

THREE IMPORTANT ELEMENTS CONTROLLED BY THE LECTURER

Of all the factors that make up university teaching, the three most important elements controlled by the teacher are the *learning objectives*, *teaching/learning strategies* and the *assessment*. These three elements form the cornerstones of teaching (Figure 4) and provide the foundation for good practice. If you neglect one of these elements, it is at the expense of one or both of the others and your students will not benefit from a sound learning experience.

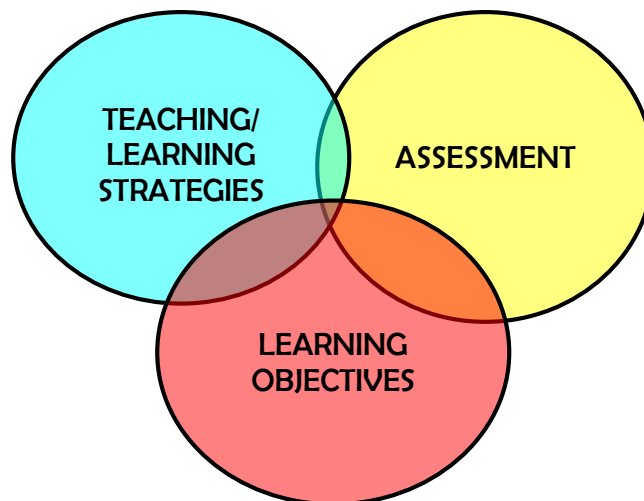


Figure 4: Interaction among Learning Elements

Writing Learning Objectives

Learning objectives describe what your students will know and be able to do at the end of the learning experience. It identifies course content, the conditions under which students are expected to operate and how they will demonstrate the acquired knowledge and skill. Therefore, learning objectives inform your teaching methods, as well as the criteria by which you and your students can judge if the expected outcomes were achieved (assessment). Experience has shown that with clear objectives in view, students at all levels are better able to decide what activities will help them achieve the objectives. The lecturer will identify what he/she is attempting to teach, and students will recognize what is expected of them and how these expectations will be measured.

Differentiating between Goals and Learning Objectives

Goals, or aims, are:

1. Broad generalized statements of an area of curriculum.
2. Usually *not* behaviourally stated.
3. Large homogenous units of study.

Learning objectives:

- Are specific, immediate, and define some result which is attainable and measurable for each learning outcome.

- Describe the intended *outcome* of your instruction, not the process of instruction or a summary of your content.
- Encourage you to think deeply about your teaching aims.
- Clarify your teaching methods.
- Aid in determining the skills and knowledge that you would like your students to acquire.
- Serve as the baseline for assessing students' knowledge, skills or performance.
- Make communication clearer between you and your students.
- Provide students with their own means of accomplishing stated objectives.
- Identify the activities that students will undertake, and as such act as a planning tool.
- Help accomplish goals.

Examples of Goals and Objectives:

Goal: The student will be able to understand the appropriateness of Creole usage versus Standard English usage.

Objective: The student will be able to identify contexts in which the use of Creole and Standard English are used appropriately.

Goal: To foster analytical skills, like those used to examine the period's literature in its social and historical contexts.

Objective: Given a Shakespearean play, the student will be able to analyze its social and historical background.

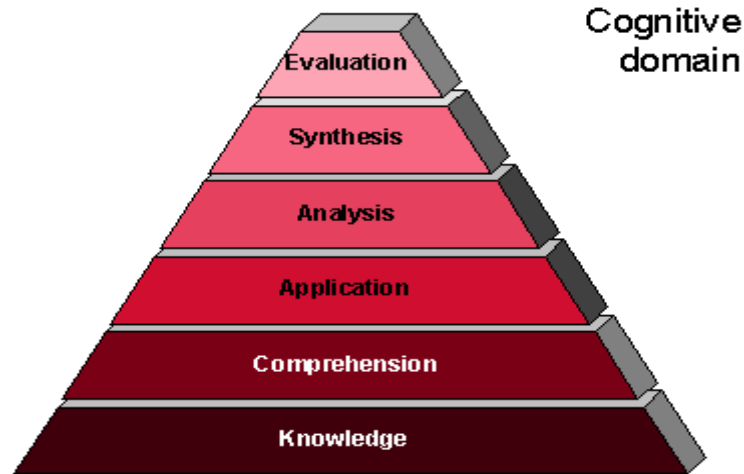
Goal: To give to the student a clear sense of the beginnings and the historical development of drama in Western literature.

