An Evaluative Study Of Using Student Learning Outcome Verbs In The Correct Learning Domains

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ABSTRACT

This study aimed at finding out to what extent do language teachers use student learning outcome verbs in the correct learning domains (e.g. knowledge, cognitive skills, interpersonal skills and responsibility, communication and information technology, and psychomotor) and how verbs can be used in more than one domain. A qualitative method was used in terms of content analysis of learning outcomes. The sample includes 33 course specifications. The results yielded lists of: verbs that are purely used in the knowledge domain; verbs that are purely used in the cognitive domain; and verbs that can be used in more than one domain. Therefore, it is essential to use the correct verb for the learning outcome. The starting point for formulating correct learning outcomes is the course description, plus the course content. It should be clear that some verbs can be used in different domains with different meanings. Some recommendations were made.

Keywords: Evaluative study, learning outcome, learning domains, outcomes-based education

Introduction

Outcomes-based education (OBE) stresses the learning outcomes to be realized rather than on the content to be learnt. Van der Horst and McDonald (1997) argue that OBE is a learner-centred, results-orientated approach to learning. They add that OBE focuses on the intended end results of the learning process. These intended end results are really the learning outcomes. Learners are required to demonstrate that they have realized them. This indicates that they are to be assessed constantly to specify whether or not they have achieved the specified outcomes. Therefore, effective assessment stresses that there should be a clear and direct link with the learning outcomes. This explanation obviously shows the close association between teaching, learning and assessment. The teaching and learning process should enable the learner to achieve the end result. The assessment process indicates to the teacher and learner whether the end results - outcomes - have in fact been attained.

Three principles related to OBE: clear focus, high expectations, and design down. Opportunities for learning success will expand greatly if the teachers apply the principles regularly, thoroughly, creatively, and concurrently in the classrooms. Clear focus enhances opportunities by establishing an obvious target for learning performance. High expectations opens students' motivational channels and their access to success. Design down offers a clear path for students to achieve the intended learning (Spady, 1994; Khan et al.,2020: Khan et al.,2021).

Outcomes-based education requires that teachers pinpoint the outcomes as the first aspect in planning teaching. The intended outcomes should specify the teaching and assessment that follow to the extent that the resultant learning could also be easily assessed through performance. Teaching, learning and assessment are inseparably related: alignment has been essential for achieving the goals of instruction (Birenbaum, 2003; Ali & Khan, 2022; Shahbaz & Khan 2017; Khan et al., 2022 a, b).

Learning outcomes

Saudi National Commission for Academic Accreditation and Assessment (NCAAA) (2015) groups the kinds of learning expected of students into four domains and describes learning outcomes at each level in each of these groupings as follows:

1. **Knowledge**: the ability to recall, understand, and present information, including:
   - knowledge of specific facts.
   - knowledge of concepts, principles and theories.
   - knowledge of procedures.
2. **Cognitive skills**: the ability to:
   - apply conceptual understanding of concepts, principles and theories.
   - apply procedures involved in critical thinking and creative problem solving, both when asked to do so, and when faced with unanticipated new situations.
   - investigate issues and problems in a field of study using a range of sources and draw valid conclusions.
3. **Interpersonal skills and responsibility**: including the ability to:
   - take responsibility for their own learning and continuing personal and professional development.
   - work effectively in groups and exercise leadership when appropriate.
   - act responsibly in personal and professional relationships.
   - act ethically and consistently with high moral standards in personal and public forums.
4. **Communication, information technology and numerical skills:** including the ability to:
   - communicate effectively in oral and written form.
   - use information and communications technology.
   - use basic mathematical and statistical techniques.

Table 1 shows National Qualifications Framework (NQF) learning outcome verbs as a guide for instructors in the teaching process.

