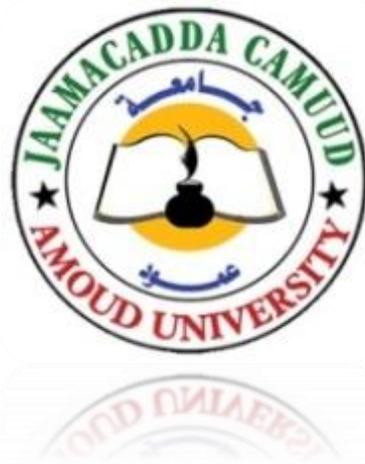


Amoud University, Borama



A Vehicle for Peace and Development

**A Training Workshop on Examinations
Setting and Students' Research
Supervision**

Saturday 15th – Thursday 20th 2021

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EXAMINATIONS SETTING

1.0 Seminar Aims and Description

This seminar is intended for participants to share their experiences, knowledge, and skills in supervising students' research and setting examinations. Overall, the seminar will provide an overview of:

- 1) The major approaches and methodologies that supervisors can adopt when guiding students in data analysis in theses and research projects development
- 2) The general principles and practices of examinations setting.

1.1 Seminar Objectives

By the end of the seminar, participants should be able to:

- 1) Interpret a conceptual framework and develop a measurement plan for all types variables in a given study.
- 2) Manipulate data in strict correspondence with the objectives and the general design of the study.
- 3) Analyse, interpret, make findings and scientifically report all types of analyses.
- 4) Draw conclusion and develop recommendations from findings of the analyses.
- 5) Set standard end-of-semester examinations in conformity to Amoud University Examinations Guidelines.

1.2 Target Group

This seminar is intended for all deans of faculties, associate deans of faculties, staff of Central Examinations Office, and research assistants of Amoud University.

1.3 Expected Outcomes

The seminar should produce participants who can:

- 1) Authoritatively supervise and guide students to correctly analyse data during thesis and research projects development.
- 2) Advise all data users on various analyses approaches and the best approach to use in analysing their kind of data.
- 3) Set standard end-of-semester examinations and guide, and advise teaching staff of Amoud University to set examinations that conform to Amoud University guidelines.

2.0 Methods of Evaluation



Over this time as a lecturer, how have you been evaluating students' learning? Is there a particular method you have preferred over other methods? Why?

- An effective evaluation should bring out specific information in a student. Most of the time, all the requirements of evaluation cannot be achieved by one type or one method of evaluation.
- The choice of an evaluation method/s depends on what the evaluation is intended to achieve. There are four main methods of evaluating students' learning:
 - i. Oral evaluation.
 - ii. Observational evaluation.
 - iii. Written evaluation.
 - iv. Project evaluation.

Whichever method that is used, an evaluation can be objective or "subjective".

- An **objective (structured) evaluation** gives the real picture of the student's performance without distortion, interference, and without partiality or prejudice from the examiner. The best instruments for objective evaluation are objective items.
- In a "**subjective**" (**unstructured**) **evaluation**, the qualities assessed cannot be related to a fixed scale. It based on the opinions, impressions, feelings and personal values of the lecturer, e.g. honesty, industry, etc. The weights allocated are dependent on the discretion of the lecturer rather than on a scale.



It is a basic requirement that an evaluation must be as objective as it can be. The terms unstructured and structured are preferred instead of subjective and objective. Even within the subjective evaluation, the lecturer must still rename objective. We shall use structured and unstructured in the rest of the handbook.

2.1 Written Evaluation

This is probably the most common mode of evaluation in education, and in higher education in particular. In written evaluation, a student is required to respond to a given statement or question by giving his/her answer in writing. There are two types of written evaluation: subjective and objective evaluation.



In 4.0, we explained the concepts of subjective and objective evaluations. We shall look at the concepts in a little more detail with respect to written evaluations.

1. Unstructured Written Test (Essays)

- In **unstructured written test**, students are required to react (or respond) in their own self-constructed words to a statement, a question or a problem that has been presented.
- An unstructured test is formed exclusively from open-ended (free-response) items which require students to react in their own self-constructed words. Unstructured test items are built around key words such as describe, explain, analyse, discuss, etc.

