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AUTHOR Aviles, Christopher B.
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ABSTRACT

Social work educators must be familiar with issues related to social work, as well as issues from a wider context of education that impact the profession. A practical consideration for academically-based courses involves the relationship between what is taught and what is tested in the social work classroom. Social work educators must decide what the relationship will be between the material taught in the classroom and the material tested on exams. Vertical and horizontal curriculum alignment, as a method to help articulate expected student learning outcomes and to clarify the teaching and testing relationship in the social work classroom, is one suggestion to meet this problem. If students are expected to go beyond facts, then professors must go beyond teaching facts. There must be precision about knowledge levels when creating learning expectations. Instructional materials should reflect the upper knowledge levels of Bloom's taxonomy. Looking into curriculum alignment may also help new social work educators think about the teaching-testing relationship. (Contains 23 references.) (JDM)

TITLE

Curriculum Alignment: Matching what we teach and test versus teaching to the test.

AUTHOR

Christopher B. Aviles, Ph.D., ACSW
Assistant Professor of Social Work

Social Work Department
Buffalo State College
1300 Elmwood Avenue
Buffalo, NY 14222-1095

Work 716-878-5327
avilescb@buffalostate.edu

ABSTRACT

As social work educators we must be familiar with issues related to social work and also with issues from the wider context of education that impact our work. A practical educational issue for academically based as opposed to practice based courses involves the relationship between what we teach and test in the social work classroom. Social work educators, especially those who are creating course materials for the first time, must decide what relationship will exist between the material taught in the classroom and the material tested on exams. As a new social work educator I often heard the phrase "teaching to the test" mentioned during discussions about exams. No one ever defined the phrase, but I sensed it should be avoided. What is teaching to the test and how is it avoided in the social work classroom?

This article examines vertical and horizontal curriculum alignment as a method to help articulate expected student learning outcomes and clarify the teaching and testing relationship in the social work classroom.

PURPOSE

Clarifying the relationship between what is taught and what is tested is a practical issue from the wider context of higher education that, therefore, impacts the social work classroom. What relationship should exist between what we teach and test in the social work classroom? Or, as students ask, "What's on the test?"

As a new social work educator teaching academically based rather than practice-based courses, I believed I was not "teaching to the test" although I was unclear what the phrase meant. This article reviews what teaching to the test means and how to avoid it. Additionally, curriculum alignment is examined as a method for thinking more precisely about the teaching and testing relationship in the social work classroom.

Teaching to the Test: Bad

Clearly, there must be some relationship between our learning expectations and the material we teach in the classroom and test on our exams. The phrase "teaching to the test" produces images of educators dropping hints or telling students what material will be tested on exams. A key assumption of these images is that, if students know what material will be tested, they will memorize material, so exams become memorization exercises where high scores may not reflect greater understanding. Students should not know in advance, and instructors should teach explicitly the material intended for testing. If students know exactly what material will be tested, they can simply turn the material into easier to recall forms like school children who turn the musical notes 'EGBDF'

into a sentence to aid memorization. My students created such aids for American Social Work history and research methods (MRCOS: Mary Richmond Charity Organization Society; JAHH: Jane Addams Hull House; SROC: Spearman's Rho Ordinal Correlation). Successfully memorizing the associations does not insure understanding. Telling students what will be tested, giving out answers to test questions, or dropping hints about what material will be tested (e.g., "You will see this material again.") all may encourage memorization without understanding.

Many social work educators have shared with me their strategies to avoid teaching to the test. One strategy is to make what is taught and tested a mystery. Students will not know precisely what material will be tested. The instructor may refuse to say what material will be tested or simply tell students to study everything. For example, I experienced this in graduate school in a course that required a 700-page textbook. As the exam neared we asked what was important to study and were told, "Memorize everything." I had a similar experience writing an instructor manual for a social work text. The publisher requested exam questions and also quiz and study questions for exam preparation. However, I was told not to write quiz or study questions too similar to the exam questions. It was an interesting request, to prepare students for an exam by not asking questions too similar to those questions on the exam, while still asking about material that will be on the exam. How would I ask when the Elizabethan Poor Law was written without alerting students that it will be tested?