Table 1: National Qualifications Framework (NQF) Learning Outcome Verbs

NQF Learning Domains	Proposed Verbs
Knowledge	Name, list, record, label, define, outline, describe, state, recall, recognize, memorize, reproduce, record, write, tell, name, recall, relate, repeat, select, underline, arrange, describe.
Cognitive Skills	Explain, estimate, write, summarize, contrast, compare, subdivide, diagram, differentiate, criticize, calculate, analyze, compose, create, develop, reconstruct, prepare, reorganize, predict, rate, justify, evaluate, plan, design, measure, judge, justify, appraise, interpret, use information in a new context.
Interpersonal Skills & Responsibility	Judge, demonstrate, illustrate, choose, show, modify, use, evaluate, appraise, justify, analyse, write, and question
Communication, Information Technology, Numerical	Calculate, demonstrate, interpret, illustrate, research, question, operate, evaluate, appraise, criticize, and assess
Psychomotor	Show, demonstrate, perform, illustrate, dramatize, employ, operate, manipulate, produce, draw, prepare, diagram, examine, construct, experiment, assemble, and reconstruct

Some studies were conducted to analyze using learning outcomes in the different learning domains. However, they were carried out based on different perspectives. Meda and Swart (2018) argue that some instructors phrase learning outcomes in a manner that does not promote student learning. They provided an analysis of learning outcomes of an Electrical Engineering syllabus provided by University of Technology in South Africa, to decide if instructors are drafting them in a way that enables student learning. A qualitative case study was used where the learning outcomes from 33 study guides were reviewed using illustrative verbs derived from Bloom's Taxonomy. Results point out that 9% of all learning outcomes are unclear; 10% are unobservable; and 23% are unmeasurable. The

study recommended providing regular workshops to help instructors in phrasing their learning outcomes using the illustrative verbs derived from Bloom's Taxonomy, thus ensuring that their learning outcomes promote student learning. Therefore, this study focused on certain characteristics of learning outcomes: clarity, observability, and measurability.

In this regard, Juričić et al. (2015) analyzed learning outcomes according to Bloom's taxonomy. They analysed more than 6000 learning outcomes and 121 study programs that are offered on Faculty of humanities and social sciences. They analysed the relationship between learning outcomes and the levels of cognitive, affective and psychomotor domains, to determine their correlation with undergraduate and graduate

studies. Analysis showed that the differences between undergraduate and graduate studies are statistically significant. Graduate studies are more represented in higher levels of cognitive, affective and psychomotor domain. In addition, there is a statistically significant difference between single major and double major studies, as single major studies on average have higher levels of learning outcomes. This study concentrated on learning outcomes in terms of the levels of cognitive, affective and psychomotor domains.

Lim et al. (2013) reported the results of a literature review on learning outcome studies and provided a framework that integrates content types with learning outcomes. Analysis of learning outcome studies between 1992 and 2006 using the ERIC database indicated that most empirical studies have assessed the learning outcome at lower levels of recall and competence. Only eight out of 113 cases in 59 empirical studies were identified as they were assessing learning outcomes at the performance level. This study is mainly concerned with content types and learning outcomes with their different levels or domains.

Mintz and Tal (2013) carried out a study aimed to contribute to the knowledge about students' learning outcomes yielded by different designs of education for sustainability courses. This multiple-case study of three courses used a mixed-methods design. The study found that: (1) the course with a higher degree of participatory learning, employing a system approach, promoted the highest and most varied learning outcomes; (2) the lecture-based course yielded the fewest learning outcomes; and (3) field trips promoted learning outcomes only when accompanied by more advanced pedagogies. This study clarified the idea of focusing on different learning domains and how to achieve them by using appropriate learning outcomes.

Burger (2008) examined the alignment of teaching, learning and assessment in English home language in grade 10 in Johannesburg District 9. A literature study examined the theoretical background to OBE, the definition of outcomes, Outcomes-based assessment and the role of feedback in the alignment of teaching, learning and assessment. Furthermore, this alignment in English home language was explored. For the qualitative investigation teachers from three schools participated in individual interviews and a content analysis. Major findings included: the teachers were intuitively aware of the importance of the alignment of teaching, learning and assessment, the implementation of the alignment was also intuitive and not explicitly planned. The teachers did not understand the assessment standards attached to each learning outcome. Continuous assessments were not used for learning. The study concludes with recommendations to improve the alignment of teaching, learning and assessment in English home language.

The previous studies focused on various aspects of using learning outcomes. The current study focuses on the correct use of learning outcomes in the different learning domains and how the learning outcomes verbs can be used in different domains.

Study problem

When preparing a course specification, teachers (faculty members) are required to formulate course learning outcomes in National Qualification Framework domains of leaning. Teachers are provided with a Table of National Qualifications Framework Learning Outcome Verbs. This Table suggests some verbs for each domain. They may find it difficult to use the verb for the correct domain as many verbs are found in more than one domain. This results in using some verbs in the incorrect domain, structuring learning outcomes in a way that does not promote student learning well. One of the challenges teachers that teachers may face is to use the correct verb in the correct domain. Using the verb in the wrong

domain would lead to using wrong teaching/learning activities and wrong assessment techniques. So, the problem of this study centres on the following issue: To what extent do language teachers use student learning outcome verbs in the correct learning domains?

