Individual Instructional Unit: Mini Project Assignment 1

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Needs Assessment

Background of Work Environment

Mariville School is a secondary school in Barbados which houses 90 staff members including teaching, clerical and auxiliary staff. On a daily basis, the school supervises 835 pupils between the ages of 11 to 16 years. In its remit to provide effective learning, the school has transformed spaces into authentic environments for hands-on learning. Therefore, the school houses two kitchens, mechanical engineering and wood work laboratories and hairdressing units among others. Despite the high risk of fire occurring from operating heavy duty equipment and small appliances, coupled with the natural characteristic of the Caribbean to be prone to natural disasters, the school does not have an evacuation plan in place for any emergency situation. Moreover, Mariville School has failed to perform safety drills for over 10 years and the regular checks and inspections of safety equipment by external officials is not a common practice.

The Selected Audience

A group of 90 professionals at an educational organisation will be expected to engage in this workshop. The group of professionals is composed of 23 non-teaching staff members who are further broken down into 11 males and 12 females and 67 teaching staff members which comprise 25 males and 42 females.

Topic of instruction

The workshop's topic is 'Executing an Evacuation Plan. This topic was selected because there is currently no fixed or modernised plan in place at the institution. Therefore, staff members are

unaware of their duties, roles and responsibilities and would be unable to effectively manage emergency situations.

Format

The training workshop for 'Executing an Evacuation Plan" will be delivered to participants via face to face instruction solely. A Power Point presentation that encompasses Merrill's First Principles of Instruction and videos will be employed in the face to face session.

Information Sets

Optimals:

- 98% interprets maps posted in unique locations
- 95 % correctly uses safety equipment
- 90% successfully completes an evacuation drill in less than a minute demonstrating good coordination, agility, cooperation and flexibility
- 90% assembles at assembly points without major issues
- 91% infers dangers and emergencies and recognises warning signs
- 96% interprets the warning bell correctly
- 97% demonstrates leadership roles

Optimals are important to the organisation because an Evacuation Plan is in accordance to the Occupational Health and Safety Act (2005) in Barbados which states that employers have a duty of care to the safety and wellbeing of workers. Moreover, the Town and Country Development

and Planning Office requires, through their building codes, that all businesses be equipped with emergency exits, plans and assembly points.

Building Managers, the school's appointed fire marshals, the current Health and Safety Committee at the organisation if applicable, Health and Safety Inspectors and personnel from the Disaster Emergency Management will be contacted to work as part of the Project Team as Subject Matter Experts since these persons are knowledgeable and trained on occupational health and safety and use their knowledge and expertise frequently and daily.

Data will be gathered from a literature review and through interviews with Subject Matter Experts. The literature review will be used to obtain knowledge on the topic which can help supplement and create questions for Subject Matter Experts at the interview stage. The Delphi technique will be employed at the interview stage to rank and prioritise topics accordingly.

The information gathered here is useful. Subject Matter Experts are expected to help with the selection of content or topics. This information will guide the team to achieving its optimals.

Actuals:

- Only 35% can operate safety equipment
- 30% can clearly express and demonstrate the current evacuation plan
- 5% identifies the members of the existing and functioning safety committee
- 25% locates current assembly points
- 15% interprets bell signals and their meanings
- 7% expresses learners' duties and responsibilities

- 32% expresses the duties and responsibilities of others
- 13% clearly explains staff and pupil daily method of registration and record keeping of numbers

Actuals are relevant because they can reveal the target audience's existing knowledge, performance gaps and as a result, help form objectives.

The target audience will be consulted in this information type because it is important to directly collect this information from the source to determine the learning need.

Data will be collected through small group interviews, questionnaires and participatory observations. It is believed that these data collection methods provide objective, authentic and actual information.

The information gathered will help shape the design of the workshop by starting with what learners already know and taking them to what they need to know.

Feelings:

- 80% wants to be trained
- 20% expresses negative feelings toward training and sees it as a waste of time that could be better used to carry out their normal duties
- 80% views training as being helpful, useful and beneficial to their longevity at the institution

Identifying the target audience's feelings is important because they will have to adopt a new persona in this course. Non-teaching and even junior staff members will transform to leaders in the successful execution of this workshop.

The target audience will be consulted in this information type because the workshop is targeted specifically to this group and it is important to directly collect this information from the source to determine their actual feelings.

Data will be collected through small group interviews and questionnaires. It is believed that through small group interviews, participants may be willing to openly share and disclose information regarding their true feelings toward training. Lastly, questionnaires are an effective method of capturing learners' feelings, attitudes and dispositions.

This data is useful because it informs the instructional designer as to whether more engaging strategies need to be used through the workshop. Moreover, if there are negative feelings expressed toward the programme, this information may indicate the starting point of the programme.

Causes:

- 95% of the problem is caused by an obsolete evacuation plan
- 98% of newly recruited staff members not formally being exposed to safety procedures
- 90% of a scarcity of safety equipment around the plant
- 95% of participants not being trained to use safety equipment

- 85% of participants unaware of their extended duties, roles and responsibilities in emergency situations
- 95% of Senior management adopting a secondary attitude toward emergencies

Identifying the root causes of the problem is important because it helps the Project Team to determine which problems could be solved directly with training and which need a secondary intervention method.

Subject Matter Experts as well as the target audience will be used to identify the causes of the problem. It is important to receive a broader feedback perspective because the meshing of experts' and non-experts' opinions could provide useful insight.

Data will be collected through brainstorming and interviews. These two methods have been selected because brainstorming can have the benefit of new and never thought of ideas can be discovered. Moreover, interviews can have the benefit of openly sharing in a comfortable environment.

This information is meaningful because it sets the path for identifying the core problem, satellite problems and offers guidance as to possible solutions.

Solutions:

- Provide safety procedure training for 98% of participants
- Place appropriate signage inclusive of 'location maps', identifications for assembly points around the plant

- Install safety equipment around the plant along with the regular checks and inspections from fire marshals
- Provide training for the use of safety equipment for 98% of participants
- Establish a Health and Safety Committee at the institution
- Document and publishing a communication path on the school's website where current and new staff members could refer to it at their leisure
- Demarcate assembly points

It is important to know this information to determine alternative methods to training and to implement these prior to training.

Subject Matter Experts as well as the target audience will be used to identify their solutions to the problem. It is important to receive a broader feedback perspective because the meshing of experts' and non-experts' opinions could provide useful insight especially since the final product will be left in the hands' of the target audience.

Data will be collected through interviews and the brainstorming technique. These methods have been chosen because newly thought of solutions could emerge through the brainstorming technique. Moreover, the interview has a more personalised touch. The target audience will feel empowered as though they contributed to the decision making process and implementing organisational change.

This information is meaningful because it could result in a collegial environment and a community of trust and respect for the target audience.

Learner Analysis

A learner analysis should be thorough and should offer a concise breakdown of learners' characteristics. Armstrong (2004) postulated that it should be in-depth and should provide insight into what may be bothering or be of high cncern to learners. According to Heinich (1996), this information can enable instructional designers to make decisions regarding media selection and instructional methods.

General Characteristics

Gender

There are 36 males and 54 females.

Ages

The ages range between 25 to 67 years.

Education

Academic Background

12 participants have primary and secondary education.

78 participants have acquired tertiary education.

Special Entry Characteristics

Some participants possess training in one or more than one of the following:

First aid

Minimum physical aptitude

Military training

Rescue training

Learning Styles

There will be a mixture of kinesthetic, visual, read/ write and auditory tasks which will accommodate the various learning styles.

Personal and Social Characteristics

Motivation

There is good organisational synergy among participants. Most participants appear to be eager to be trained.

Disabilities

There are two participants with disabilities. One is hearing impaired and wears a hearing aid. The other participant is partially visually impared. Both participants will be accommodated for as it relates to resources such as providing handouts with enlarged text and print and providing text with audio etc.

Contextual Analysis

In order to better understand learners and their learning environment, the Richey and Tessmer (1997) contextual analysis model was used to ensure trainers could reach the motivational, cognitive and social needs among many others, of participants. Data were collected prior to

training through an on-site visit where observations, questionnaires and small group interviews of a sample of the population took place. Based on the findings, the training session was thought to support and cater to the needs of its participants and that learners would be receptive to training. Richey and Tessmer's (1997) model allowed for the examining of learners' needs and whether the organisation was supportive of training among others. It also considered whether transfer would occur. To ascertain whether there were sufficient opportunities for learners to transfer training, Quiñones, Sego, Ford and Smith's (1995) dimensions were analysed separately. A succinct look at Quiñones and researcher's (1995) model to the instructional unit follows. In addition, see Appendix A to view the worksheet used to determine the contextual analysis at the institution.

1. Training is expected to be continuous and should be facilitated through scheduled (where participants will be told beforehand) and non-scheduled drills (where only the principal will be notified). In total, there should be approximately six drills annually. This then satisfies the requirement of having a high number of trained tasks.