Objective: The student will be able to describe the historical development of drama in Western Literature.

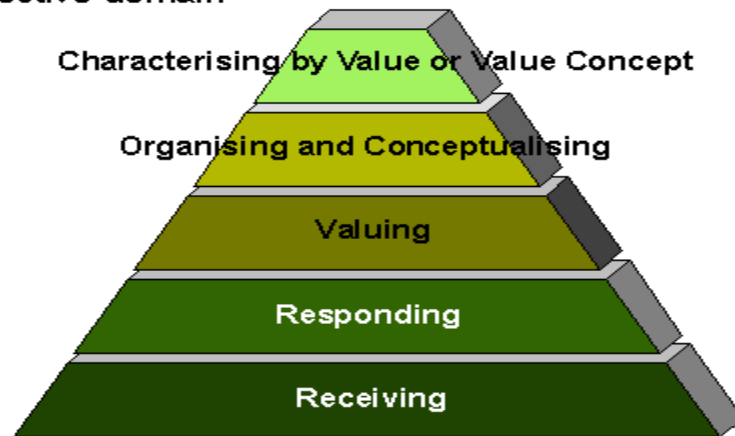
Domains of Objectives

Objectives can be in three domains:

1. Cognitive (Bloom, 1956)
Development of intellectual abilities and skills.
2. Affective (Krathwohl, 1964)
Development of attitudes, beliefs and values.
3. Psychomotor (Simpson, 1972) Coordination of physical movements and bodily performances.



Affective domain



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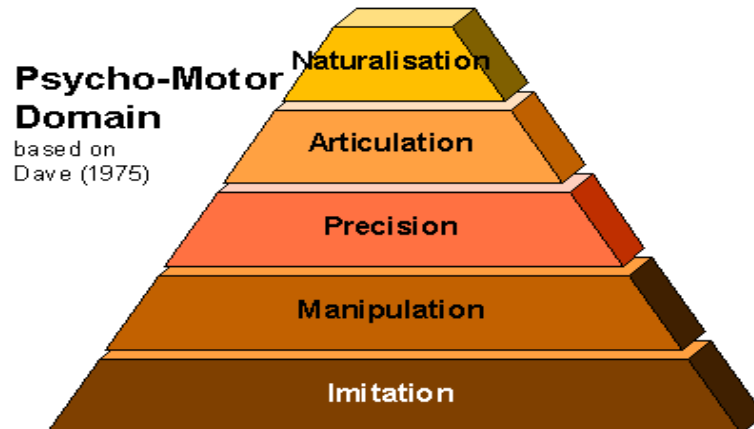


Figure 5: Hierarchy of Objectives in the Three Domains

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Figure 5 above illustrates the hierarchical nature of objectives in the three domains. Higher order objectives relate to those nearer the top of each hierarchy. Table 4 gives a list of useful verbs for each level of the hierarchy in each domain. By examining the verbs used in an objective one can immediately determine whether the subject matter is addressed in terms of recall and understanding (lower order) or as analytical and problem solving (higher order). Appendix V gives definitions of higher order skills which you may wish to use. Clarity of meaning of the terms is also highlighted.

Helpful Hints for Writing Objectives

Use the Mnemonic **ABCD** to write your objectives.

A stands for the **Audience**

This should remind you that the focus is on the learner, not you. Ask yourself “What do I want my students to do to demonstrate that they have learned?”

B is for **Behaviour**

The behaviour or performance component is a statement of what the learner will be able to do. It is a measurable outcome, and consists of two parts:

- i. An action verb, which specifies the behavioural action that the student is expected to perform. You can use a range of action verbs (Table 4) to improve the objectives of your course. Appendix VI provides definitions of commonly used verbs to highlight the importance of clarity and specificity of objectives.
- ii. A content reference, that is, the relevant content area around which the action revolves.

C stands for **Conditions**

Conditions specify the circumstances under which the learner is supposed to demonstrate the desired behaviour. Conditions are the ‘givens’ that you will provide for the learners. Sometimes this part is optional.