Study questions

The current attempt to answer the following questions:

- To what extent do language teachers use student learning outcome verbs in the correct learning domains (e.g. knowledge, cognitive skills, interpersonal skills & responsibility, communication, information technology, numerical, and psychomotor)?
- How can verbs be used in more than one domain?

Methodology

To determine the extent to which language teachers use student learning outcome verbs in the correct learning domains (e.g. knowledge, cognitive skills, interpersonal skills & responsibility, communication, information technology, Numerical, and psychomotor), and how verbs can be used in more than one domain, a qualitative method is used in terms of content analysis of learning outcomes. The investigation will adopt the following procedures:

1. Selecting the course specifications to be investigated.
2. Checking the use of each verb in the different domains.
3. Deciding the correct use of the verb in the different domains.
4. Deciding the wrong use of the verb in the different domains.
5. Commenting on the use of the verb if it is used in more than one domain.

Sampling

In this qualitative research, the samples are to be chosen in a deliberate manner known as purposive sampling. The goal for selecting the specific course specifications is to have those that will yield the most relevant and plentiful data. So a sample of course specifications will be chosen that represent broad areas of the English programme: skills, linguistics, translation, instruction and general knowledge. The sample includes 33 course specifications. The instructors whose course descriptions are under study have more than 5 years of university teaching experience. They received training in preparing course descriptions that lasted for 25 hours.

Content analysis

The learning outcome should be used in the correct learning domain (e.g. knowledge, cognitive skills, Interpersonal Skills & Responsibility, Communication, Information Technology, Numerical, and Psychomotor). Learning outcomes as set out in KSA, National Qualifications Framework course specifications are divided into four categories:

1. Knowledge; the ability to recall and understand, and present information, including knowledge of specific facts, concepts, theories and procedures.

2. Cognitive skills; the ability to analyze situations and apply conceptual understanding of principles and theories in critical thinking and creative problem solving.

3. Interpersonal skills and responsibility; the ability to work effectively in groups, to exercise leadership, to act responsibly in personal professional relationship, and to plan and take responsibility for own learning.

4. Numerical and communication skills; the ability to use basic mathematical and statistical techniques, to

communicate effectively in oral and written form and to use information communication technology.

In addition to these domains of learning that are expected in all programs, there are psychomotor skills involving manual dexterity that are extremely important in some fields of study.

Verbs that are purely used in the knowledge domain:

1. The verb define is used correctly 11 times in the knowledge domain. It is used wrongly once in the cognitive skills domain.
2. The verb describe is used correctly 15 times in the knowledge domain. It is used wrongly twice in the cognitive skills domain. It is used wrongly once in interpersonal skills & responsibility domain.
3. The verb recognize is used correctly 8 times in the knowledge domain. It is used

wrongly twice: in the cognitive skills domain. It is used wrongly twice in interpersonal skills & responsibility domain.

4. The verb state is used correctly 4 times in the knowledge domain. It is used wrongly twice in the cognitive skills domain.
5. The verb identify is used correctly 4 times in the knowledge domain. It is used wrongly 6 times in the cognitive skills domain.
6. The verb outline is used correctly 6 times in the knowledge domain.
7. The verb name is used correctly twice in the knowledge domain. It is used wrongly once in the cognitive skills domain.
8. The verb recall is used correctly 3 times in the knowledge domain.
9. The verb state is used correctly 4 times in the knowledge domain. It is used wrongly twice in the cognitive skills domain.

Table 2 shows the No. of correct and wrong uses of knowledge verbs, in addition to the percentage of each.

Table 2: No. of correct and wrong uses of knowledge verbs.

Verb	No. of correct uses	No. of wrong uses
1. Define	11	1
2. Describe	15	3
3. Recognize	8	4
4. State	4	2
5. Identify	4	6
6. Outline	6	0
7. Name	2	2
8. Recall	3	0
9. State	4	2
Total	57	20
Percentage	**74%**	**26%**

Despite the fact that the percentage of correct uses exceeds that of wrong uses, in Table 2, it is strange to find wrong uses of verbs that are purely used in one domain: knowledge, as the teachers are provided with a list of these verbs beforehand.