2. There will be a high frequency of performing tasks. Since training is expected to be repeated periodically, learners will be given frequent opportunities to practice their new knowledge and skills.

3. The task is critical to learners' safety, their duty of care to students and to their personal safety and wellbeing.

Having analysed each component, it is suggestive that training provides opportunities for transfer.

Performance Objectives and Task Analysis

Task Analysis

Buckley (2000) stated that the task analysis stage allows for consideration to be made of the critical and key tasks to be identified. Moreover, Buckley (2000) found that Kenny and Reid's (1986) key-task analysis is useful when it proceeds a needs analysis so that emphasis could be placed on priority tasks needed for learners to gain acceptable standards. This perspective is buttressed by Morrison, Ross, Kalman and Kemp (2013) who viewed this process as a key component for learners mastering objectives. In the instructional unit, a task selection was used along with the Delphi Technique to prioritise content by its importance. Subsequently, a hierarchical analysis and a procedural analysis were used to determine requisite knowledge and to breakdown and sequence procedures. See Table 1, Chart 1 and Narrative 1 in Appendix B for the task worksheet, the prerequisite analysis and two procedural analyses respectively.

Performance Objectives

According to Morrison et al., (2013), performance objectives encapsulate two important events such as selecting and organising content for effective learning and evaluating student learning. This was evidenced in the instructional unit as results from the procedural and prerequisite analysis were used to create performance objectives, it informed the assessment stage and aided in writing assessment items. To create performance objectives for the workshop the following steps were used:

1. Develop a terminal objective. Then creating enabling objectives so that these objectives achieve the terminal objective

2. Determine whether objectives specify a performance, criteria and conditions following Morrison and researchers' (2013) and Mager's (1985) suggestions
3. Create objectives at all domains of Bloom's cognitive taxonomy. Moreover, it must be noted that in creating the second objective, which is affective and performance based, it incorporated Mager's (1984) goal analysis

The performance objectives are as follows:

Terminal Objective

- Given a series of real life scenarios, test three safety procedures and the evacuation plan by performing tasks with 95 degree of accuracy

Cognitive: Level 2: Interpretation (Analysis)

On successful completion of this workshop, staff will:

- Evacuate the building in less than a minute showing a high degree of agility, alertness and coordination in no more than 59 seconds given a classroom and using the suggested evacuation plan

Psychomotor

- Demonstrate leadership skills by a) communicating and informing students of the emergency b) speaking audibly c) modelling correct behaviour d) commending correct behaviours e) exiting last f) checking on students to ensure they are following instructions given and g) assisting others given authentic tasks

Affective: Responding Level

- Arrange a group of 10 team members to manage the roles of Sweepers and assistants by submitting names under the categories of Sweepers and assistants after viewing a presentation on each role and responsibility and using a voting sheet

Cognitive: Level 2: Interpretation (Application)

- Use three of the school's safety equipment correctly and independently and in less than a minute by demonstrating recommended standards that meets Health and Safety guidelines after viewing a demonstration

Cognitive: Level 2: Interpretation (Application)

- Devise a communication plan by arranging bell signals to communicate emergencies to staff after listening to the different suggested sounds using the school's bell

Cognitive: Level 3: Problem-solving (Synthesis)

- Chart entry, exits and assembly points by pointing them out in less than 30 seconds with the use of a map

Cognitive: Level 2: Interpretation (Application)

- Infer danger with 95 degree of accuracy by recognising warning signs with the use of props

Cognitive: Level 2: Interpretation (Analysis)

Assessment

After creating objectives, assessments were considered. The instructional unit favoured several of the principles and guidelines established in Morrison and researchers (2013) such as assessing application skills so that learners apply rules and principles rather than lower-order thinking skills. To evaluate this process, a performance scoring rubric was used. Morrison and researchers (2013) found performance rubrics to be useful tools that informed learners, teachers and parents. Arter (2007) further underscored the utility of these rubrics by stating that they remove subjectivity and make the evaluation process more objective, enable learners to self-assess and allow learners to know what a quality performance or product entails. See Appendix C, Table 2 for the scoring rubric used for the instructional unit.

Enabling Objective 1:

- Evacuate the building in less than a minute showing a high degree of agility, alertness and coordination in no more than 59 seconds given a classroom and using the suggested evacuation plan

Enabling Objective 2:

- Demonstrate leadership skills by a) communicating and informing students of the emergency b) speaking audibly c) modelling correct behaviour d) commending correct behaviours e) exiting last f) checking on students to ensure they are following instructions given and g) assisting others given authentic tasks

Assessment items

A. In groups of three, perform and execute the following tasks whereby one participant acts as a teacher or authority figure. The remaining participants act as students. Each participant takes turns performing roles so that everyone acts as a 'teacher' or 'authority figure' in each scenario:

1. You are conducting a lesson in Block K on the second floor. The warning bell has signaled. Evacuate the building in less than a minute.

2. You are in the middle of teaching a cooking lesson in the Home Economics room, when suddenly the warning bell rings. Turn off all apparatuses and evacuate students and yourself out of the building in less than one minute.

3. You are walking along the corridors of the O Block with some heavy teaching equipment in preparation for your next class. Suddenly, the warning bell rings. What do you do?

B. As a whole group, each team comments on the success of each scenario. Mention any difficulties your team encountered and state how you will improve for the future.

Enabling Objective 3:

- Arrange a group of 10 team members to manage the roles of Sweepers and assistants by submitting names under the categories of Sweepers and assistants after viewing a presentation on each role and responsibility and using a voting sheet

Assessment items

A. Volunteer Sweepers and assistants are given a number of students and staff in attendance. However, at assembly points, there is a discrepancy in the numbers. Re-enact the scenario, showing how you would handle this situation.

B. Staff adjudicates sweepers and their assistants' performances on handling this situation. Staff then votes using volunteer Sweepers and Assistant Sweepers' performance as a point of reference.

Enabling Objective 4:

- Use three of the school's safety equipment correctly and independently and in less than a minute by demonstrating recommended standards that meets Health and Safety guidelines after viewing a demonstration

Assessment item

Read each scenario. Re-enact each scenario by selecting and demonstrating how to use the correct equipment

A. There is a fire in the Technical Drawing room.

1. Enable the dual pull station
2. Select the correct fire extinguisher
3. Extinguish the fire before it gets out of control.

B. The electrical breaker wires are worn and have caused a fire. Without procedural steps and guidance, complete the necessary steps to extinguish the fire.

Enabling Objective 5:

- Devise a communication plan by arranging bell signals to communicate emergencies to staff after listening to the different suggested sounds using the school's bell

Assessment

1. You are in the process of executing your daily work duties. Three bells are rung. Respond to the correct bell as required using the established evacuation plan.

Enabling Objective 6:

- Chart entry, exits and assembly points by pointing them out in less than 30 seconds with the use of a map

Assessment item

Complete the following tasks by walking swiftly and briskly

1. Enter Block B. Find the nearest exit. Exit Block B. Assemble at correct assembly point

2. Enter Block O. Find the nearest exit. Exit Block O. Assemble at correct assembly point

3. Enter Staff Point 2. Find the nearest exit. Exit Staff Point 2. Assemble at correct assembly point

Enabling Objective 7:

- Infer danger with 95% degree of accuracy by recognising warning signs through the use of props

Assessment item

Use your senses such as sight, smell and hearing to complete the following tasks to decipher whether danger is impending. If danger is ensued, exit the building swiftly and promptly.

The instructor uses the following props:

1. A recording of children playing in a park
2. Thick smoke
3. The smell of detergent
4. The smell of gas
5. A recording of an earthquake
6. A recording of a tsunami

Instructional Strategies and Lesson

According to Morrison and researchers (2013), instructional strategies help instructional designers to create meaningful content by meshing new concepts into already understood ideas. As such, in the instructional unit, simple analogies were used along with a graphical organiser and a comparative advance organiser. In the Power Point presentation, there was a deliberate following of Merrill's First Principles of Instruction. For the analogies, comparisons are made to take learners from unfamiliar content to material with which they can relate. For instance, the watering of a garden with a water hose is likened (familiar) to the P.A.S.S method (unfamiliar concept). Similarly, the second analogy draws reference to a well-prepared tradesman with tools and equipment to inefficiency if tacit knowledge is not mastered. The comparative organiser and two analogies follow Ausubel's theory of meaningful verbal learning where Ausubel theorised that prior learning should be appended to new learning (Grippin, 1984). See Appendix D, Pictures 1 to 4 for an illustration of analogies, the graphic organiser and the comparative advance organiser.