Another strategy is to test material from the text but not the lectures. Teaching to the test is avoided because material taught is not tested. Students

describe this when they say an instructor lectured extensively but tested on the textbook. Another strategy is to increase the quantity of material taught and to test only a portion of it. Material intended for testing is thus "hidden" within material not intended for testing. Students must either learn the greater volume of material or correctly guess what material will be tested (e.g., Will the test cover the textbook, lectures, or both?).

A problem with testing a portion or sample of material taught is that we cannot verify untested material was actually learned. For example, one instructor who taught material about Freud and Erickson avoided teaching to the test by testing different course sections on different theorists. Therefore, the morning class could not tell the afternoon class that "Freud was on the test" because "Freud" was not tested in the afternoon class. If untested material is truly essential, how do we verify students learned it? Additionally, testing a sample of material taught may result in students wasting precious study time since the essential material intended for testing is unknown. I do not want my students spending study time on material not intended for testing since academic performance may be positively related to time spent studying (Bloom, 1968, 1976, 1984; Carroll, 1963). Finally, exam scores may decrease as the amount of material to be studied increases since students cannot memorize an unlimited amount of material. Low exam scores are less problematic when grading is done with norm referenced measurement (i.e., curving the grades) because a letter grade of "A" occurs regardless of the numerical exam scores. Thus, when 60% of 100% correct is the highest exam score it is assigned a letter grade of "A."

However, norm-referenced letter grades may not accurately indicate how much (or little) was actually learned.

Being mysterious, hiding or refusing to reveal material intended for testing, or increasing the amount of material taught and curving the grades all may result in wasted study time and yield similar results as teaching to the test. Said differently, if knowing what material will be tested encourages memorization, does not knowing what material will be tested promote greater understanding or critical thinking?

Curriculum Alignment: Good

Curriculum alignment refers to the similarity of content taught and tested and offers social work educators a more precise way to conceptualize the teaching and testing relationship (Guskey, 1985; Cohen & Hyman, 1991). Curriculum alignment involves matching course materials by instructional content (horizontal alignment) and knowledge level (vertical alignment). A key assumption of curriculum alignment is that learning expectations must be explicit and clearly communicated to students.

Horizontal curriculum alignment refers to the progression of course material from lesson planning through to teaching and testing. Horizontally aligned material is both taught and tested as opposed to testing a portion of material taught. This helps to prevent spending instructional time on material not tested, and prevent testing of material not taught. Teaching content not intended for testing is undesirable because it takes instructional time away from essential content and raises questions about how "essential" untested material actually is. Social work

educators must decide what course material is essential and nonessential, perhaps categorizing it as "need to know" or "nice to know" (Gentile, 1990). "Need to know" material should be taught and "nice to know" material may be utilized for enrichment purposes or sequenced to occur at the end of a course and taught if time allows.

Vertical curriculum alignment refers to Bloom's (1956) taxonomy of educational objectives (e.g., knowledge, comprehension, application, analysis, synthesis, and evaluation). The knowledge levels are hierarchical and discrete, meaning students must understand knowledge to lower levels before understanding it to higher levels, and discrete because mastery of lower knowledge levels does not insure mastery of higher levels (Bloom, 1956). Figure one includes verbs associated with common student expectations for the six knowledge levels.

Fig 1. Bloom's Taxonomy: Knowledge Levels and Student Expectations

Knowledge Level	Common Student Expectations
Knowledge	Define, identify, state, list, differentiate, discriminate, recognize
Comprehension	Explain, translate, interpret, match, extrapolate
Application	Construct, choose, predict, demonstrate
Analysis	Distinguish, separate, organize, infer, classify
Synthesis	Compose, formulate, create, produce
Evaluation	Debate, judge, critique, assess, compare

Note: Adapted from: Bloom, 1956; Green, 1970, 1975.

