultural backgroundsn to ensure that every student has an equitable

opportunity to succeed. By engaging in reflective process, we are able to refine teaching plan for the Basic Engineering.

Each reflection serves is a stepping stone toward creating effective and engaging learning environment for students. It provides a broader chance for them to develop a strong foundation in engineering principles, nurture problem-solving abilities and critical thinking skills.Teacher need to maintain a delicate balance necessary to create a meaningful learning experience and think back on the preparation process for teaching Basic Engineering in a community college setting. Planning for lesson is both difficult and rewarding in involves creating links between abstract ideas with real-world applications. The fact that students have different backgrounds and learning preferences make the importance of diversity in course design even more apparent.

Watch the video [insert name of video]

This icon indicates that the student must watch a video resource (original or YouTube). It is advised to accompany the video with an activity or a task that the student must do while watching the video. Remember to in-text and full reference your video. Tell the student what the video is about in this textbox and how long the video is. EG. Watch the following YouTube video (2min 52 sec) which explains leadership theories such as trait, behavioural, contingency and transactional leadership. As you watch the video, make notes on the characteristics of each type of leader and how it differs from a transformational leadership style.

Leadership Theories - YouTube

Source: upnextLAB (2019)

2.7 CONCLUSION

[Add content here]

2.8 REFERENCES

Bowles, S., & Gintis, H. (2002). Schooling in capitalist America revisited, *Sociology of Education*, Vol. 75(1), pp.1-18.

References:

- Textbook: "Introduction to Electrical Engineering" by [Author]
- Online resources: [Website URLs]

[Add content here]

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Things to remember when building the site: [Adapt these examples to be valid for the module]

- Create a Teams class and insert the registration link in section 1.1; also create an announcement and convey the information to students a week ahead of the synchronous session
- Insert hyperlinks to all the supporting resources
- Insert all the images/figures
- Insert a hyperlink to Activity 1.1 after discussion of types of international business – to open in a new window
- Insert a hyperlink to Activity 1.2 at the end of section 1.5 – to open in a new window
- Insert a hyperlink to Activity 1.3 at the end of section 1.6 – to open in a new window

FORUMS

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Name: Activity X.X: [Add the activity number and title exactly as it appears in the body of the document/list of activities]

Forum type: [indicate if this is a QnA, Single Simple, Each person posts/starts, Blog etc]

Group mode: [indicate if this is no groups, separate groups (other groups invisible to students in a group) or visible groups (other groups are visible)]

Description: [**Add a relevant description below – edit the example]**

Dear Students

We're excited to bring you our next activity, titled "Servant Leadership Traits in Role Models". Here's how you can get started:

Objective: Reflect on the qualities of servant leadership embodied by a chosen role model and share your insights in a constructive discussion.

Instructions:

Identify a Role Model: Consider someone in your life who you regard as a role model. This individual might be a teacher, parent, elder, or public figure—anyone who has made a significant positive impact on you.

Analyze Their Leadership Traits: Next, think about this person's leadership characteristics. Reflect on their qualities and actions and how these align with the ten traits of servant leadership outlined by Spears: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment, and building community.

Compose Your Post: Now, prepare a forum post discussing your role model and their servant leadership traits. Share how their actions and behaviors align with these traits, and explain why you admire these qualities. Be sure to give specific examples to support your points.

Post in the Forum: Post your response below by clicking “Reply”.

Engage with Peers: After posting, read through your classmates' posts. Respond to at least two other posts, sharing your thoughts, asking questions, or offering a different perspective. Remember to be respectful and constructive in your responses.

This activity is not only a chance for you to reflect on servant leadership traits but also an opportunity to learn from one another. As you read and respond to your peers' posts, consider how you might apply these lessons to your own leadership practices.

Looking forward to your thoughtful responses.

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Things to remember when building the module site: [Adapt these examples to be valid for the module]

- Insert hyperlink to internet resource – Activity 1.1 to open in a new window
- Insert images related to the questions in Activity 1.2

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QUIZZES

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Name: Activity X.X: [Add the activity number and title exactly as it appears in the body of the document/list of activities]

Quiz setting: 1/2/3 attempts

Description:

To ensure your understanding of xxx, please complete the self-assessment quiz by clicking "Start quiz". The quiz consists of 15 multiple choice questions and you will have 2 chances.

Please note that you will not be able to proceed to learning unit X before you have completed all the activities in this learning unit.

Question 1

Is the following statement true or false?

XXXXX

A. True
B. False

Question 2

Stem XXXXXXX

Which of the following statements are applicable to XXXX?

A. XXX
B. XXX
C. XXX
D. XXX

FEEDBACK ON ACTIVITY X.X

1: B – Although XXX, it might sometimes be necessary to XXX. That is why XXX
2: A, B & C – Although XXX, it might sometimes be necessary to XXX. That is why XXX

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Things to remember when building the module site: [Adapt these examples to be valid for the module]

- Create sub-category in Question Bank called Learning Unit 1 Quiz
- Develop 50 questions under additional sub-categories of easy, medium and hard
- Set the quiz to 10 questions with random selection from 2 easy, 4 medium and 4 hard (aligned with NQF)

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H5P

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Name: Activity X.X: [Name of H5P]

H5P type: Documentation tool [see other options here and learn which is most suitable for types of activity here]

Description:

Introduction

This reflective journaling activity encourages you to explore and understand the significance of culturally responsive teaching and diverse learning strategies in basic engineering education. By responding to several reflective prompts, you will have the opportunity to deepen your understanding of inclusivity, diverse teaching methods, community engagement, principles of engineering education, and your role as potential future educators in the field of engineering.

Pages

Page 1: Reflect on the importance of culturally responsive teaching in basic engineering education. How can you, as a basic engineering teacher, create a learning environment that is inclusive, respectful, and supportive of all students? Share some strategies or examples.

Page 2: How can diverse teaching strategies, such as visual aids, group work, and hands-on activities, support different learning styles and the varied needs of learners in basic engineering education? Provide examples and how you plan to include them in your own practice.

Page 3: Consider the role of families and communities in culturally responsive teaching. How can educators involve them in classroom activities and seek their input and feedback? Reflect on the benefits and challenges of engaging families and communities in the educational process.

Page 4: Reflect on the principles of engineering education discussed in the content. How do these principles align with your own understanding of engineering? How can they guide you in promoting ethical and socially responsible practices in your teaching?

Page 5: Imagine yourself as a future educator in basic engineering. How do you envision shaping the next generation of engineers? How will you foster a strong foundation in mathematics and science, promote problem-solving skills, and instill the significance of ethical and socially responsible practices?

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Things to remember when building the module site: [Adapt these examples to be valid for the module]

- Link the generated reflections to an assessment activity – tell the students it forms a component of their final assessment.

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