In the lesson, a Power Point presentation was used which followed Merrill's First Principles of Instruction. Morrison et al., (2013) suggested that application of concepts should go beyond recall and should, in turn, have learners apply rules. Therefore, I used two generative strategies in the activation phase which are problem-solving and explanations. With the use of these strategies, learners should be able to think critically. For instance, in the problem-solving task, learners are given the chance to examine, weigh the pros and cons, eliminate, rationalise and choose their correct answer. Secondly, learners have to explain instances where safety equipment would most likely be used. Lastly, learners collaborate to determine the ranking order

of given rationales. In this case, learners would be processing their schemas to associate experiences among others. Using the combination of generative strategies, learners are given meaningful opportunities to develop their mental models and activate their prior knowledge simultaneously. Consequently, knowledge should become meaningful to learners.

In the application principle, Merrill (2013) found that meaningful learning should have instances where learners are given chances to demonstrate their learning. As such, the instructional unit follows the 'how to' task. This method is compact and ideal for teaching the diverse group. It allows the instructional designer to break down and sequence steps as well as elaborate on consequences. I therefore selected this method because of the complexity and importance of the task. Not only would it be adequate for learners to know how to complete their tasks, but an essential feature would be to also inform them about positive and negative consequences that occur if a step is not correctly carried out. In Appendix D, Picture 5 "pages 4 to 5" features labelled pictures in keeping with Reigeluth and Carr-Chellman's (2009) perspective that learners should be shown labelled demonstrations. Moreover, the labelled diagrams would be supplemented with a modelling activity in real time where the trainer uses authentic and real life safety equipment to model the task to the learners. In this way, as Reigeluth and Carr-Chellman (2009) suggested, learners would be given multiple ways to see the procedure.

For the application principle, learners were given a real-world yet complex task. According to Reigeluth and Carr-Chellman (2009), application is enhanced when learners complete tasks that increase in their complexity. As such, I selected three tasks for learners to

complete. In the first instance, learners are asked to reflect. Morrison et al., (2013) found that reflection helps to increase learners' schemata and mental models. Moreover, in the second task, learners were asked to organise information. By doing this, learners should still be reflecting on their demonstrations as well as thinking logically and rationally about how they will apply the information learned to the task. Lastly, in the final task, learners are given the chance to apply their information by extinguishing fires in real life settings using the safety equipment in a specified time. In this situation, each small group is allocated a coach for feedback, monitoring and quality assurance purposes. Moreover, this part is crucial as it ties in consequences discussed in the demonstration phase to the application phase where learners can experience first-hand the consequences that occur in each procedure. In the application phase, coaches would be able to provide corrective feedback to learner's behaviour and seek ways to ensure learners are performing the task effectively.

In the final phase of the workshop, learners are given another chance to reflect. Having applied their knowledge in a real life setting, they would be given a chance to let their experiential knowledge as well as advice, suggestions and tips picked up from trainers digest where they could record it for future use. In addition to this, Reigeluth et al., (2009) stated that the integration phase should go beyond having learners reflect passively. Therefor was a deliberate incorporation of this principle on the basis that learning is enhanced when they are given opportunities to teach their peers. As such, in this phase, participants engage, move around and interact with other teammates. In addition, they do this in a teachable way by looking at their weaknesses and strengths, finding a peer and exchanging ideas to improve. They are also encouraged here to use the safety equipment to demonstrate their points to their peers. By doing

this, Merrill's (2013) heuristic of having learners demonstrate their knowledge would be accomplished. Moreover, this stage appeared to give learners autonomy and empowerment. See Appendix D, Picture 4 for the complete visual representation of slides.

Reflection

Learners were a major component of the instructional unit especially for their pluralistic composition. The learner group comprised teaching and non-teaching staff between the ages of 25 to 67 years old that had a collegial culture. In spite of their differences, some learners brought unique skills and key attributes to training such as First Aid training, military training and previous experiences of evacuations among others. A misconception that I considered beforehand was the fact that although learners may have favourable perceptions toward training, they may assume that training would be delivered in a direct teaching method. To counter this notion, meaningful instructional strategies were purposefully employed that provided authentic experiences and active student responding. Moreover, there was also deliberate practice, formative assessment and opportunities for students to receive expert feedback.

Schneider (1978) and Peters, O'Connor and Eulberg (1985) as was cited in Tessmer and Richey (1997) created a gardening analogy that I used to clarify and define my role as an instructional designer. As a gardener, I was conscious of the differences of my seeds (learners); that is, their different needs and ways of interpreting information. I therefore had to carefully employ meaningful and generative strategies to promote learning so that learners would process information at a greater rate. Some specific strategies used are advance organisers and analogies. These strategies were pre-instructional and were used to introduce the lesson which allowed learners to make meaningful connections. Moreover, learners were skillfully guided from the known to the unknown and new information was broken down into manageable chunks which made the reception of new information easier to digest. Since strategies were strategically

placed, learners were incrementally exposed to new content and any feelings of overwhelm would be reduced.

There were several principles and heuristics that were useful. For instance, the scoring rubric provided precise and exact observable measures which allowed me to determine learners' strengths and weaknesses. Similarly, creating performance objectives had the same effect. I also found the contextual and learner analysis to be valuable as it provided data that allowed me to revisit content so that it would be more aligned to learners' needs. Lastly, the most useful design element was the use of backward design. By creating objectives first, then using that information to create assessments was extremely important in my instructional unit. I found that it helped me to align and sequence content together purposefully. Contrary, whilst I did find content sequencing to be important, it was one of the most complex and challenging tasks. I actually thought it was too rigid and did not allow enough flexibility. I stumbled on hierarchical analysis and although I had a declarative understanding of it, it was difficult to transfer my understandings to procedural knowledge. I think I still viewed it as a procedure as oppose to prerequisite knowledge needed.

Furthermore, there are other components that I would modify. For instance in the data collection process of the needs analysis, I would seek to incorporate media and technology in methods including observations and the interview process among others. For instance, for questionnaires and surveys, a paper-based questionnaire could be swapped with a video where learners could watch content and select and insert their responses as the video progresses. This method could create a relationship between the instructional designer and learners. The only caveat is that video creation would be time-consuming.

My peers were my biggest motivators. I found their feedback to be useful. Admittedly, it was difficult initially to get use to other persons openly critiquing my work and my efforts. However, I did find their feedback to be useful especially when they provided suggestions and examples to help me to understand a concept better.

Overall, I found the systematic process of the Morrison, Ross, Kemp instructional design model to be useful to my learners. The challenges experienced were minute and could be tweaked and would perhaps be removed with more practice. Moreover, the advantages outweighed the disadvantages. With the use of this model, I found learners were given meaningful content and as a result, they were receptive to learning.

References

Armstrong, A.-M. (2004). *Instructional Design in the Real World: A view from the trenches.* Hershey: Information Science Publishing.

Buckley, R. (2000). *The Theory and Practice of Training.* London: Kogan Page.

Grippin, P. (1984). *Learning Theories and Learning Outcome: The connection*. Lanham: University of Press of America.

Heinich, R. (1996). *Instructional Media and Technologies for Learning.* New Jersey: Prentice-Hall.

Mager, R. F. (1984). *Goal Analysis.* California: David S. Lake Publishers.

Mager, R. F. (1984). *Preparing Instructional Objectives.* California: Pitman Management and Training.

Morrison, G. M., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2013). *Designing Effective Instruction Seventh Edition.* New Jersey: Wiley.

Quiñones, M. A., Sego, D. J., Ford, K. J., & Smith, E. M. (1995). The Effects of Individual and Transfer Environment Characteristics on the Opportunity to Perform Trained Tasks. *Training Research Journal 1*, 29-45.

Reigeluth, C. M., & Carr-Chellman, A. A. (2009). *Instructional- Design Theories and Models: Building a common knowledge base Volume III.* New York and London: Taylor and Francis, Publishers.

Merrill, M. D. (2013). *First Principles of Instruction: Identifying and designing effective, efficient and engaging instruction.* San Francisco: Pfeiffer.

Tessmer, M., & Richey, R. C. (1997). The Role of Context in Learning and Instructional Design. *Educational Technology Research and Development*, 85-115.

Appendices

Appendix A

Contextual Analysis Worksheet

Directions: Identify relevant factors in categories (only where and when appropriate) and indicate the effect they will have by circling appropriate number.