Verbs that are purely used in the cognitive domain:

1. The verb differentiate is used correctly 5 times in the cognitive domain. It is used wrongly 3 times: in the knowledge domain. It is used wrongly once in interpersonal skills & responsibility domain.
2. The verb compare is used correctly 6 times in the cognitive skills domain.
3. The verb apply is used correctly 2 times in the cognitive skills domain. It is used wrongly 2 times: in the knowledge domain.

4. The verb make use of is used correctly 4 times in the cognitive skills domain.
5. The verb connect is used wrongly once in the interpersonal skills and responsibility domain.
6. The verb categorize is used wrongly once in the interpersonal skills and responsibility domain.
7. The verb distinguish is used correctly 4 times in the cognitive skills domain.
8. The verb contrast is used correctly 3 times in the cognitive skills domain.

Table 3 shows the No. of correct and wrong uses of cognitive skills verbs, in addition to the percentage of each.

Table 3: No. of correct and wrong uses of cognitive skills verbs.

Verb	No. of correct uses	No. of wrong uses
1. Differentiate	5	4
2. Compare	6	0
3. Apply	2	2
4. Make use of	4	0
5. Connect	0	1
6. Categorize	0	1
7. Distinguish	4	0
8. Contrast	3	0
Total	24	8
Percentage	**75%**	**25%**

Despite the fact that the percentage of correct uses exceeds that of wrong uses, in Table 3, it is strange to find wrong uses of verbs that are purely used in one domain: cognitive skills, as the teachers are provided with a list of these verbs beforehand.

Verbs that can be used in more than one domain:

1. The verb write is used correctly once and wrongly twice in the knowledge domain. It is used correctly 7 times in the cognitive skills domain.

Comment:

The verb write can be used in the knowledge domain, indicating "filling in or completing a sheet, check, or similar. It can be used in the cognitive domain to mean "composing an article, an essay, a poem, or the like." It can be used in the interpersonal skills and responsibility domain in the sense of "composing, for example a letter, to someone."

2. The verb explain is used correctly 11 times in the Cognitive Skills Domain. It is used wrongly 2 times: in the

Knowledge Domain: Introduction to Linguistics 1 and Conventional Aids in Language Instruction.

Comment:

The verb explain can be used in the cognitive domain to mean, "making an idea, a situation, or a problem clear. It can be used in the interpersonal skills and responsibility domain indicating, "telling someone about something in a way that is clear or easy to understand."

3. The verb show is used correctly 5 times in the interpersonal skills and responsibility domain.

Comment:

The verb show can be used in the interpersonal skills and responsibility domain in the sense of "showing/ presenting/ displaying something to somebody." It can be used in the psychomotor domain, indicating "producing something" that needs physical skills.

4. The verb express is used correctly 4 times in the interpersonal skills & responsibility domain.

Comment:

The verb express can be used in the cognitive skills domain indicating, "showing or describing a particular feeling." It can be used in the interpersonal skills and responsibility domain in the sense of "conveying a thought or feeling in words or by gestures and conduct to someone."

5. The verb analyze is used correctly 17 times in the cognitive skills domain. It is used wrongly once in the Interpersonal Skills and Responsibility domain: Fiction. It is used wrongly once in the Knowledge domain: Poetry.

Comment:

The verb analyze can be used in the cognitive skills domain to mean, "to examine or think about something carefully, in order to understand it." It can be used in the interpersonal skills and responsibility domain in the sense of "examining someone's mental or emotional problems   by using psychoanalysis."

6. The verb complete is used wrongly once in the interpersonal skills & responsibility domain.

Comment:

The verb complete can be used in the knowledge domain to mean, "write the required information on a form or questionnaire for instance." It can be used in the cognitive skills domain in the sense of "making something whole or perfect by adding what is missing."

7. The verb communicate is used wrongly 5 times in the interpersonal skills & responsibility domain.

Comment:

The verb communicate can be used in the cognitive skills domain to mean, "to express your thoughts   and feelings clearly." It can be used in the interpersonal skills and responsibility   domain   to   mean, "to exchange information   or conversation with other people, using words, signs, writing etc." It can be used in the communication and information technology domain to mean, "to exchange information   or conversation with other people, using words, signs, writing etc. by an electronic means"

8. The verb listen is used correctly once in the cognitive skills domain. It is used wrongly once in the communication and information technology domain.