2. Structured Written Evaluations

- **Structured written evaluations** are tests constructed in such a way that they require definite answers and the lecturer (or examiner) is not influenced by his/her subjective judgement.
- A structured test is formed exclusively from close-ended (or forced response) items.
- Close-ended or forced response items restrict the students in the kind of information to provide and how the information may be provided. They are constructed in such a way as to require direct answers in particular prescribed formats.
- They include:
 - True/false items.
 - Matching items.
 - Lists.
 - Labels.
 - Arranging (or ordering) items.
 - Multiple choice items.
 - Analogies and short answer, etc.



It has now been established that students greatly value and respect subjects where they receive immediate and detailed feedback, along with the opportunity to revise and improve. A lecturer is more likely to achieve this through structured tests and not essays.

3. Semi-Structured Test

These are tests with structured and essay items in the same test. A semi-structured test is formed from a blend of close-ended and free-response items in a single test.

2.2 Definition of Evaluation Objectives

- Objectives are the specific intended outcomes of a teaching learning process. Evaluation is the determination of the extent to which the stated objectives are being achieved, or have been achieved.
- Evaluation and objectives are therefore very closely related. The first step in an effective evaluation is the statement of objectives. They provide the roadmap for the whole evaluation exercise and the basis for evaluating the evaluation itself.
- A lecturer must clearly and explicitly identify the traits (or characteristics) to be evaluated.
 - i. What is it exactly that is to be evaluated? Is it skill (psychomotor), attitude (affective) or knowledge (cognitive)? What level and type are they?
 - ii. Who will be evaluated? What are their specific characteristics that are relevant to this evaluation? Consider the ages and the abilities of the students. The test must not be too hard or too simple. It should be within the physical and mental ages of the students.
 - iii. What is the content of the evaluation? This is a list of topics and sub topics which the test is intended to cover. A test must be limited to the defined content area.



Have you been developing evaluation objectives for the examinations you have been conducting? How have you been going about it?

- In developing evaluation objectives, the lecturer should:
 - i. Consult the course objectives, the course outline objectives, and the lesson plan objectives. The lecturer should extract only the objectives that were used in teaching.
 - ii. Focus on what was taught. Only what was taught should form the content of evaluation.



This process must conclude with specification of the content of evaluation. The lecturer must develop a clear description the issues, themes, topics to be evaluated. The lecturer should consult:

- i. Course description;
- ii. Course outline, and
- iii. Lesson notes.

2.3 Developing the Evaluation Tool – the Test

- Once the objectives are set, the content of evaluation is selected, and the mode and structure of the evaluation are determined, the lecturer is now in a position to write out the test items.
- Items are the individual questions that the students will respond to.



A common problem here is that lecturers sit down in a few minutes and produce an “examination” in the twinkling of an eye. That is not how to write test items. While all stages are generally important, it is the individual test items that will finally define the quality of an evaluation.



As a lecturer, you have been examining students over time. How do you compile the items that form the tests you have been giving to the students?

Tool development is a systematic scientific process that goes through well-defined steps:

1. The table of specification.
2. Item writing.
3. Test (item) analysis.

2.4 The Table of Specification

- 1) To be sure that a test is a valid measure of the instructional objectives and subject content that is to be evaluated, a systematic procedure for obtaining a representative sample of students’ performance on each area to be tested must be followed.
- 2) A **Table of Specification** is a two-way grid showing instructional objectives to be evaluated on one axis and the topics to be tested on the other. It specifies the relative emphasis to be given to each learning domain. A sample of a table of specification for a research test.

Sample Table of Specification

Domain	Content (Topics/sub topics)					Total
	Sampling	Research design	Data collection	Quality control	Research process	
Knowledge	2	2	1	2	1	8
Understanding	2	3	3	1	2	11
Application	2	2	2	2	2	10
Synthesis	1	1	1	0	0	3
Analysis	1	1	1	1	0	4
Evaluation	1	1	1	0	1	4
Total	9	10	9	6	6	40

Note that:

- i. This test will cover only five topics.
- ii. This test will contain a total of 40 questions (items).
- iii. This test will concentrate on cognitive domain objectives. A similar table of specification should be prepared for skill and attitude areas objectives.

- iv. The number of items that will be set from each topic is shown along the columns.
- v. The number of items that will be set under each objective is shown along the rows.