-2 Greatly impedes

-1 Slightly impedes

+1 Slightly facilitates

+2 Greatly facilitates

Orienting Context

Learner Factors

-The majority of participants are at a mobile age -2 -1 +1 **+2**

-23% of participants have background knowledge of an evacuation -2 **-1** +1 +2

-86% of participants are comfortable receiving information through visual, auditory and kinesthetic methods -2 -1 +1 **+2**

- There is a low presence of individualism -2 -1 +1 **+2**

Goal Setting

Achievability

-84% of participants are desirous of meeting the training goal -2 -1 +1 **+2**

Personalisation of Training Goals

-77% of participants can visualise a successful evacuation -2 -1 +1 +2

- 83% of the 77% of participants listed 'orderly filing', 'assisting others' and 'responding to the bell' as personal criteria they would use to evacuate safely -2 -1 +1 +2

Perceived Utility

- Participants' believe that training is useful to their tenure at the organisation and solidifying their duty of care to students -2 -1 +1 +2

Perceived Future Use

-A belief of the likelihood of a disaster or emergency occurring and training being applied to a real life context -2 -1 +1 +2

-A belief that training can be applied to external situations outside of the organisation

-2 -1 +1 +2

Perceived Ease of Use

Participants believe training will be challenging -2 -1 +1 +2

Perceived Accountability

Training will be followed up with random fire drills that will be announced and unannounced

-2 -1 +1 +2

Immediate Environment Factors

Social Support

Peer Support

-There is a collegial organizational culture and influential peers have a positive outlook on training

-2 -1 +1 +2

Organisational Factors

Incentives

-Participants are satisfied with verbal praise as motivators -2 -1 +1 +2

Learning Culture

-75% of participants view their workplace as a professional institution that provides opportunities for personal and professional development -2 -1 +1 +2

Instructional Context

Learner Factors

Learner Role Perception

-Participants believe that training would be delivered in an arbitrary lecture style and they would be passive participants -2 -1 +1 +2

Learner Task Perception

-Participants are dubious that the institution will adopt new policies such as changes to attendance of staff and students. -2 -1 +1 +2

-16% of participants expressed concerns of descending stairs in a timely manner

-2 -1 +1 +2

Immediate Environment Factors

Sensory Conditions

-Learners will be exposed to multiple settings: outdoors, indoors and in the institution's assembly area

-2 -1 +1 +2

Olfactory and Visual factors in the Outdoors Setting

-A controlled and small fire will be ignited on the playing field -2 -1 +1 +2

-There is a high chance that the fire will pique students' interests -2 -1 +1 +2

- Participants will have to stand in humid conditions depending on the weather

-2 -1 +1 +2

Olfactory and Visual factors in the Indoors Setting

-These environments are common to participants -2 -1 +1 +2

-Learners will be feel comfortable and relaxed in these familiar places

-2 -1 +1 +2

Seating

-Seating will be available -2 -1 +1 +2

Instructor role perception

-96% indicated that they would find the sessions meaningful if the instructor engages them in the content by asking and responding to questions, fostering group collaboration, and praising correct behaviour -2 -1 +1 +2

Learning schedules

-The two day training course has been selected, approved and agreed upon by all participants

-2 -1 +1 +2

-A 100% attendance is expected -2 -1 +1 +2

Organisational Factors

Rewards and values

-There is a low culture of being resistant to change and adopting this new evacuation plan

-2 -1 +1 +2

Teaching supports

-The principal has assured that the designated time for training has been approved by the Ministry of Education -2 -1 +1 +2

-Dates for conducting post-drills have already been set and approved by the principal

-2 -1 +1 +2

Training Supports

- Pertinent information such as videos, hand-outs and other resources and materials will be posted on the school's website so that learners could refer to them at their convenience and in the future -2 -1 +1 +2

Transfer Context

Learner Factors

Utility perception

- Due to the fact that there is a high level of goal setting and learner perception of utility, it is believed that there will be a near transfer of training -2 -1 +1 +2

Perceived Resources

-Special tools and equipment such as fire extinguishers, fire hoses and fire alarms will be installed by the fire department prior to training -2 -1 +1 +2

Transfer coping strategy

-To support the 16% of learners who had a low perception of successfully executing the task, trainers will recommend that the organisation avoids placing these individuals in locations where they are unable to descend -2 -1 +1 +2

- To ensure that the new suggested method of recording staff and students can be used, trainers will suggest and demonstrate new methods appropriately

-2 -1 +1 +2

Experiential Background

-Far transfer will occur because only a few persons have previously been exposed to training

-2 -1 +1 +2

Immediate Environment Factors

Transfer Opportunities

Using Quiñones, Sego, Ford and Smith's (1995) dimensions, it is suggestive that training provides opportunities for transfer -2 -1 +1 +2

Social support

-Because of the collegial culture observed, it is believed that learners will be encouraging of each other and will collaborate to accomplish tasks

-2 -1 +1 +2

- The principal has assured that his administration team and he will engage in verbal praise and positive reinforcements of persons who display the correct behaviour during drills

-2 -1 +1 +2

Situational cues

-The installation and demarcation of entry points and exit points acts as job aids and visual cues

-2 -1 +1 +2

- Notices will be posted and emailed to learners periodically to remind them of their roles and responsibilities -2 -1 +1 +2

Organisational Factors

Transfer culture

-The institution allocates time in their planning activities at the start of the term to include training for participants -2 -1 +1 +2

- Drills are accommodated for by taking time from teaching to allow successful transfer opportunities -2 -1 +1 +2

Incentives

-There are no organisational incentives for successful transfer of knowledge and skills

-2 -1 +1 +2

Worksheet 1 shows the contextual analysis for participants at Mariville School.

Appendix B

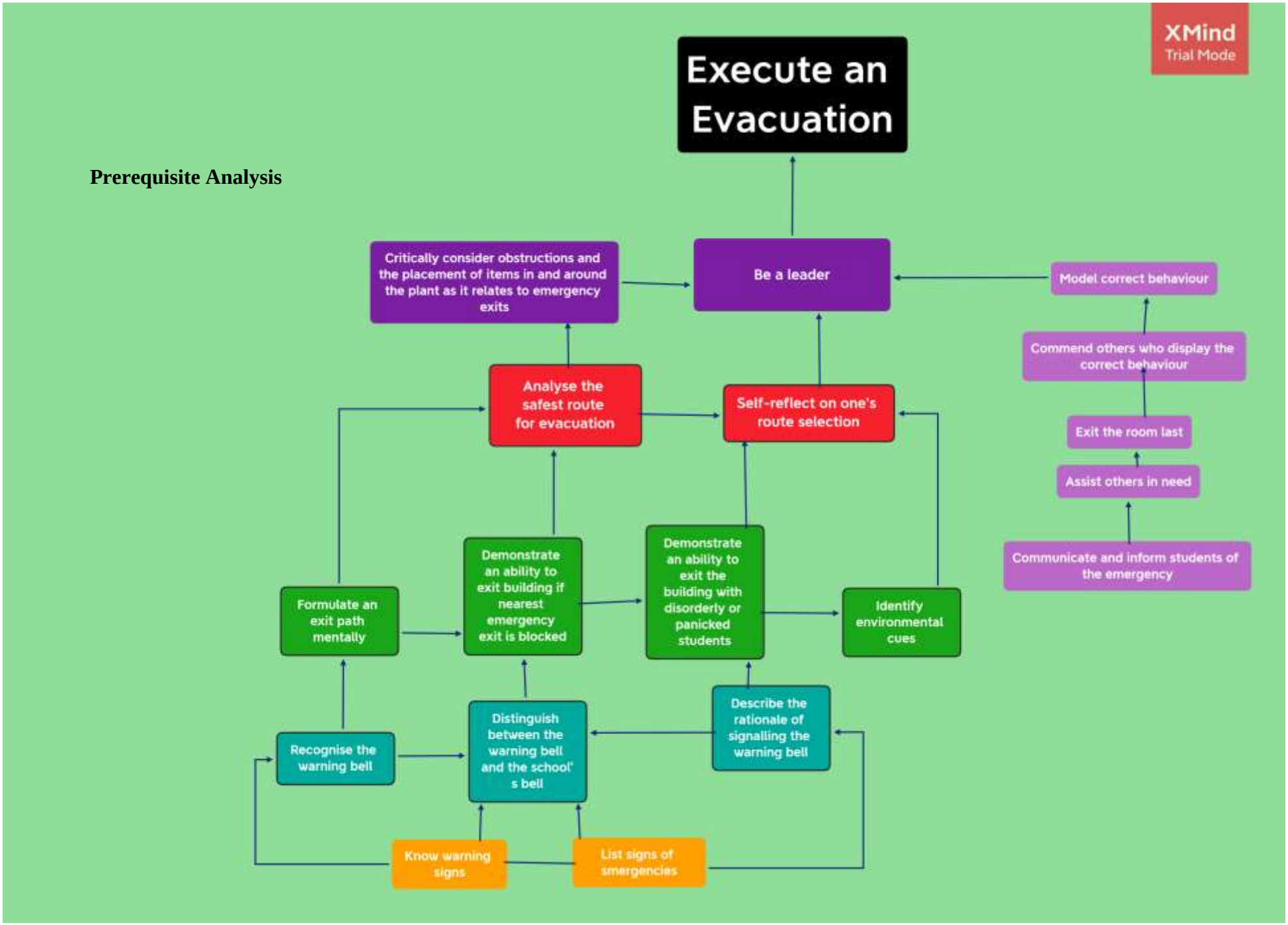
Task Selection Worksheet

Criteria for Task Selection Worksheet	**Criticality** **40 pts**	**Universality** **10 pts**	**Frequency** **10 pts**	**Standardization** **10 pts**	**Difficulty** **30 pts**	**Total** **100 pts**	**Notes**	***Priority***
TASKS	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	***#8***
Establishing roles and responsibilities	35	10	10	8	10	73	high	***2***
Executing the evacuation plan	40	10	10	8	20	88	critical	***1***
Using safety equipment	30	10	10	10	10	70	high	***3***
Identifying signage and map reading	20	8	10	9	5	52	moderate	***6***
Establishing a communication plan	30	8	10	7	10	65	moderate	***4***
Identifying warning signs	20	4	5	4	10	47	low	***7***
Locating entry, exits and assembly points	25	10	10	10	5	60	high	***5***