When writing conditions ask yourself:

- What cues will the student need to accomplish the behaviour?
- What resource material will the learner need, or refer to when performing the behaviour?
- Will the learner be given any special equipment or assistance?

D is for **Degree**

The degree or criterion is the level of performance required to meet the objective, that is, the proficiency level. The degree or criterion is used to evaluate students’ performance. It is used to evaluate students’ performance and must therefore be stated in measurable terms. Measurement implies numeric criteria, of which there are four broad classifications: quantity, quality, efficiency and duration. The degree is the standard against which the learner will be judged. Hence, it must be stated if less than perfect performance is acceptable.

TABLE 4(a): Instructional Verbs Applicable to the Cognitive Domain

Knowledge: Remembering previously learned materials; require students to recognize a concept without necessarily understanding, using or changing it. **Answers: Who? What? When? Where?**

| | | | | | |
|---------|--------|--------|-----------|-----------|-----------|
| Arrange | Cite | Define | Duplicate | | Identify |
| Label | List | Match | Memorize | Name | Pronounce |
| Quote | Recall | Recite | Repeat | Reproduce | Select |
| State | | | | | |

Comprehension: the ability to grasp the meaning of material. Require students to understand the concept without necessarily relating it to anything else. The student must restate the concept in other words.

| | | | | | |
|-----------|------------|---------------|----------------|------------|-----------|
| Alter | Change | Classify | Convert | Defend | Depict |
| Describe | Discover | Distinguish | Explain | Extend | Express |
| Estimate | Generalize | Give examples | Give main idea | Indicate | Infer |
| Interpret | Illustrate | Locate | Manage | Paraphrase | Predict |
| Recognize | Relate | Rephrase | Report | Represent | Restate |
| Reword | Rewrite | Review | Sort | Substitute | Summarize |
| Tell | Translate | Vary | | | |

Application: ability to use learned material in new and concrete situations. Require the student to use a general concept to solve a particular problem. **Answers: How many? Which? What is?**

| | | | | | |
|-----------|----------|-----------|------------|----------|-------------|
| Apply | Change | Choose | Classify | Compute | Demonstrate |
| Direct | Discover | Dramatize | Employ | Evidence | Illustrate |
| Interpret | Manage | Manifest | Manipulate | Modify | Operate |
| Practice | Predict | Prepare | Present | Produce | Relate |
| Schedule | Shop | Show | Sketch | Solve | Use |
| Utilize | | | | | |

Analysis: ability to break down material into its component parts that its organizational structure may be understood. Require the student to break something down into parts. **Answers: Why?**

| | | | | | |
|------------|-----------|------------|---------------|--------------|-----------|
| Analyse | Appraise | Ascertain | Associate | Break down | Calculate |
| Categorize | Compare | Conclude | Contrast | Criticize | Debate |
| Determine | Designate | Diagnose | Differentiate | Discriminate | Dissect |
| Divide | Examine | Experiment | Find | Infer | Inspect |
| Outline | Point out | Question | Reduce | Relate | Separate |
| Select | Solve | Subdivide | Test | | |

Synthesis: ability to put parts together to form a new whole. Require the student to produce something unique or original. **Answers: How can we improve? What would happen? How can we solve?**

| | | | | | |
|-----------|-------------|------------|---------|-----------|------------|
| Arrange | Assemble | Categorize | Collect | Combine | Compile |
| Compose | Conceive | Construct | Create | Design | Devise |
| Develop | Expand | Extend | Explain | Formulate | Generalize |
| Generate | Integrate | Invent | Manage | Modify | Originate |
| Organize | Pose | Prepare | Project | Propose | Plan |
| Rearrange | Reconstruct | Reorganize | Revise | Rewrite | Set up |
| Summarize | Synthesis | Theorize | Write | | |

Evaluation: ability to judge the value of material for a given purpose. Require the student to form judgements and make decisions about the value of a concept.

| | | | | | |
|-----------|----------|--------------|----------|-----------|-----------|
| Agree | Appraise | Argue | Assess | Assume | Challenge |
| Choose | Compare | Conclude | Contrast | Criticize | Critique |
| Deduce | Defend | Discriminate | Estimate | Evaluate | Explain |
| Interpret | Judge | Justify | Predict | Rate | Relate |
| Score | Select | Summarise | Support | Value | Weigh |