Knowledge is the first and simplest taxonomy level and may include facts to be learned. Therefore, "teaching to the test" refers to the knowledge level Bloom's taxonomy since knowledge can be present without understanding. Avoiding the knowledge level is impossible because knowledge is required for the upper levels of the taxonomy. However, the knowledge level should not be taught to exclusively. The levels beyond knowledge are aspects of critical thinking and require more than simple memorization (Bloom, 1956; Wiggins & McTighe, 1998). Comprehension involves translation, interpretation, and extrapolation. Application involves carry-over or transfer of learning to situations new to students. Application is an important knowledge level for social work education since students must eventually apply their learning to client problems. Analysis requires examination of parts or elements of what was learned, analyzing the relationship between wholes and parts (e.g., conclusions and evidence), organizing knowledge based on some principle, and making inferences based on data.

Synthesis involves the production of new or unique things and is an ideal knowledge level for practice-level social work courses where students produce professional documents like intervention plans, and display communication skills in unique combinations. Evaluation requires judgments based on external criteria or internal evidence. Internal evidence can utilize a student's personal perspectives or value system. External criteria exists for evaluating research projects, communication skills, ethical decisions and our own ethical conduct as

social workers (Council on Social Work Education, 1987; Hepworth, Rooney & Larsen, 1997; Loewenberg & Dolgoff, 1988; Williams, Unrau & Grinnell, 1998).

Vertically aligned material is taught and tested to the same taxonomy level. Instruction must support whether exams will test recognition of the name "Mary Richmond" (e.g., knowledge) or require students to critique her contribution to social work (e.g., evaluation). Poor alignment occurs if for example, students are taught the elements of an intervention plan (e.g., knowledge) but are expected to produce one on testing (e.g., synthesis).

A table of specifications can help facilitate horizontal and vertical curriculum alignment (Bloom, Hastings & Madaus, 1971; Gentile, 1990; Gronlund, 1981; Guskey, 1985). The table is a chart that can include essential terms or concepts for a learning unit, include how many test items target a concept, or include the test items. The table of specifications facilitates horizontal curriculum alignment by allowing social work educators to "see" if any exam items did not connect with essential content or if any essential content was not tested (Aviles, 1996; Guskey, 1985; Squires, 1984, 1986; Torshen, 1977). The table also facilitates vertical curriculum alignment when knowledge levels are included. Figure two includes a portion of a table of specifications for a learning unit about poverty. The table of specifications in figure three is similar but includes knowledge levels.

Fig 2. Table of Specifications for a Learning Unit on Poverty

Unit topics: History of poverty; social welfare programs; measuring poverty	Exam Items	Terms, Facts needed
2. Elizabethan poor law	[a]N=1 [b]2%	1601, 1st English nationwide poor law, forerunner of modern welfare system
3. Social security act	N=1 2%	1935, 1st American social welfare policy, written during economic depression.
4. War on poverty	N=4 8%	1964, revision of social security act, Medicare, Medicaid, food stamps, job training
10. Poverty line-absolute	N=5 10%	USA Poverty line ($15,600), multiplication factor (3.0), food budget (1.19)
14. Poverty population: race, age, gender, location, under-class, urban/rural	N=19 38%	Size/composition of poverty population using numbers, percents, proportions: for all demographic categories.
TOTAL EXAM ITEMS	N=50 100%	

[a] N= Number of exam items on that topic
[b] %= Percent of exam items on that topic

Fig 3. Sample Table of Specifications with Knowledge Levels

Unit topic: Measuring poverty Terms, Facts needed	**Knowledge Level**	**Students must**
10. Poverty line- absolute: USA Poverty line ($15,600), multiplication factor (3.0), food budget (1.19). In-kind benefits	Knowledge N=1 (5%)	Recognize amounts for poverty line, multiplication factor, food budget. Define in-kind benefits.
Knowledge Levels: Knowledge Comprehension Application Analysis Synthesis Evaluation	Comprehension N=1 (5%)	Discriminate between poverty rates and numbers of people in poverty.
	Comprehension N=1 (5%)	Explain relationship between poverty line and poverty rate.
	Analysis N=1 (5%)	Predict change in size of poverty population if food budget is increased or decreased.
	Analysis N=1 (5%)	Predict changes in size of poverty population if in-kind benefits are counted as income.
TOTAL EXAM ITEMS	N=50 (100%)	

Curriculum Alignment versus Teaching to the Test

There is nothing wrong with teaching and testing facts if we realize facts will not insure understanding to the upper knowledge levels of Bloom's taxonomy. Defining our learning expectations with the upper levels of Bloom's taxonomy can help social work educators avoid encouraging memorization without understanding. For example, knowing the Elizabethan Poor Law was written in 1601 is acceptable if we realize it does not prepare students to, for example, contrast the Poor Law with current social welfare programs or infer the political ideology behind the Poor Law. We must create instructional materials and testing that reflects upper levels of knowledge.