Priority range: 0-25 (low); 26-51 (moderate); 52-77 (high); 78-100 (critical)

Table 1 shows the task selection worksheet used

Prerequisite Analysis



Procedural Analysis

Executing the Evacuation

Level I:

1. Identify the warning bell

2. Draw students away from what they are doing

3. Maintain order while leaving the class

4. Locate the nearest exit

5. Exit building in under 60 minutes

6. Maintain order at assembly points

7. Conduct a headcount of students and staff at assembly points

8. Communicate with Sweepers and fire marshals

9. Document information

Level II:

1. **Identify the warning bell**

    1.1. React and respond to the bell immediately by stopping what you are doing

    1.2. Scan the environment quickly

    1.3. Gather any sensory information

1.4. Look for cues for the type of emergency that is being ensued

2. Draw students away from what they are doing

2.1. Notify students of the significance of the bell in a brief sentence

2.2. Instruct students to orderly exit in a single file

2.3. Ensure that students are filing without their possessions

3. Maintain order while leaving the class

3.1. Have a calm disposition

3.2. Direct students to follow your lead

3.3. Stand to the side as students vacate

4. Locate the nearest exit

4.1. Ensure that the nearest exit is the most appropriate route to take

4.2. Use an alternative route if necessary

5. Exit building in under 60 minutes

5.1. Observe students as they exit the building

5.2. Commend students so that the desired behaviours can be copied

6. **Ensure order at assembly points**

6.1. Lead students uphill, upwind or upstream to assembly points

6.2. Ensure that students are still walking in queue

6.3. Instruct students to assemble at their correct assembly points

6.4. Instruct students to stay in line and on-site

7. Conduct a headcount of students and staff at assembly points

7.1. Count students and staff assembled

7.2. Report headcount numbers to Sweepers/ Coordinators

8. Communicate with sweepers and fire marshals

8.1. Communicate any final discrepancies of numbers to Sweepers/ Coordinators and Fire Marshalls

8.2. Communicate with other leaders at different assembly points if there is a discrepancy in headcount numbers

9. Document information

9.1. Document the incident in the school's Health and Safety Committee records

9.2. Record specifically whether it was a drill or an actual alarm

Level III

1. Identify the warning bell

1.1.1. React and respond to the bell immediately by stopping what you are doing

1.1.2. Scan the environment quickly

1.1.3. Gather any sensory information

1.1.4. Look for cues for the type of emergency that is being ensued

1.1.5. Remove any obstructions in the path of exits by opening doors etc.

1.1.6. Mentally map out the quickest and safest exit

1.1.7. Consider a second exit as an alternative

2. Draw students away from what they are doing

2.1.1. Notify students of the significance of the bell in a brief sentence

2.1.2. Instruct students to orderly exit in a single file

2.1.3. Ensure that students are filing without their possessions

2.1.4. Identify students who may need special assistance

2.1.5. Assist special needs students accordingly

3. Maintain order while leaving the class

3.1.1. Have a calm disposition

3.1.2. Direct students to follow your lead

3.1.3. Stand to the side as students vacate

3.1.4. Observe students as they exit the class

3.1.5. Ensure that all students under your care have vacated the class

4. Locate the nearest exit

4.1.1. Ensure that the nearest exit is the most appropriate route to take

4.1.2. Use an alternative route if necessary

4.1.3. Call the emergency hotline if you are unable to evacuate safely

4.1.4. Assist others as necessary

5. Exit building in under 60 minutes

5.1.1. Observe students as they exit the building

5.1.2. Commend students so that the desired behaviours can be copied

5.1.3. Ensure that all persons in the group have vacated the building

5.1.4. Instruct students to assemble at their correct assembly points

6. Ensure order at assembly points

6.1. Lead students uphill, upwind or upstream to assembly points

6.2. Ensure that students are still walking in queue

6.3. Instruct students to assemble at their correct assembly points

6.4. Instruct students to stay in line and on-site

6.5. Ensure that students are not obstructing the path of emergency vehicles

6.6. Instruct students to await and listen to instructions from Public Safety

7. Conduct a headcount of students and staff at assembly points

7.1. Count students and staff assembled

7.1. Report headcount numbers to Sweepers/ Coordinators

7.2. Await any discrepancies of numbers

7.3. Recount if necessary

8. Communicate with Sweepers and fire marshals

8.1. 1. Communicate any final discrepancies of numbers to Sweepers/ Coordinators and Fire Marshalls

8.1.2. Communicate with other leaders at different assembly points if there is a discrepancy in headcount numbers

8.1.3. Communicate any tactile and sensory information to fire marshals

8.1.4. Wait until the 'all clear' is given

9. Document information

9.1.1. Document the incident in the school's Health and Safety Committee records

9.1.2. Record specifically whether it was a drill or an actual alarm

9.1.3. Document particulars such as the headcount, date and time of incident among other pertinent information

Establishing Roles and Responsibilities Procedural Analysis

Level I:

1. Identify participants' principal role and responsibility
2. Display the major roles and responsibilities to participants
3. Check for good and routine daily attendance practices for recording actual numbers of students' and staff's attendance
4. Request volunteers for each role
5. Document and sign contract

Level II:

1. **Identify participants' principal role and responsibility**

    1.1. Inform participants that their main role is to respond immediately on hearing the warning bell

    1.2. State that a response to the bell is needed whether it is a drill or even if participants are on their non-contact hours or break period

    1.3. Explain that a response means locating nearest the exit, ensuring its safety for use and exiting the premises

2. **Display the major roles and responsibilities to participants**

    2.1. Activate any prior knowledge that participants may have of these roles

    2.2. Ensue a discussion on the roles and what they may entail

    2.3. Ask probing questions

    2.4. Watch a video of the roles and responsibilities needed so that concepts, principles and rules may be solidified

    2.5. Discuss the contents of the video

3. **Check for good and routine daily attendance practices for recording students' and staff's attendance**

    3.1. Find out the school's attendance method for keeping actual numbers of attendance for staff, students and visitors on-site

    3.2. Suggest a method or an approach for recording actual numbers of staff, students and visitors if none is currently in place

    3.3. Offer alternative methods of recording actual numbers of staff, students and visitors if suggestions do not match the environment or culture

4. **Request volunteers for each role**

    4.1. Ask staff members to volunteer for the roles of Sweepers/ Coordinators at assembly points

    4.2. Ask staff members to volunteer for the roles of Assistant Sweeper/ Coordinator

    4.3. Explain the importance of having an assistant for this role is in case the Sweeper is not on-site on the day of the drill

5. **Document names of Sweepers and their assistants**

    5.1. Document names of Sweepers and their assistants in the school's Health and Safety records

5.2. Ensure that Sweepers and assistants read, understand and agree to undertake the stipulated roles and responsibilities

Level III

1. Identify participants' principal role and responsibility

1.1.1. Inform participants that their main role is to respond immediately on hearing the warning bell

1.1.2. State that a response to the bell is needed whether it is a drill or even if participants are on their non-contact hours or break period

1.1.3. Explain that a response means locating nearest exit, ensuring its safety for use and exiting the premises

1.1.4. Explain the duty of care that adults have in safeguarding students' safety

1.1.5. Ask staff to always assist others in need

2. Display the major roles and responsibilities to participants

2.1.1. Activate any prior knowledge that participants may have of these roles

2.1.2. Ensue a discussion on the roles and what they may entail

2.1.3. Ask probing questions

2.1.4. Watch a video of the roles and responsibilities needed so that concepts, principles and rules may be solidified

2.1.5. Discuss the contents of the video

2.1.6. Outline the main roles and responsibilities needed to carry out an evacuation plan

2.1.7. Discuss the necessary attitudes and dispositions to adopt for each role

2.1.8. State the necessary attitudes and dispositions to adopt for each role

3. Check for good and routine daily attendance practices for recording students' and staff's attendance

3.1.1. Find out the school's attendance method for keeping actual numbers of attendance for staff, students and visitors on-site

3.1.2. Suggest a method or an approach for recording actual numbers of staff, students and visitors if none is currently in place