2.5 Writing Test the Items

✓ *Demonstration*

2.6 Test Analysis

2.6.1 Test Analysis vs. Item Analysis

- 1) A good test must meet certain basic characteristics. It should therefore be tested to ensure that these characteristics are embedded in the test. Assessment of the presence of these characteristics, and the extent to which they appear in the test in what is called test analysis.

 Test analysis is the process of examining (students) responses to individual test items in order to assess the quality of those items and of the test as a whole.

- 2) In a good evaluation system, test analysis is performed before and after the test is administered.
 - i. Before the test – test analysis – determines if:
 - The test is good enough to measure what it is intended to measure in a consistent manner;
 - The test will produce the intended outcomes in all areas of evaluation.
 - ii. After the test – test analysis – determines if:
 - The test has measured what it was intended to measure in a consistent manner;
 - The test has produced the intended outcomes in all areas of evaluation.

 Item analysis is especially valuable in improving items which will be used again in later tests, but it can also be used to eliminate ambiguous or misleading items in a single test administration. It is very important for a lecturer to analyze his/her tests before they are given to the students. Otherwise, they may not measure students' ability correctly.

- 3) **Item Analysis** investigates the performance of items considered individually either in relation to some external criterion or in relation to the other items in the test. Test analysis is synonymous to item analysis but refers to the whole test.

- 4) **Test Analysis** examines how the test items perform as a set. In a test analysis, the individual items are analyzed one by one, and an overall mean obtained for the test. The results are used to revise and improve both items and the test as a whole. Test analysis involves assessment of:
- i. Test validity;
 - ii. Test reliability;
 - iii. Test difficulty index;
 - iv. Test discrimination index;
 - v. Test review.

2.6.2 Test Validity

Test validity is the extent to which a test actually measures what is intended to measure. It is established through expert assessment. Once the tool is developed, it should be passed to other experts in the area to assess the validity of the test. This is usually the role of an external examiner in higher education. The external examiner or assessor should be able to assess the tool with respect to its face, content, construct and criterion validity.

Interpreting Test Validity

Validity	Interpretation
.90 - 1.00	Very good for test. Validity at the level of the best standardized tests.
.80 - .89	Good test; validity in the range of most. There are probably a few items which could be improved.
.70 - .79	Acceptable validity. This test needs to be supplemented by other measures (e.g., more tests) to determine grades. There are probably some items which could be improved.
.60 - .69	Low validity, suggests need for revision of the test, unless it is quite short. The test needs to be supplemented by other measures (e.g., more tests) for grading.
.50 - .59	Very low and questionable validity. This test should not contribute to the course grade. Needs revision.

2.6.3 Test Reliability

Test reliability is the extent to which the test consistently measures what it is actually measuring. A good test should be internally and externally reliable.

- All items in a test should be related so that each of them is related each other, and all are related to the objectives of the test. This is internal reliability or consistency.
- A good test should produce consistent results if taken several times with the same students, unless the circumstances have changed. This is external reliability or consistency.



Reliability of a test is established through a pilots/tryouts. Once a test is developed, it should be tried out on a small scale on a similar group of students to see if it can produce consistent outcomes.

- o Reliability coefficients theoretically range from zero (no reliability) to 1.00 (perfect reliability). In practice, their approximate range is from .50 to .90.
 - i. High reliability means that the items in a test tend to “pull together.” Students who answer a given question correctly are more likely to answer other questions correctly.
 - ii. Low reliability means that the items tend to be unrelated to each other in terms of who answer them correctly. The resulting test scores reflect peculiarities of the items or the testing situation more than students’ knowledge of the subject matter.

Interpreting Reliability

Reliability	Interpretation
	Excellent reliability; at the level of the best standardized tests.
.90 - 1.00	Very good reliability; at the level of the best standardized tests.
.80 - .89	Good reliability. There are probably a few items which could be improved.
.70 - .79	Acceptable reliability. This test needs to be supplemented by other measures (e.g., more tests) to determine grades. There are probably some items which could be improved.
.60 - .69	Low reliability. Suggests need for revision of the test, unless it is quite short (ten or fewer items). The test needs to be supplemented by other measures (e.g., more tests) for grading.
.50 - .59	Questionable reliability. This test should not contribute to the course grade. It needs revision.