Comment:

Listening can be a cognitive skill or an interpersonal skill. This depends on the use of "listening." If it is used for communication with people, it is an interpersonal skill. If it is used for doing something without communicating with others, it is a cognitive skill.

9. The verb illustrate is used wrongly once in the knowledge domain. It is used correctly 3 times in the cognitive skills domain. It is used correctly 4 times in the interpersonal skills and responsibility domain. It is used correctly twice in the communication and information technology domain.

Comment:

The verb illustrate can be used in more than one domain. It can be used in the cognitive domain in the sense of "making something clearer by various things." It can be used in the interpersonal skills and responsibility domain in the sense of "making something clearer to someone else." It can be used in the psychomotor domain in the sense of "drawing pictures in a book, or putting pictures in a book." It can be used in the communication and information technology domain in the sense of "using technology in illustration."

10. The verb demonstrate is used wrongly once in the cognitive skills domain. It is used correctly 8 times in the interpersonal skills and responsibility domain. It is used correctly 7 times in communication and information technology domain.

Comment:

The verb demonstrate can be used in interpersonal skills and responsibility domain to show or prove something clearly. It can be used in the communication, information technology, and numerical skills domain to show or describe how to do something or how something works. It can

be used in the psychomotor domain to show that you have a particular ability.

11. The verb discuss is used correctly twice in the cognitive skills domain. It is used wrongly 4 times in the cognitive skills domain. It is used correctly once in the communication and information technology domain.

Comment:

The verb discuss can be used in the cognitive skills domain in the sense of "writing about something in detail and considering different ideas or opinions about it." It can be used in the interpersonal skills and responsibility domain "to talk about something with another person or a group in order to exchange ideas or decide something."

12. The verb respond is used wrongly 4 times in the cognitive skills domain.

Comment:

The verb respond can be used in the interpersonal skills and responsibility domain to "to say or write something as a reply." It can be used in the communication and information technology when mentioning the means of responding, such as the email.

13. The verb use is used wrongly once in the knowledge domain. It is used correctly 4 times in the cognitive skills domain; it is used correctly 5 times and wrongly 5 times in the interpersonal skills and responsibility domain; It is used correctly 7 times in the communication and information technology domain.

Comment:

The verb use can be used in the cognitive skills domain, such as using a rule of grammar in a sentence or context. It can be used in the

interpersonal skills and responsibility domain in the sense of "treating (someone) in a particular way;" or using something (e.g., a rule of grammar) independently. It can be used in the communication and information technology to "use a particular means of technology in learning."

14. The verb give is used correctly 5 times in the interpersonal skills and responsibility domain.

Comment:

The verb give can be used in the interpersonal skills and responsibility domain in the sense of "giving an oral presentation. It can be used in the communication and information technology domain indicating, "giving an oral presentation using a means of information technology, like the datashow."

15. The verb develop is used wrongly once in the interpersonal skills and responsibility domain. It is used correctly 6 times in the cognitive skills domain.

Comment:

The verb develop can be used in the cognitive skills domain indicating "making something advanced or elaborate, i.e. develop ideas." It can be used in the interpersonal skills and responsibility domain to mean "establish relations with someone"

16. The verb construct is used wrongly once in the interpersonal skills and responsibility domain.

Comment:

The verb construct can be used in the cognitive skills domain in the sense of "forming something such as a sentence, or an argument by joining words, ideas etc. together." It can be used in the interpersonal skills and responsibility domain to mean, "present an argument." It can be

used in the psychomotor domain in the sense of "drawing a mathematical shape."

17. The verb reconstruct is used correctly once in the cognitive skills domain.

Comment:

The verb reconstruct can be used in the cognitive skills domain in the sense of "combining or grouping knowledge/information to come to new conclusions." It can be used in the psychomotor domain in the sense of "building something again after it has been destroyed or damaged."

18. The verb assess is used correctly twice in the communication, information technology domain; it is used wrongly 3 times in that domain.

Comment:

The verb assess can be used in the cognitive domain to mean, "make a judgment about a person or situation after thinking carefully about it." It can be used in the communication and information technology to indicate, "judge the usefulness of using means of information technology in learning."