3.1.3. Offer alternative methods of recording actual numbers of staff, students and visitors if suggestions do not match the environment or culture

3.1.4. Determine whether staff believe this method is practical, feasible and can be implemented long term

3.1.5. Perform random checks to ensure staff is accurately recording daily attendance of students and staff

4. Request volunteers for each role

4.1.1. Ask staff members to volunteer for the roles of Sweepers/ Coordinators at assembly points

4.1.2. Ask staff members to volunteer for the roles of Assistant Sweeper/ Coordinator

4.1.3. Explain the importance of having an assistant for this role is in case the Sweeper is not on-site on the day of the drill

4.1.4. Ensure that participants for each role are willing and responsible

4.1.5. Ensure that each assembly point has a Sweeper and an Assistant Sweeper

5. Document names of Sweepers and their assistants

5.1.1. Document names of Sweepers and their assistants in the school's Health and Safety records

5.1.2. Ensure that Sweepers and assistants read, understand and agree to undertake the stipulated roles and responsibilities

5.1.3. Require Sweepers and their assistants to sign a document

Narrative 1 depicts a procedural analysis of two tasks: Execute an Evacuation and Establishing roles and responsibilities

Appendix C

Elements	**Superior**	**Above Average**	**Average**	**Below Average**	**Unsatisfactory**
	9-10	7-8	5-6	4-3	1-2
Execution of Tasks	Participant performs five tasks in an exemplary manner within a minute. Displays confidence. No self-correction is needed	Participant performs four to five tasks within a minute. Displays confidence. Only occasional incorrect execution of task displayed but quickly and correctly recovers himself or herself in less than five seconds	Participant performs three to four tasks within a minute. Confidence is not shown consistently. Some incorrect performance is displayed but is able to correct himself or herself within five to 10 seconds	Participant completes two to three tasks over a minute but within two minutes. Confidence is shown seldom. Some incorrect performance is displayed and takes more than 10 to 15 seconds to correct himself or herself	Participant does not complete any task or only one task. Participant goes over the time period by two to three minutes. Minimal confidence is shown. Participant shows frustration. Takes more than 20 seconds to self-correct himself or herself

Coordination	Participant displays exemplary coordination whilst performing tasks. He or she does not lose balance and is not disoriented. Participant maneuvers swiftly from task to task without any needed guidance, spending an average of one to two seconds at each task station before responding to the stimuli	Participant displays very good coordination whilst performing tasks. He or she loses balance one or two times. He or she displays two instances the most of disorientation. Participant maneuvers swiftly from task to task with only one or two instances of needed guidance and assistance, spending an average of three to four seconds at each task station before responding to the stimuli	Participant displays good coordination whilst performing tasks. He or she loses balance three to four times. He or she displays three instances of disorientation. Participant maneuvers at an average pace from task to task with three to four instances of needed guidance, spending an average of five seconds at each task station before responding to the stimuli	Participant appears slightly uncoordinated whilst performing tasks. He or she loses balance five to six times. He or she displays four instances of disorientation. Participant maneuvers slowly from task to task with five instances of needed guidance, spending an average of six seconds before responding to the stimuli	Participant has very poor coordination while performing tasks. He or she loses balance seven to eight times. He or she displays five instances of disorientation. Participant maneuvers slowly from task to task with six instances of needed guidance, spending an average of seven seconds before responding to the stimuli

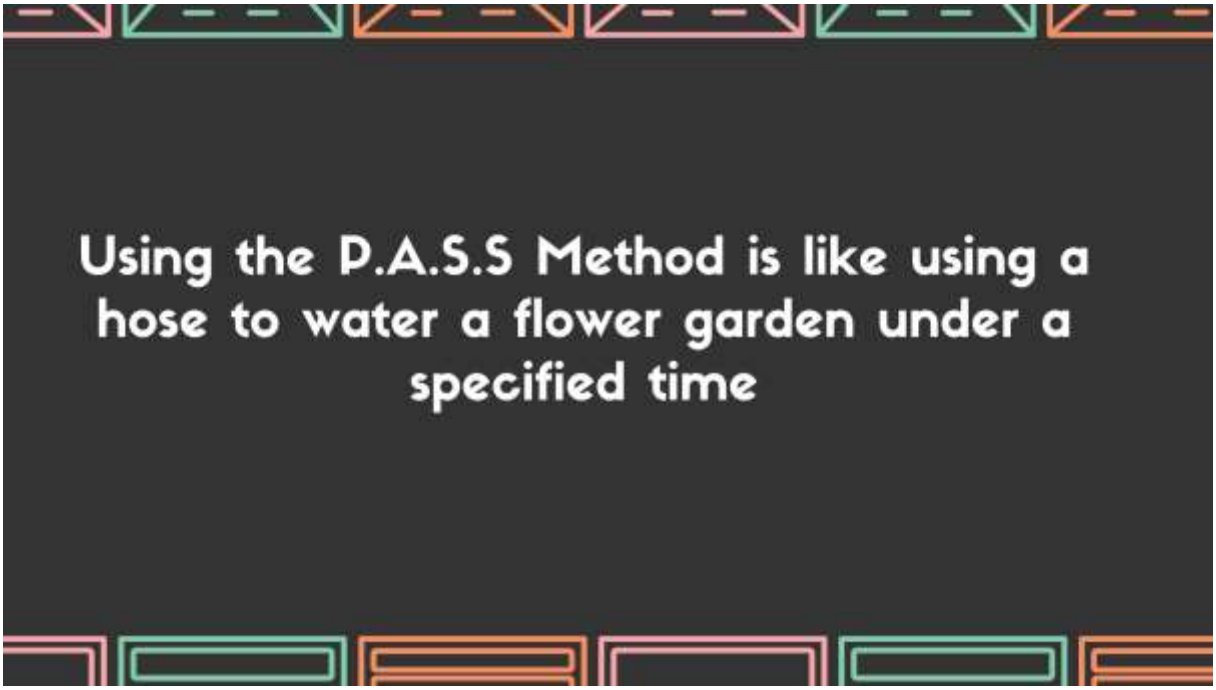
Cooperation	Shows excellent peer to peer collaboration. Listens attentively to and follows five directives given by leaders and or other team mates. Assists two team members and at least four other colleagues from another group	Shows very good peer to peer collaboration. Listens attentively to and follows four directives given by leaders and or other team mates. Assists one team member and at least three other colleagues from another group	Shows moderate peer to peer collaboration. Adequately listens to and follows three instructions given by leaders and team mates. Assists one team members and at least two other colleagues from another group	Shows unsatisfactory peer to peer collaboration. Partially listens to and follows two instructions given by leaders and team mates. Does not assist any team members from his or her group but assists one colleague from another group	Shows poor peer to peer collaboration. Participant inadequately listens to and follows only one instruction given by leaders and team mates. Does not assist any leaders, team members nor any colleagues from another group
Agility	Participant takes long and very quick strides. He or she pushes off toes of the back foot which adds momentum. Maintains very good posture throughout tasks. He or she bends his or her arms for extra	Participant takes long and quick strides. He or she pushes off toes of the back foot which adds momentum. Maintains good posture throughout tasks. He or she bends arms for 45 seconds	Participant takes medium and average paced strides. He or she pushes off toes of the back foot which adds momentum. Maintains satisfactory posture throughout tasks. He or she bends arms for 30	Participant takes short and slow strides. He or she pushes off heel of the front foot which does not add momentum. Participant has a slouched posture throughout tasks where shoulders are dropped. He or she bends arms partially	Participant takes very short and very slow strides. He or drags feet and does not push off toes. Participant has a curved posture throughout tasks where shoulders and head are dropped. Hands are not bended but sways at sides

	acceleration throughout the tasks		seconds	bends her arms or only does so for 10 to 29 seconds	
Alertness	Participant observes seven environmental cues intentionally placed. Scans the environment appropriately and within five seconds. Appears to be very focused on tasks	Participant observes five or six environmental cues intentionally placed. Scans the environment appropriately and within six to eight seconds. Appears to be focused on tasks	Participant observes four or three environmental cues intentionally placed. Scans the environment appropriately in nine to eleven minutes. Appears to be moderately focused on tasks	Participant observes only one or two environmental cues. He or she forgets to scan the environment and or does so taking more than 12 but less than 20 seconds. Appears distracted	Participant does not observe any movements. Forgets to scan the environment and or does so taking more than 21 seconds. Appears distracted