2.6.4 Test (Item) Difficulty Index (p)

- 1) Item difficulty is a measure of the percentage of correct responses in an item (how many students got the item correct in the whole class).
- 2) Item difficulty is determined mathematically and expressed in a ratio called difficulty index, which should vary from zero (0.0) to one (1.0). It is the percentage of students taking the test who answered the item correctly.



An acceptable difficulty index is .625. Lower values are rather weak and higher values are too hard.

- o There is no point for a lecturer to test what s/he knows the students cannot answer.

3) Note that:

- i. The difficulty index is a characteristic of both the item and the students taking the test. This is why it is important to examine the nature of the students at the time of developing test objectives.
- ii. When the correct answer is not chosen ($p = 0$). There are no individual differences in the “score” on that item. The same is true when everyone taking the test chooses the correct response.
- iii. An item with a p value of 0.0 or a p value of 1.0 does not contribute to measuring individual differences, and is generally useless. When all of the test items are extremely difficult, the great majority of the test scores will be very low. When all items are extremely easy, most test scores will be extremely high. In either case, test scores will show very little variability. Thus, extreme p values directly restrict the variability of test scores.

2.6.5 Item Discrimination - D

- o Item discrimination is a measure of how good students perform in an item as compared to how weak students perform in the same item.
- o If the test and a single item measure the same thing, one would expect students who do well on the test to answer that item correctly, and those who do poorly to answer the item incorrectly.
- o A good item should discriminate between good and weak students.
- o Item discrimination is determined mathematically and expressed as a ratio called discrimination index. In a good test, the value of D should vary from zero (0.0) to one (1.0), but theoretically, negative values are possible.

$$D = \frac{\text{upper group correct responses} - \text{lower group correct responses}}{\text{students in the largest of the two groups}}$$



If every student gets an item correct in a test, then that item is useless for discriminating between good and weak students. The same is true if every student gets an item wrong, $D = 0$.



If a particular item is properly discriminating between good and weak students, then more students in the top group should answer the item correctly as compared to the bottom group.

1. The higher the discrimination index, the better the item because such an item discriminates in favor of the upper group, which should get more items correct.
2. If more students in the lower group than in the upper group get an item correct, the item has a negative D.
 - i. Such an item is not only flawed and useless, but actually decreases the validity of the test.

- ii. A negative D is most likely to occur when an item covers complex material; or is poorly written such that it is possible to get the correct response without any real understanding of what is being assessed. In this case, poor students may make guesses, respond, and come up with a correct answer. But good students may be suspicious of a question that looks too easy, may take the harder path to solving the problem, read too much into the question, and may end up being less successful than those who guess.
3. Conventionally, a discrimination index of 0.40 and greater are very good items.

Interpretation of D

Value of D	Item Evaluation (Interpretation)
.40 – 1.00	Very good.
.30 – .39	Reasonably good but subject to improvement.
.20 – .29	Marginal items: needs to be improved.
.00 – .19	Poor items: should be rejected or revised.

4. An item that everyone gets correct or that NO one gets correct will have a discrimination index equal to zero.

2.6.6 Item Review

 What is test review? Do you or your department review examinations? When do you do this? How do you do it?

Item/test review should be done before and after the evaluation is concluded. Once the test analysis data are available, it is important to review the test using this information. This can inform decisions on the item changes that are needed or even items that should be dropped from the test. Once these decisions are made, the items should be rescored, leaving out items that were dropped.

Once a test is reviewed, improved and approved, the examiner can now:

1. Arrange the test items in a logical sequence. The better sequence is usually from simple to complex and from concrete to abstract.
2. Provide marks or weights for each question.
3. Allocate time for the test (if it had not been allocated).
4. Administer the test.

 Any item that has been substantially changed should be pretested again before it is used operationally.

3.0 Qualities of a Good Test



From our discussion above, what would you consider to be the qualities of a good test?

A good test should have four basic features. It should have:

- i. Good **discrimination ability**. It should significantly differentiate between weak and good students in a class. The weak and good students should not perform the same in a test.
- ii. Appropriate **difficulty level**. It should correctly reflect the mental, emotional and physical abilities of the student; without being too hard or too simple.
- iii. **Validity**: A good test should produce valid results. It should measure exactly what it is supposed to measure.
- iv. **Reliability**: A good test should internally and externally consistent.
- v. **Objectivity**: A good test should be objective. It should not lend itself to other factors that are not part of the test.