For example, a comprehension test item could require matching the Elizabethan Poor Law with categories of service delivery (e.g., institutional versus residual) (Wilensky & Lebeaux, 1958). For application, students could apply the intent of the Elizabethan Poor Law to existing social programs and describe changes in service delivery. For analysis, students could contrast the Elizabethan Poor Law with current social programs to distinguish similarities and differences. For synthesis, essay questions could require students to create a modern social program based on the Elizabethan Poor Law. For evaluation, the Elizabethan Poor Law could be critiqued or rewritten using the NASW code of ethics.

Even with curriculum alignment, teaching to the test and memorization without understanding (i.e., comprehension, application, synthesis, analysis or evaluation) can occur if performance occurs without understanding (Guskey,

1985; Cohen & Hyman, 1991). Social work educators unintentionally can reduce upper level test items to the knowledge level if tasks expected on testing are completed in class and students memorize the tasks. For example, classifying poverty theories by political ideologies (i.e., analysis) is reduced to the knowledge level if students recall this task from class (Macht & Quam, 1986). This problem is avoided by sorting some, but not all, of the theories in class and testing unsorted theories. Foresight is required to create instructional materials that support, but are not exactly the same, as material tested.

Despite our efforts, students can turn upper knowledge level material into lower level material. One semester my research students seemed able to create novel examples of independent variables in class (e.g., application) but almost everyone answered a corresponding exam question incorrectly! The students had reduced their knowledge of independent variables to an acronym (i.e., IVGF: Independent Variable Go First) and misidentified the first item in a research study title as the independent variable, although the title began with the sample! For correction, students rearranged titles of research studies to demonstrate that while independent variables do occur prior to measurement of the dependent variable, they do not always "go first" in the title.

Students can transfer and apply their learning to new situations (and new research study titles) if taught and tested with a corresponding array of different exemplars (Guskey, 1985; Hyman, 1991). Therefore, I tell students what material they must know, provide written study guides that outline material intended for testing, and test that material. This is not teaching to the test if

testing involves upper knowledge levels and utilizes examples different from those taught. Written study guides also help students to focus their study time on essential material and prevents questions about what material will be tested since they already know. The study guides also include words corresponding to the taxonomy levels expected on testing (figure one).

Utilizing curriculum alignment requires materials to be created with intention, and testing created prior to instruction (or a learning unit). Teaching to upper knowledge levels takes more time than teaching simple knowledge. To increase my classroom time efficiency I only spend instructional time on material intended for testing, and spend less instructional time on knowledge level material in the textbook because students can, after all, memorize that material.

CONCLUSIONS

Clearly, avoiding teaching to the test is desirable but there must be some relationship between what we teach and test in the social work classroom. The relationship can be a mystery that makes students hunt for essential material, or be a secret only permitting us to hint at what will be tested. However, if we expect our students to go beyond 'memorizing facts' we may have to go beyond 'teaching facts.' We must be more precise about knowledge levels when we create learning expectations and create instructional materials that support the upper knowledge levels of Bloom's taxonomy. Perhaps the teaching and testing relationship should be similar to field instruction where learning contracts with clearly written student expectations do not result in teaching to the "learning contract."

Creating a table of specifications and aligning my curriculum materials was tedious and time consuming but it helped me clarify what essential content to teach and test, clarify the knowledge levels I expected from teaching and on testing, and to create materials that supported my expectations. Now when asked if I "teach to the test" or tell students "what material will be tested," I respond: "Sure, don't you?" I hope curriculum alignment helps new social work educators to think deliberately about the teaching and testing relationship and to consider an answer to this common student question: "So professor, what's on the test?"

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