19. The verb summarize is used correctly 7 times in the cognitive skills domain.

Comment:

The verb summarize can be used in the cognitive skills domain to mean "to make a short statement giving only the main information and not the details of a plan, event, report etc." It can be used in the interpersonal skills and responsibility in the same sense, in addition to an audience.

20. The verb select is used wrongly once in the cognitive skills domain.

Comment:

The verb select can be used in the knowledge domain in the sense of "specifying something or

someone among others." It can be used in the cognitive domain to mean "choosing something or someone by thinking carefully about which is the best, most suitable etc."

21. The verb read is used wrongly twice in the communication, information technology domain.

Comment:

The verb read can be used in the cognitive skills domain to mean, "to find out information from books, newspapers etc." It can be used in the interpersonal skills and responsibility domain indicating, "to say the words in a book, newspaper etc. so that people can hear them."

22. The verb create is used correctly twice in the cognitive skills domain.

Comment:

The verb create can be used in the cognitive skills domain to mean "create a structure, an image, a design, a picture, a pattern, or a style." It can be used in the interpersonal skills and responsibility domain indicating, "create a relationship, a group or a committee."

23. The verb plan is used correctly twice in the cognitive skills domain.

Comment:

The verb plan can be used in the cognitive skills domain to mean "plan a lesson, plan a presentation, or plan writing a paragraph, or an essay." It can be used in the interpersonal skills and responsibility domain (leadership) indicating, "plan an activity, plan a campaign, plan a project, plan a journey, plan a trip, or plan a visit."

24. The verb design is used correctly once and wrongly once in the cognitive skills domain. It is used wrongly once in that domain.

Comment:

The verb design can be used in the cognitive skills domain to mean "to plan or develop something for a specific purpose, i.e. design a study, design a lesson, design work, design a guide, design an idea, design a plan, design a strategy, or design a questionnaire." It can be used in the interpersonal skills and responsibility domain (leadership) indicating, "design an activity, design a team, or design a project." It can be used in the psychomotor domain to mean "to make a drawing of something that will be made or built, i.e. design a logo, design a tower, design a poster."

25. The verb appraise is used correctly once and wrongly once in the interpersonal skills & responsibility domain. It is used correctly once in the communication, information technology domain.

Comment:

The verb appraise can be used in the cognitive skills domain to mean, "assess the value or quality of, i.e. appraise a technique, or appraise a quality." It can be used in the interpersonal skills and responsibility domain to indicate, "assess the performance of (a person), i.e. appraise a team, appraise an individual, or appraise a performance." It can be used in the communication and information technology to mean "assess the quality of a means of information technology."

26. The verb research is used wrongly once in the interpersonal skills and responsibility domain. It is used correctly 3 times in the communication, information technology domain.

Comment:

The verb research can be used in the cognitive domain to mean, "to study a subject in detail, especially in order to discover new facts or test new ideas, i.e. research a subject, researching methods of improving literacy, research into

something." It can be used in the communication and information technology domain to indicate, "research something using information technology, i.e. research resources online, or research the internet for information."

27. The verb present is used wrongly once in the cognitive skills domain. It is used correctly 4 times in the communication, information technology domain.

Comment:

The verb present can be used in the interpersonal skills domain to mean "to give a speech in which you offer an idea, plan etc. to be considered or accepted, i.e. present a report, or present a plan." It can be used in the communication and information technology domain to mean "present something using a means of information technology."

28. The verb judge is used correctly 3 times in the cognitive skills domain.

Comment:

The verb judge can be used in the cognitive skills domain to mean "to form or give an opinion about something after thinking carefully about all the information you know about it, i.e. judge a quality, or an effectiveness." It can be used in the interpersonal skills and responsibility domain to indicate "to form or give an opinion about someone after thinking carefully about all the information you know about him/her, i.e. judge people."

29. The verb evaluate is used wrongly once in the knowledge domain. It is used correctly twice in the cognitive skills domain. It is used correctly 3 times in the interpersonal skills and responsibility domain. It is used correctly twice and wrongly 3 times in the communication, information technology domain.

Comment:

The verb evaluate can be used in the cognitive domain to mean "to judge how good, useful, or successful something is, i.e. evaluate the benefit of something, evaluate information, or evaluate progress." It can be used in the interpersonal skills and responsibility domain to mean "to judge how good, useful, or successful someone is, i.e. peer-evaluation." It can be used in the communication and information technology domain to indicate "to judge how good, useful, or successful a means of information technology is, evaluate the use of PowerPoint."