APPENDIX A
COGNITIVE LEVEL EDUCATIONAL OBJECTIVES WITH KEY QUESTIONS

Level	Level Attributes	Keywords	Example Objective	Example Activity	Questions
Knowledge	Exhibits previously learned material by recalling facts, terms, basic concepts and answers.	who, what, why, when, omit, where, which, choose, find, how, define, label, show, spell, list, match, name, relate, tell, recall, select	“By the end of this subject, the student should be able to recite Newton’s three laws of motion.”	Have students group up and perform simple experiments to the class showing how one of the laws of motion works.	What is...? How is...? Where is...? When did ... happen? How did ...happen? How would you explain...? Why did...? How would you describe...? When did...? Can you recall...? How would you show...? Can you select...? Who were the main...? Can you list three...? Which one...? Who was...?
Comprehension	Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.	compare, contrast, demonstrate, interpret, explain, extend, illustrate, infer, outline, relate, rephrase, translate, summarize, show, classify	“By the end of this subject, the student should be able to explain Newton’s three laws of motion in his/her own words.”	Group students into pairs and have each pair think of words that describe motion. After a few minutes, ask pairs to volunteer some of their descriptions and write these descriptions on the board.	Can they classify the type of...? Can they compare...? Contrast...? Can they state or interpret in the own words...? Can they rephrase the meaning...? What facts or ideas show...? What is the main idea of...? Which statements support...? Can they explain what is happening . . . what is meant . . .? What can they say about...? Which is the best answer...? Can they summarize...?
Application	Solving problems by applying acquired knowledge, facts, techniques and rules in a different way.	apply, build, choose, construct, develop, interview, make use of, organize, experiment with, plan, select, solve, utilize, model, identify	“By the end of this subject, the student should be able to calculate the kinetic energy of a projectile.”	After presenting the kinetic energy equation in class, have the students pair off for just a few minutes and practice using it so that they feel comfortable with it before being assessed.	How would they use...? What examples can they find to...? How would they solve ...using what they have learned...? How would they organize ...to show...? How would they show the understanding of...? What approach would they use to...? How would they apply what they learned to develop...? What other way would they plan to...? What would result if...? Can they make use of the facts to...? What elements would they choose to change...? What facts would

Level	Level Attributes	Keywords	Example Objective	Example Activity	Questions
					they select to show...? What questions would they ask in an interview with...?
Analysis	Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalizations.	analyze, categorize, classify, compare, contrast, discover, dissect, divide, examine, inspect, simplify, survey, take part in, test for, distinguish, list, distinction, theme, relationships, function, motive, inference, assumption, conclusion	“By the end of this subject, the student should be able to differentiate between potential and kinetic energy.”	Present the students with different situations involving energy and ask the students to categorize the energy as either kinetic or potential then have them explain in detail why they categorized it the way they did, thus breaking down what exactly makes up kinetic and potential energy.	What are the parts or features of...? How is ...related to...? Why do they think...? What is the theme...? What motive is there...? Can they list the parts...? What inference can they make...? What conclusions can they draw...? How would they classify...? How would they categorize...? Can they identify the difference parts...? What evidence can they find...? What is the relationship between...? Can they make a distinction between...? What is the function of...? What ideas justify...?
Synthesis	Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.	build, choose, combine, compile, compose, construct, create, design, develop, estimate, formulate, imagine, invent, make up, originate, plan, predict, propose, solve, solution, suppose, discuss, modify, change,	By the end of this section of the subject, the student should be able to design an original homework problem dealing with the principle of conservation of energy.”	Tie each lecture or discussion to the previous lectures or discussions before it, thus helping the students assemble all the discreet classroom sessions into a unified topic or theory.	What changes would they make to solve...? How would they improve...? What would happen if...? Can they elaborate on the reason...? Can they propose an alternative...? Can they invent...? How would they adapt ...to create a different...? How could they change (modify) the plot (plan)...? What could be done to minimize (maximize)...? What way would they design...? What could be combined to improve (change)...? Suppose they could ...what would they do...? How would they test...? Can they formulate a theory for...? Can they predict the outcome if...? How would they estimate the results for...? What facts can they