Table 4(b): Instructional Verbs Applicable to the Affective Domain

| Level | Definition | Sample Verbs |
|---|---|--|
| Receiving | The student passively attends to particular phenomena in the environment | Asks, chooses, identifies, locates, points to |
| Responding | The student actively participates. Attends to the stimulus but reacts in some way. Shows some new behaviour as a result of experience | Answers questions about the model or rewrite lecture notes, answers, assists, compiles, discusses, helps, performs, practices, presents, reads, reports, writes |
| Valuing | The worth a student attaches to a particular object, phenomenon or behaviour. This ranges from acceptance to commitment. Involves attitudes and appreciation | Differentiates, explains, initiates, justifies, proposes, shares, completes, describes, follows, forms, invites, joins, reports |
| Organising and Conceptualising | Bringing together different values, resolving conflicts among them and sharing to build and internally consistent value system. Comparing, relating and synthesizing values and developing a philosophy of life. | Arranges, combines, compares, generalizes, integrates, modifies, organizes, synthesizes, adheres, alters, arranges, orders, prepares, relates |
| Characterising by a value or value complex | The student holds a value system that controls his/her behaviour for a sufficiently long time that a characteristic 'life style' has developed. Behaviour is pervasive, consistent and predictable. Objectives are concerned with personal social and emotional adjustment. | Acclaims, agrees, argues, assumes, helps, attempts, avoids, challenges, cooperates defends, disagrees, engages in, disputes, is attentive to, joins, offers, participates in, praises, resists, volunteers, shares |

Table 4(c): Instructional Verbs Applicable to the Psychomotor Domain

| Level | Definition | Sample Verbs |
|-----------------------|--|---|
| Imitation | Copy action of another; observe and replicate | Copy, follow, replicate, repeat, adhere |
| Manipulation | Reproduce activity from instruction or memory | Re-create, build, perform, execute, implement |
| Precision | Execute skill reliably, independent of help | Demonstrate, complete, show, perfect, calibrate, control |
| Articulation | Adapt and integrate expertise to satisfy a non-standard objective | Construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify, master |
| Naturalisation | Automated unconscious mastery of activity and related skill at strategic level | Design, specify, manage, invent, project-manage |

Note: In the psychomotor domain, performance may take the place of questioning strategies in many cases.

Grasha's Taxonomy: An Alternative Hierarchy of Educational Objectives

Anthony Grasha (1996) conceptualized a hierarchy of objectives that he believed held more relevance to undergraduate education. Grasha's research on objectives encouraged him to consider a reclassification. This was based on his conception that course content is not a unitary construct. It comes in a variety of forms. These include such things as basic facts, general concepts, attitudes and values toward issues, skills, principles, assumptions, theoretical perspectives and models of phenomenon in the field. This information can be listed, applied to problems within a discipline, or used as part of critical and creative thinking processes.

From his analysis of the literature on course objectives, Grasha identified four principal forms of objectives. The goal of this analysis was to reduce the multitude of objectives in the literature into those that clearly require different types of cognitive processing. The four forms which he conceptualized are:

- Basic knowledge and understanding
- Applications of course content
- Thinking critically
- Problem solving and decision making

Table 5 lists action verbs appropriate to Grasha's hierarchy, which can be used in examination questions targeting the various levels in the hierarchy. The list clearly shows the link between the objectives and the examination questions, since action verbs are the foundation of both.