30. The verb operate is used correctly once in the communication and information technology domain.

Comment:

The verb operate can be used in the communication and information technology domain to mean "to use a means of information technology, i.e. operate a network." It can be used in the psychomotor domain to mean, "to use and control a machine or equipment, i.e. operate a machine."

31. The verb justify is used correctly once in the interpersonal skills and responsibility domain.

Comment:

The verb justify can be used in the cognitive skills domain to mean "to demonstrate or prove that something is just, right, or valid, i.e. i.e. justify the use of, justify a conclusion, or justify an approach." It can be used in the interpersonal skills and responsibility domain to indicate "to give an acceptable explanation for something that other people think is unreasonable, i.e. justify answers before the class."

Table 4 shows the No. of correct and wrong uses
of verbs used in more than one learning domain,
in addition to the percentage of each.

Table 4: No. of correct and wrong uses of verbs used in more than one learning domain:

Verb	No. of correct uses	No. of wrong uses
1. Write	8	2
2. Explain	11	2
3. Show	5	0
4. Express	4	0
5. Analyze	16	2
6. Complete	0	1
7. Communicate	0	5
8. Listen	1	1
9. Illustrate	9	1
10. Demonstrate	15	1
11. Discuss	3	4
12. Respond	0	4
13. Use	17	5
14. Give	5	0
15. Develop	6	1
16. Construct	0	1
17. Reconstruct	1	0
18. Assess	2	3
19. Summarize	7	0
20. Select	0	1
21. Read	0	1
22. Create	2	0
23. Plan	2	0
24. Design	1	2
25. Appraise	2	1
26. Research	3	1
27. Present	4	1
28. Judge	3	0
29. Evaluate	7	4
30. Operate	1	0
31. Justify	1	0
Total	136	44
Percentage	75.6%	24.4%

Table 5: Total number and percentage of using learning outcome verbs in the various learning domains

Verbs	Correct uses	Wrong uses

Verbs used only in the knowledge domain	57	20
Verbs used only in the cognitive skills domain	24	8
Verbs used in more than one domain	136	44
Total	217	72
Percentage	75.1%	24.9%

The total number of verbs reaches 289: 217 correct uses and 72 wrong uses. The total percentage of correct uses comes to 75.1%; the total percentage of wrong uses is 24.9%. The last percentage is considered high as it means that 72 student learning outcome verbs were used wrongly. The intended learning of these verbs was not achieved.

The reasons for this high number of wrong uses (72 verbs) vary. Instructors may copy ready-made learning outcomes from the internet and write them down in the course description, without paying attention to the peculiarities of the subject matter they teach. The course descriptions are not revised by an expert in quality assurance. Additionally, instructors may not be aware that some learning outcome verbs can be used in more than one domain of learning.

Conclusion

The wrong use of the learning outcome verb will lead to learning different from the intended learning. When you use the wrong verb, it means you will use the wrong teaching/leaning activities and assessment techniques. Therefore, it is essential to use the correct verb for the learning outcome. It is vital to use the use the correct verb for the correct domain. The starting point for formulating correct learning outcomes is the course description, plus the course content. The

list of learning outcomes provided by NCAAA is not comprehensive, but it should be used as guidelines.

Some learning outcomes are taken from other sources on the internet, without paying attention to the nature of the subject matter of the course being taught. It is not wrong to take some learning outcomes on the internet on condition that they are in line with the subject matter of the course being taught, or to modify these learning outcomes to suit the subject matter. An example of taking learning outcomes on the internet without paying attention to the subject matter of the course being taught is "Give an oral presentation in class using effective delivery strategies.[1]"

Some learning outcomes are repeated many times without considering the context of the course being taught. An example of this is the learning outcome, "Use communication strategies to participate in group and class discussions." It is repeated five times in different courses. This outcome is stated in unclear and ambiguous language. It should be clear that some verbs can be used in different domains with different meanings.

Recommendations

Certain recommendations could be made. Course descriptions should be revised by an expert in

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[1]http://schools.aucegypt.edu/academics/eli/IEG/Pages/Goals,%20Objectives,%20and%20Learning%20Outcomes.aspx

quality assurance. If such an expert is hard to find, a peer-evaluation method can be used. Instructors need to have in-service professional development, especially training in writing and distributing student learning outcome verbs correctly, thereby ensuring that learning outcomes promote student learning.