Level	Level Attributes	Keywords	Example Objective	Example Activity	Questions
		original, improve, adapt, minimize, maximize, delete, theorize, elaborate, test, improve, happen, change			compile...? Can they construct a model that would change...? Can they think of an original way for the...?
Evaluation	Presenting and defending opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.	award, choose, conclude, criticize, decide, defend, determine, dispute, evaluate, judge, justify, measure, compare, mark, rate, recommend, rule on, select, agree, interpret, explain, appraise, prioritize, opinion, ,support, importance, criteria, prove, disprove, assess, influence, perceive, value, estimate, influence, deduct	“By the end of the subject, the student should be able to determine whether using conservation of energy or conservation of momentum would be more appropriate for solving a dynamics problem.”	Have different groups of students solve the same problem using different methods, then have each group present the pros and cons of the method they chose.	Do they agree with the actions...? with the outcomes...? What is the opinion of...? How would they prove...? Disprove...? Can they assess the value or importance of...? Would it be better if...? Why did they (the character) choose...? What would they recommend...? How would they rate the...? What would they cite to defend the actions...? How would they evaluate...? How could they determine...? What choice would they have made...? What would they select...? How would they prioritize...? What judgment would they make about...? Based on what they know, how would they explain...? What information would they use to support the view...? How would they justify...? What data was used to make the conclusion...? Why was it better that...? How would they prioritize the facts...? How would they compare the ideas...? people...?

APPENDIX B

PSYCHOMOTOR LEVEL EDUCATIONAL OBJECTIVES

Psychomotor Domain

This domain was not published by Bloom. Simpson (1966), Dave (1970), and Harrow (1972), went on to publish works on the psychomotor domain. The psychomotor domain includes objectives that require basic motor skills and/or physical movement such as construct, kick or ski. Skills in the psychomotor domain describe the ability to physically manipulate a tool or instrument like a hand or a hammer. Psychomotor objectives usually focus on change and/or development in behaviour and/or skills. Bloom and his/her colleagues never created subcategories for skills in the psychomotor domain, but since then other educators have created their own psychomotor taxonomies. It is now known to contain the following levels:

1. **Perception.** The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation. Examples include:
 - o Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball.
 - o Adjusts heat of stove to correct temperature by smell and taste of food.
 - o Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet. Key words include chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.

2. **Set.** Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets). Examples include:
 - o Knows and acts upon a sequence of steps in a manufacturing process.
 - o Recognize one's abilities and limitations.
 - o Shows desire to learn a new process (motivation). Key words include begins, displays, explains, moves, proceeds, reacts, shows, states, volunteers.

3. **Guided Response.** The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing. Examples include:
 - o Performs a mathematical equation as demonstrated.
 - o Follows instructions to build a model.
 - o Responds to hand-signals of instructor while learning to operate a forklift. Key words include copies, traces, follows, react, reproduce, responds

4. **Mechanism.** This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency. Examples include:
 - o Use a personal computer.
 - o Repair a leaking tap. Drive a car. Key words include assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.

5. **Complex overt response.** The skilful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players will often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce. Examples include:
 - o Manoeuvres a car into a tight parallel parking spot.
 - o Operates a computer quickly and accurately.
 - o Displays competence while playing the piano. Key words include assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.

6. **Adaptation.** Skills are well developed and the individual can modify movement patterns to fit special requirements. Examples include:
 - o Responds effectively to unexpected experiences.
 - o Modifies instruction to meet the needs of the students.
 - o Perform a task with a machine that it was not originally intended to do (machine is not damaged and there is no danger in performing the new task). Key words include adapts, alters, changes, rearranges, reorganizes, revises, varies.

7. **Origination.** Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills. Examples include:
 - o Constructs a new theory.
 - o Develops a new and comprehensive training programming.
 - o Creates a new gymnastic routine. Key words include arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.

APPENDIX C

AFFECTIVE LEVEL EDUCATIONAL OBJECTIVES

The Affective Domain includes objectives pertaining to attitudes, appreciations, values and emotions. Skills in the affective domain describe the way people react emotionally and their ability to feel other living things' pain or joy. Affective objectives typically target the awareness and growth in attitudes, emotion, and feelings. There are five levels in the affective domain moving through the lowest order processes to the highest:

1. **Receiving.** The lowest level; the student passively pays attention. Without this level no learning can occur. Receiving is about the student's memory and recognition as well.
2. **Responding.** The student actively participates in the learning process, not only attends to a stimulus; the student also reacts in some way.
3. **Valuing.** The student attaches a value to an object, phenomenon, or piece of information. The student associates a value or some values to the knowledge s/he acquired.
4. **Organizing.** The student can put together different values, information, and ideas and accommodate them within his/her own schema; comparing, relating and elaborating on what has been learned.
5. **Characterizing.** The student holds a particular value or belief that now exerts influence on his/her behaviour so that it becomes a characteristic.