**Table 5: Grasha's Four Levels of Objectives and the Instructional Verbs
Applicable to Each Level**

| Grasha's Four Levels of Objectives | Course Objectives and Exam Items |
|--|--|
| <p>Basic knowledge and understanding which relies on the students' ability to search for information in long-term memory and to pull together networks of associations as well as categories and patterns of relationships among related content items.</p> | <p>Basic knowledge and understanding: The ability to identify and recall content and to organize and select facts.</p> <p>Exam questions within this category would ask students to: categorize, convert, compare, contrast, define, describe the significance of ..., differentiate, explain, generalize, give examples of..., identify, interpret the meaning of ..., list, name, organize, outline, repeat, summarize the major points in ...</p> |
| <p>Application of course content requires that students assimilate relevant information and/or skills in order to achieve some utilitarian goal. Typically this involves search processes in long-term memory that yield a finite set of concepts, principles, and/or skills that can be used in some appropriate manner on a task.</p> | <p>Application: The ability to use various facts, ideas, concepts and principles to discuss and/or produce a specific outcome</p> <p>Exam questions within this category would ask students to: apply, demonstrate, design, develop, illustrate how, model, modify, reconstruct, schedule, use information to estimate or predict what will happen when..., prepare a (chart, outline, programme) using content</p> |
| <p>Critical thinking typically uses knowledge schemas (Packets or combinations of facts, figures, data, as well as various categories, and patterns of related information) to do the following: analyze situations; identify assumptions; bring diverse pieces of information together; form valid interpretations and conclusions; and evaluate the adequacy of information and evidence in order to support a position.</p> | <p>Critical Thinking: The ability to analyze situations, synthesize information, identify assumptions, form valid interpretations and conclusions, and evaluate the adequacy of evidence to support positions.</p> <p>Exam questions within this category would ask students to: analyze, appraise, assess the validity of..., conclude, critique, deduce, develop support for..., evaluate the evidence for..., examine the other side of..., identify assumptions, identify the arguments made by..., infer, integrate, interpret, justify, paraphrase..., prioritize, rate the appropriateness of ...</p> |
| <p>Problem solving and decision making rely upon our capacity to carefully analyze and define problems, to bring information together to generate alternative solutions, and to use criteria in order to select appropriate solutions or to make decisions.</p> | <p>Problem Solving and Decision Making: The ability to analyze and define problems, generate alternative solutions, and use criteria in order to select appropriate solutions or to make decisions.</p> <p>Exam questions within this category would ask students to: brainstorm ideas for, choose, compute, define the problem in ..., develop alternative solutions for..., develop an appropriate representation of the elements in the problem of..., identify the critical elements in the problem of..., identify the relevant criteria for selecting ..., plan, solve, use criteria in order to select..., use appropriate heuristics/formal rules to ...</p> |

As you become versed in writing your course objectives, you may want to explore this topic further and improve the quality of your course outline and your teaching. Table 6 gives an overview of behaviour trends we expect in higher education.

Table 6: Supplementary List of Learning Behaviours and Instructional Verbs

Creative Behaviours

| | | | | | |
|------------|-----------|-------------|-------------|---------|------------|
| Alter | Ask | Change | Create | Design | Develop |
| Generalize | Listen | Modify | Paraphrase | Predict | Question |
| Rearrange | Recombine | Reconstruct | Regroup | Rename | Reorganize |
| Reorder | Rephrase | Restate | Restructure | Retell | Revise |
| Rewrite | Simplify | Synthesize | Systemize | Vary | |

Problem Solving Behaviours

| | | | | | |
|-----------|-----------|-----------|------------|-----------|------------|
| Analyse | Appraise | Combine | Compare | Conclude | Contrast |
| Criticize | Decide | Deduce | Derive | Determine | Diagnose |
| Evaluate | Explain | Formulate | Generalize | Generate | Induce |
| Infer | Interpret | Plan | Relate | Structure | Substitute |
| Translate | | | | | |

General Discriminative Behaviours

| | | | | | |
|--------------|-------------|-----------|----------|----------|---------------|
| Choose | Collect | Define | Describe | Detect | Differentiate |
| Discriminate | Distinguish | Estimate | Identify | Indicate | Isolate |
| List | Locate | Match | Omit | Order | Pick |
| Place | Point | Recognize | Select | Separate | |

Laboratory and Clinical Behaviours

| | | | | | |
|-------------|------------|---------|------------|----------|----------|
| Apply | Calibrate | Compute | Conduct | Convert | Decrease |
| Demonstrate | Dissect | Feed | Grow | Increase | Insert |
| Keep | Lengthen | Limit | Manipulate | Operate | Plant |
| Prepare | Remove | Replace | Report | Reset | Set |
| Specify | Straighten | Time | Transfer | Use | Weigh |

Objectives play a significant and foundational role in preparing for teaching. The challenge is to develop skill in writing appropriate objectives. This is not an easy skill to develop and requires repeated practice, reflection and consultation with curriculum experts.

Remember, a well written objective:

- i. Is measurable.
- ii. Is student oriented.
- iii. Describes observable behaviour.
- iv. Is specific.
- v. Is well-defined.

Carefully thinking through what you want your students to do and/or become at the end of your teaching must always lie at the heart of the objectives development process.