Further research

Further studies, concerning learning outcomes, may be carried out, such as:

- The learning outcome must communicate a single outcome rather than combine multiple outcomes into a single statement.
- The learning outcome is aligned to the level of the course/program.
- The learning outcome is specific; there are no redundant words in the outcome.
- The learning outcome is written with a measurable verb.

References

1. Ali, A., Khan, R. M. I., & Al-Awadhi, A. A. (2022). The Adoption of Mobile Learning among University Students. International Journal of Computer Science and Network Security, 531-538.
2. Birenbaum, M. (2003). New insights into learning and teaching and their implications for assessment. In Segers, M., Dochy, F. & Cascallar, E. (eds.). Optimising new modes of assessment: in search of qualities and standards. Dordrecht: Kluwer Academic Publishers.
3. Mustafa, G., Khan, R. M. I., & Abbasi, A. A. (2022). Impact of Social Media on EFL Writing Learning. Pakistan Languages and Humanities Review, 6(1), 01-11.
4. Ishtiaq Khan, R. M., Ali, A., Alourani, A., Kumar, T., & Shahbaz, M. (2022). An Investigation of the Educational Challenges during COVID-19: A Case Study of Saudi Students' Experience. European Journal of Educational Research, 11(1), 353-363.
5. Juričić, V.; Pejičić, M. & Vidaković, G. (2015). Analysis of studies learning outcomes according to Bloom's taxonomy. 5th International Conference "The Future of Information Sciences, INFuture2015: e-Institutions – Openness, Accessibility, and Preservation", 11-13 November, Zagreb. Retrieved from: http://darhiv.ffzg.unizg.hr/id/eprint/8356/
6. Khan, R. M. I., Shahbaz, M., Kumar, T., & Khan, I. (2020). Investigating reading challenges faced by EFL learners at elementary level. Register Journal, 13(2), 277-292.
7. Khan, R. M. I., Ali, A., & Alourani, A. (2022). Investigating Learners' Experience of Autonomous Learning in E-learning Context. International Journal of Emerging Technologies in Learning (Online), 17(8), 4.
8. Khan, R. M. I., Kumar, T., Supriyatno, T., & Nukapangu, V. (2021). The phenomenon of Arabic-English translation of foreign language classes during the pandemic. Ijaz Arabi Journal of Arabic Learning, 4(3).
9. Khan, R. M. I., Kumar, T., Benyo, A., Jahara, S. F., & Haidari, M. M. F. (2022). The Reliability Analysis of Speaking Test in Computer-Assisted Language Learning (CALL) Environment. Education Research International, 2022.
10. Khan, R. M. I., Mustafa, G., & Awan, A. A. (2020). Learners' attitudes on the infusion of cooperative learning in education. Orient Research Journal of Social Sciences, 5(2), 164-175.

11. Lim, D. H.; Yoon, S. W. & Park, S. (2013). Integrating learning outcome typologies for HRD: Review and current status. New Horizons in Adult Education & Human Resource Development, 25 (2) 33-48.

12. Meda, L. & Swart, A. J. (2018). Analysing learning outcomes in an electrical engineering curriculum using illustrative verbs derived from Bloom's Taxonomy. European Journal of Engineering Education, 43(3) 399-412.

13. Mintz, K. & Tal, T. (2013). Education for sustainability in higher education: a multiple-case study of three courses. Journal of Biological Education, 47 (3) p140-149.

14. National Commission for Academic Accreditation & Assessment. (2015). National Qualifications Framework for Higher Education in the Kingdom of Saudi Arabia. Version 3. Retrieved from: http://www.ncaaa.org.sa/en/Releases/NationalQualifFrameworkDocuments/National%20Qualification%20Framework.pdf

15. Shahbaz, M., & Khan, R. M. I. (2017). Use of mobile immersion in foreign language teaching to enhance target language vocabulary learning. MIER Journal of Educational Studies Trends and Practices, 66-82.

16. Spady, W. G. (1994). Outcome-based education: Critical issues and answers. The American Association of School Administration. Retrieved from: http://files.eric.ed.gov/fulltext/ED380910.pdf

17. Van der Horst, H. & McDonald, R. (1997). Outcomes-based education: A teacher's manual. Pretoria: Kagiso Publishers.