Receiving (Attending)	Awareness, willingness to receive controlled or selected attention.
Responding	Acquiescence in responding willingness to respond satisfaction in response.
Valuing	Acceptance of value preference for a value commitment (conviction)
Organization	Conceptualization of a value organization of a value system.
Characterization by a Value or Value Complex	Generalized set characterization.

APPENDIX D SEMINAR WORK PLAN

Day	Date	Time	Concept	Facilitator
1	Saturday 15 th May 2021	8.00 am - 8.30 am	Opening Ceremony	President, VP, AA
		8.30 am- 8.40 am	Introduction to the Seminar	Dr. Willis Y. Oso
		8.40 am- 10.00 am	Measurement Plan and Data Manipulation <ul style="list-style-type: none"> • Method /Design Manipulation. • Statistical Manipulation. 	Mukhtaar A. Cumar/ Dr. Willis Y. Oso
		10.00 am - 10.30 am	Tea Break	
		10.30 am - 12.30 pm	Analyzing, interpreting and reporting univariate research <ul style="list-style-type: none"> - Frequency/Percentages/Tables. - X²- goodness of fit. - t-test, F-test, etc. 	Dr. Willis Y. Oso
2	Sunday 16 th May 2021	8.00 am- 10.00 am	Manipulation of variables in bivariate research. <ul style="list-style-type: none"> - Method /Design Manipulation. - Statistical Manipulation. 	Mukhtaar A. Cumar/ Dr. Willis Y. Oso
		10.00 am - 10.30 am	Tea Break	
		10.30 am - 12.30 PM	Analyzing, interpreting and reporting bivariate research <ul style="list-style-type: none"> - X²- independence. - t-test. - Simple correlation. - Simple regression. 	Dr. Willis Y. Oso
3	Monday 17 th May 2021	8.30 am- 10.00 am	Analyzing, interpreting and reporting multivariate research <ul style="list-style-type: none"> - X²- independence. - Multiple regression. - 2-way ANOVA. 	Dr. Willis Y. Oso
		10.00 am - 10.30 am	Tea Break	
		10.30 am - 12.30 pm	Analyzing Qualitative Data (overview of methods) <ul style="list-style-type: none"> - Content Analysis. - Narrative Analysis. - Discourse Analysis. - Grounded Theory or Analytic Induction. - Conversation Analysis. - Framework Analysis. 	Dr. Willis Y. Oso

Day	Date	Time	Concept	Facilitator
			- Intra-Case Analysis Vs Cross-case Analysis.	
4	Wednesday 19 th May 2021	8.30 am- 10.00 am	- The Amoud University examinations format. - Questions for each section. - Objectives domain.	Tawakal A. Ali
		10.00 am - 10.30 am	Tea Break	
		10.30 am - 12.30 pm	Basic types of examinations in Amoud University <ul style="list-style-type: none"> • Focus on written examinations. • Types of written test items: <ul style="list-style-type: none"> - Close-ended items. - Open-ended items. - Close and open-ended items. 	Dr. Willis Y. Oso
5	Thursday 20 th May 2021	8.30 am- 10.00 am	Tools for examinations setting <ul style="list-style-type: none"> - Course outlines and course descriptions. - Lecture notes and students' notes. - Reference materials. - Examination policy/ guidelines. - Past examination papers. Examinations setting process <ul style="list-style-type: none"> - Setting objectives. - Table of specifications. - Generating questions. 	Tawakal A. Ali/ Dr. Willis Y. Oso
		10.00 am - 10.30 am	Tea break	
		10.30 am 12.30 PM	Examinations quality <ul style="list-style-type: none"> - Try out. - Validity. - Reliability. - Other parameters. 	Dr. Willis Y. Oso
			Closing the ceremony	Dr. Mohamed M. Jibril