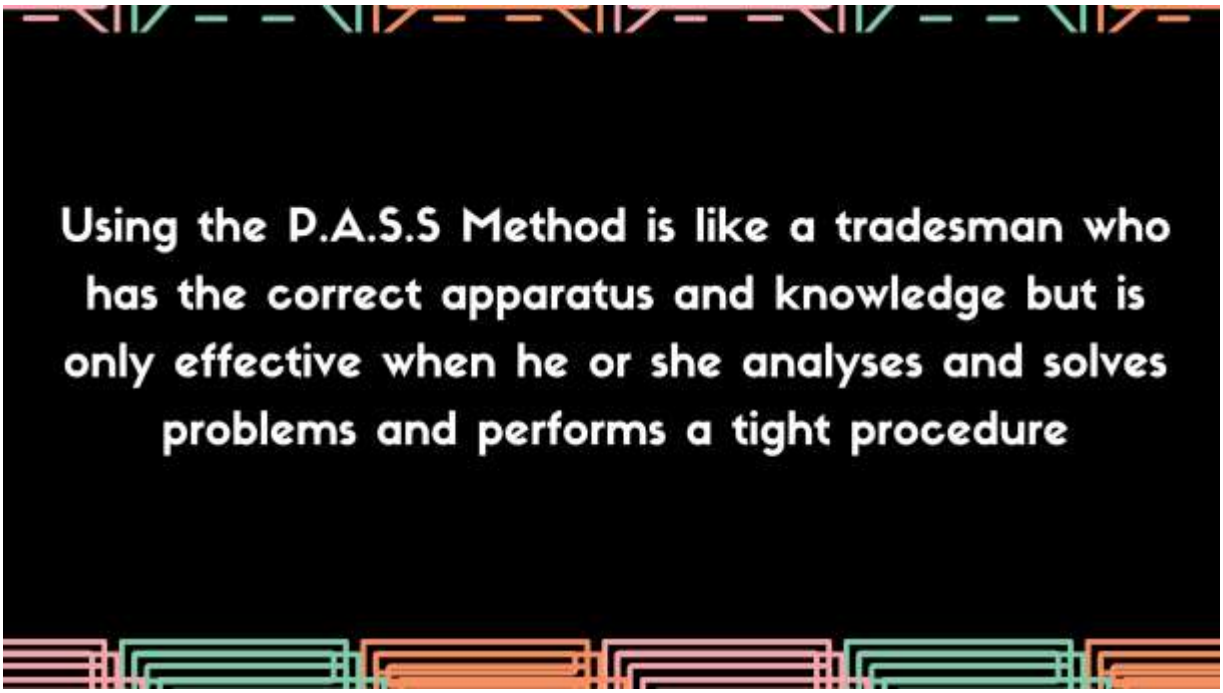
Table 2 demonstrates a scoring rubric

Appendix D

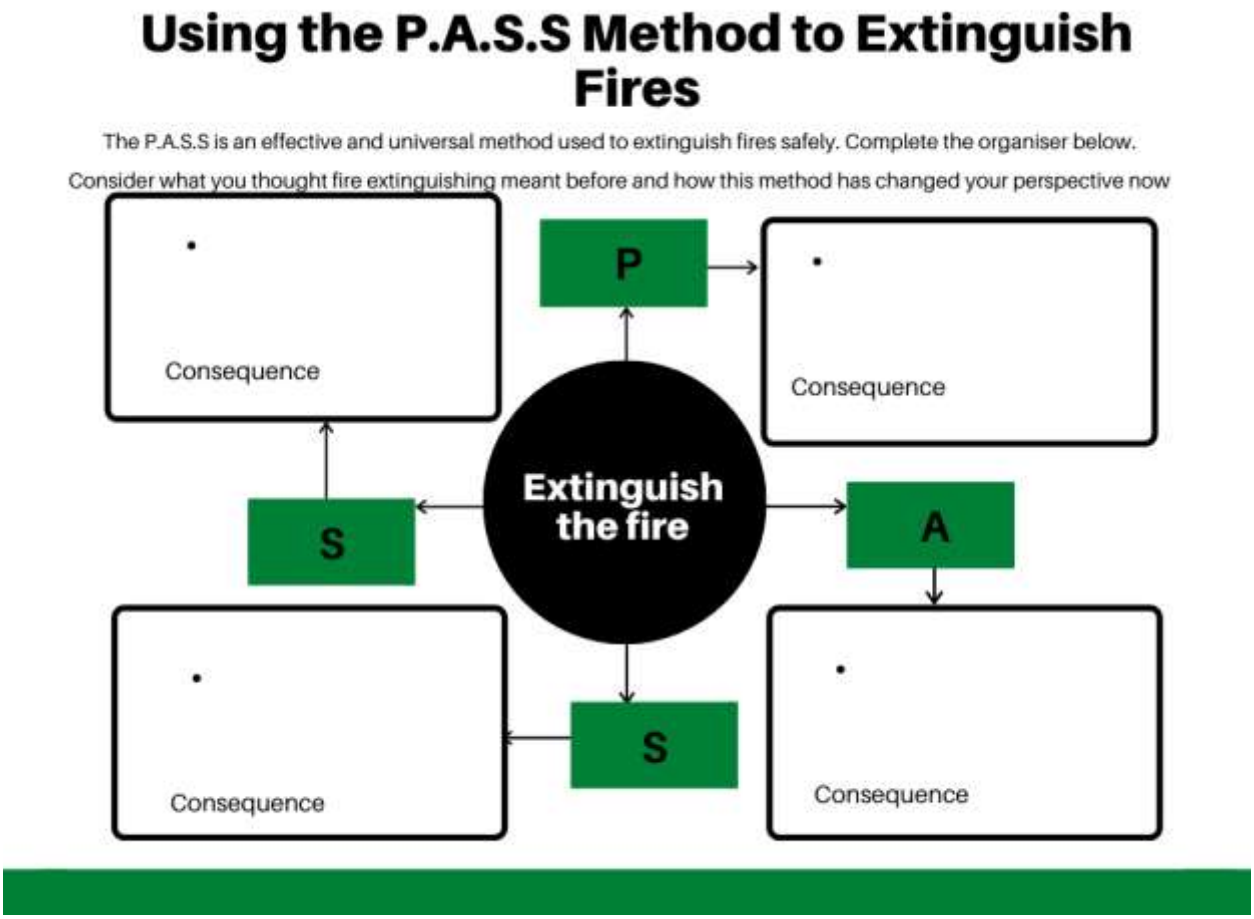
Picture 1 shows a comparative advance organiser



Picture 2 shows the first analogy used



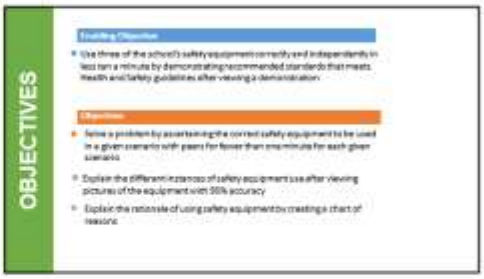
Picture 3 shows the second analogy used



Picture 4 shows a graphic organiser used

19/03/2021


Executing an Evacuation Planning
training lesson for Melville secondary school


OBJECTIVES


OBJECTIVES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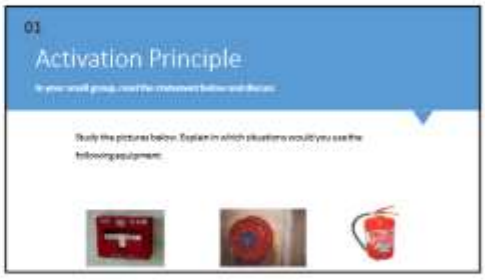
02 Demonstration Principle
03 Application Principle
04 Integration Principle


01
Activation Principle


01
Activation Principle

19/03/2021

01

Activation Principle

In your small groups, organise the following rationales in order of importance from one to four with one being the least important and four being of utmost importance. A small discussion shall ensue afterwards

The rationale of knowing how to use safety equipment:

Knowledge gained can
- save lives
- reassure nerds and give a sense of security, trust and confidence
- provide procedural and tacit knowledge regarding special equipment and their rules
- act as a preventative measure by deterring fires from spreading and getting out of control
- boost self-confidence

2

Demonstration Principle

Watch a video outlining the correct ways to use a fire extinguisher according to the Health and Safety guidelines

https://www.youtube.com/watch?v=ONUIEMSbrog

02

Demonstration Principle

Observe the trainer as he breaks down each sequence and models it for participants

Using a Fire Extinguisher

Step 1:
- Gauge the ferocity of the fire. Scan the room for flammable items close to the fire. Measure the distance between flammable items and the fire. Stand 10 metres away from the fire to feel the intensity of the heat of the fire
- If it is deemed controllable, select a fire extinguisher. If it appears unmanageable, contact the fire brigade

02

Demonstration Principle

The trainer breaks down each sequence, models it for participants

Using a Fire Extinguisher

Step 2:
- Determine the type of fire it is
- Select the correct extinguisher to be used

02

Demonstration Principle

Consequence of Task

Using a Fire Extinguisher

Step 2:
- Determine the type of fire it is
- Select the correct extinguisher to be used

Negative consequence:

If incorrect fire extinguisher is used, the fire may intensify, cause lesions, burns, electrocution or even death

Demonstration Principle: Select the Correct Fire Extinguisher

A		Ordinary Combustibles	Wood, Paper, Cloth, Etc.
B		Flammable Liquids	Grease, Oil, Paint, Solvents
C		Live Electrical Equipment	Electrical Panel, Motor, Wiring, Etc.
D		Combustible Metal	Magnesium, Aluminum, Etc.
K		Commercial Cooking Equipment	Cooking Oils, Animal Fats, Vegetable Oils

19/03/2021

02

Demonstration Principle

Observe the trainer as he models this step

Using a Fire Extinguisher

Step 3: Execute the P.A.S.S method

- Pull the pin

A. The pin

02

Demonstration Principle

Consequences

Using a Fire Extinguisher

Step 3: Execute the P.A.S.S method

- Pull the pin

Positive Consequence:

If the pin is pulled, the safety lock is released

Negative Consequence:

nothing happens

02

Demonstration Principle

The trainer breaks down this step, models it for participants

Using a Fire Extinguisher

Step 3.1: Execute the P.A.S.S method

- Aim the nozzle at the problem area

02

Demonstration Principle

Consequence

- Aim the nozzle at the problem area

Positive Consequence

There is a greater chance of targeting the problem area and getting the fire extinguished at a faster rate

A. The nozzle

02

Demonstration Principle

Observe the trainer as he breaks down each sequence and models it for participants

Using a Fire Extinguisher

Step 3.2: Execute the P.A.S.S method

- Squeeze the trigger

A. The trigger

02

Demonstration Principle

Consequence

Using a Fire Extinguisher

- Squeeze the trigger

Negative Consequence:

By failing to squeeze, nothing happens. The contents of the fire extinguisher is not released

02

Demonstration Principle

The trainer breaks down each sequence and models it for participants

Using a Fire Extinguisher

Step 3.3: Execute the P.A.S.S method

- Sweep the nozzle at the base of the flame from side to side

02

Demonstration Principle

Consequence

Using a Fire Extinguisher

Step 3.3: The P.A.S.S method

- Sweep the nozzle at the base of the flame from side to side

Positive Consequence:
You target a wide area of the problem area, increasing your chances of outing the fire faster

02

Demonstration Principle

The trainer breaks down each sequence and models it for participants

Using a Fire Extinguisher

Step 4: Oversee to ensure the fire is completely extinguished

02

Demonstration Principle

Consequence

Using a Fire Extinguisher

Step 4: Oversee to ensure the fire is completely extinguished

Negative Consequence:
If this step is neglected, the fire can be reignited

2.1 Demonstration Principle

https://www.youtube.com/watch?v=i75kbOZRea4

Watch a video outlining the correct way to use a fire hose according to the health and safety guidelines

02

Demonstration Principle

The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 1:

- Determine that it is a Class A fire
- Open the main valve to fill it with water

19/03/2021

02
Demonstration Principle
Consequence

Using a Fire Hose

Step 1:
- Determine that it is a Class A fire
- Open the main valve to fill it with water

A. The main valve

Negative Consequence:
If the main valve is not filled, water does not reach the nozzle

02
Demonstration Principle
The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 2:
- Do a water test to ensure the hose is functioning

02
Demonstration Principle
Consequence

Using a Fire Hose

Step 2:
- Do a water test to ensure the hose is functioning

Negative Consequences:
If this step is neglected, there may be a weak water pressure that may be insufficient for ousting the fire

02
Demonstration Principle
The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 3:
- Place the hose over shoulder and pull whilst approaching the problem area

02
Demonstration Principle
Consequence

Using a Fire Hose

Step 3:
- Place the hose over shoulder and pull whilst approaching the problem area

Positive consequences:
There is better maintenance and control of the hose

02
Demonstration Principle
The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 4:
- Select the 'spray' option on the nozzle

19/03/2021

02

Demonstration Principle

Consequence

Using a Fire Hose

Step 4:

- Select the 'spray' option on the nozzle

Positive consequence:

There is an increased chance of extinguishing the fire since water is being sprayed from a wide degree of angles and positions

02

Demonstration Principle

The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 5:

- Aim water at the root of the flame

02

Demonstration Principle

Consequence

Using a Fire Hose

Step 5:

- Aim water at the root of the flame

Negative consequence:

If neglected and or the satellite problem areas are tended to, the problem escapes out of control and may intensify

02

Demonstration Principle

The trainer breaks down each sequence and models it for participants

Using a Fire Hose

Step 5:

- Ensure that the fire is put out completely

02

Demonstration Principle

Consequence

Using a Fire Hose

Step 5:

- Ensure that the fire is put out completely

Positive consequence:

The fire is not reignited again

2.2 Demonstration Principle

Observe the correct ways to activate a fire alarm dual-action pull station

19/03/2021

02

Demonstration Principle

The trainer breaks down each sequence, models it for participants and discusses consequences

Activating a Dual-Action Pull Station

Step 1:

- Ensure that there really is a fire and a need to sound the alarm
- Break through the glass to get to the lever

02

Demonstration Principle

Consequence

Activating a Dual-Action Pull Station

Positive Consequences:

1) You ensure that you are alerting others of an authentic problem
2) By breaking the glass, you are one step closer to alerting others to the problem

02

Demonstration Principle

The trainer breaks down each sequence, models it for participants and discusses consequences

Activating a Dual-Action Pull Station

Step 2:

- Lift the cover over the handle

02

Demonstration Principle

The trainer breaks down each sequence, models it for participants and discusses consequences

Activating a Dual-Action Pull Station

Step 3:

- Pull the lever downward

02

Demonstration Principle

The trainer breaks down each sequence, models it for participants and discusses consequences

Activating a Dual-Action Pull Station

Step 4:

- Pull the lever downward

03

Application Principle

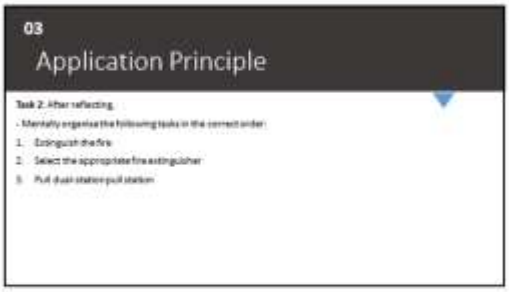
Scenario: Fires have unpredictably started. You are the authority in charge. Extinguish them in less than 45 seconds using the safety equipment and following the Health and Safety guidelines

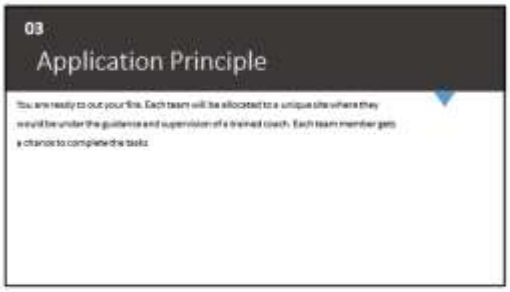
Small fires of different types along with safety equipment await you and your team in unique locations with sufficient clues to indicate the fire class.

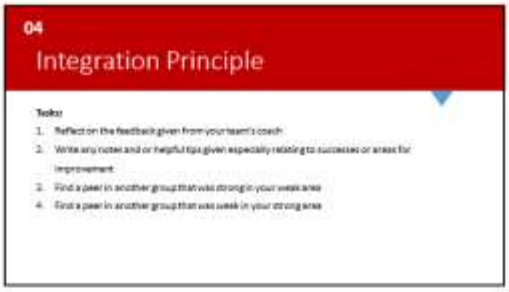
Task 1:

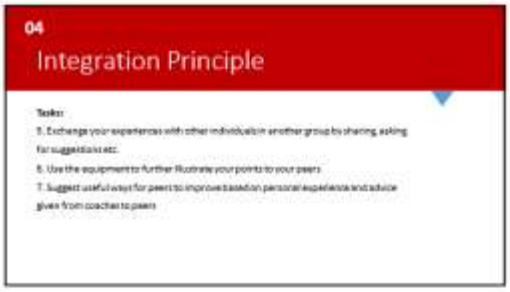
- Reflect on our demonstrations
- Consider the procedures, process and the consequences both negative and positive of your actions

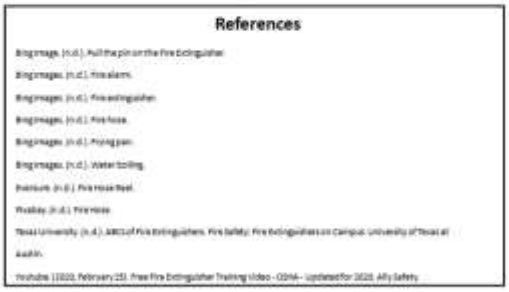
19/03/2021











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Picture 5 depicts the Power Point presentation used which following Merrill's First Principles of Instruction