

# CATS in the Classroom

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The concepts of assessment and evaluation have a long history. An early example can be found in the Old Testament when a simple trial produced immediate feedback. The story begins when Jephthah (Judges 12:5) orders all those who approach the Jordan River fords to pronounce the word "shibboleth." His men, of course, would pronounce the "sh" sound while competing armies would pronounce the "si" sound. Those who were incorrect would be killed (Michaels & Karnes, 1950 in Bertrand, 1994).

Although not as physically drastic as this measure, assessment and evaluation instruments have been testing human beings' competencies since the turn of the century. In 1845 Horace Mann advocated written exams which contained large numbers of questions and standardized answers. By 1928 over 1,300 published tests were in circulation. By 1944 over 60 million standardized tests were given to over 20 million people (Bertrand, 1994).

In 1986 when Cross and Angelo first introduced the idea of classroom research at the American Association for Higher Education's national conference, education was in the midst of an assessment reform. Numerous institutional assessments were being promoted. However, the idea of classroom assessment brought the hope of reestablishing an equal footing for teaching and research. Formats offered by Cross and Angelo were based on learning rather than on traditional testing.

The invitation ". . . to see differences, not consensus, as potential starting points for taking learning in different directions, for different purposes, and from different perspectives" (Bertrand, 1994, p. 275) was offered to teachers nationwide through the 1988 publication of *Classroom Assessment Techniques*. Since then, Cross and Angelo's names have become synonymous with classroom research and the use of classroom assessment techniques. In both editions of their books (1988 & 1993, p. 1-11), they cite seven assumptions of classroom assessment. These assumptions will be supported and offered as a theoretical framework for this paper.

## **Assumption 1**

***The quality of student learning is directly--although not exclusively--related to the quality of classroom teaching. Therefore, one of the most promising ways to improve learning is to improve teaching.***

The nature of teaching begins with the premise that it is a process of helping someone else learn something important (Fink in Wadsworth, 1988). In order to help students grasp that important something, a teacher must have subject matter knowledge--expertise, organizational and interaction skills, and dynamism--enthusiasm (Hildebrand & Wilson in Arnes, 1979).

Six similar characteristics offered by Wotrube and Wright (1975) are knowledge,

organization and communication as well as a positive attitude toward students, fairness in exams and grading, and flexibility in teaching approaches. Other principles of good educational practice are cited as teacher-student contact, cooperative efforts among students, active learning, prompt feedback, time on task, high expectations, respect for diverse talents and differences in learning styles (Chickering & Gamson, 1987). These characteristics all tend to focus on good teaching. The link that Cross and Angelo have made with classroom research is to stretch teachers from thinking about impacts of teaching to the outcomes of student learning.

"A variety of simple research tools can be used to discover what topics and approaches students are most enthusiastic about, what faculty members were doing at the time in the semester when a number of students stopped attending class, what student expectation are, and generally what works and does not work in the classroom" (Lucas, 1994, p. 112)

## Assumption 2

***To improve their teaching effectiveness, teachers need to make their goals and objectives explicit. They also need to receive specific, comprehensible feedback on the extent to which they are achieving those goals and objectives.***

By relying on theoretical foundations such as Astin's assessment models, Bloom's taxonomy, Cashin et al. evaluation premises, Knowles and Chickering's adult learning theories, McKeachie and Weimer's teaching strategies, Mager's syllabi and objective formats, and countless more professionals' dedicated research, teachers can clearly outline specific goals and objectives for each course, each unit, each lesson.

Mortimer Adler (1984) expresses the groundwork a teacher must lay between goals, means, and ways of accomplishing goals in his work, *The Paideia Program: An Educational Syllabus*. Goals can be ways of acquiring knowledge, developing skills, and/or widening the door to ideas and/or values. Students of the 90's ". . . must do more than just listen: They must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation" (Chickering in Bonwell & Eison, 1991, p. iii).

Despite these proven foundations, the gap between introductory class goals and objectives and the final class evaluation ". . . is typically delayed by about 3 months; printouts [are] distributed the semester after the evaluated courses have been completed. Such a lengthy interval between performance and reaction greatly diminishes the effectiveness of feedback, which is most useful when given as soon as possible after the behavior occurs" (Bergquist & Phillips, 1977; Gordon, 1993; Ilgen, Fisher & Taylor, 1979 in Lucas, 1994, p. 130).

Classroom research can close this gap with simple, more frequent, continuous flow of information which provides the teacher with a clearer picture of his/her effectiveness in accomplishing a particular goal.



### **Assumption 3**

***To improve their learning, students need to receive appropriate and focused feedback early and often; they also need to learn how to assess their own learning.***

Classroom assessment provides immediate formative information for improvement by both the teacher and the student. The usually nongraded strategies offer a way to adjust and plan for change rather than an evaluation of student deficiencies. It is a way to gather information about goals/objectives, course design, content, delivery, materials, activities, and requirements. Teachers can identify where, how and what kinds of improvements are needed based on usually anonymous student feedback about their learning processes. Students will realize they must be prepared to synthesize and articulate what they have learned.

Again, classroom research bridges that customary gap between day-to-day learning and the institutional system of delayed feedback. "Classroom research is student oriented, teacher directed, and based on the belief that no one is better equipped to make discoveries and changes in a classroom than the instructor" (Kirkley, 1992, p. 203).

Kirkley also issues a warning to teachers: "do not ask what you do not want to know" because students will be brutally honest. A teacher must have a healthy self-concept when asking for feedback. Lastly in order to complete the feedback loop, students should be provided a summation--reaction--altered design about the incorporation of their feedback.

### **Assumption 4**

***The type of assessment most likely to improve teaching and learning is that conducted by faculty to answer questions they themselves have formulated in response to issues or problems in their own teaching.***

Although renowned teaching--learning authorities were cited in Assumption 2, faculty need to assume the responsibility for classroom research because "[t]he most important single factor influencing learning is what the learner already knows. Ascertain this fact and teach him [her] accordingly" (Ausubel, 1968 in Angelo & Cross, 1994, p. 18).

Teachers need to ask questions about their students: How many are learning, how many aren't? Which student is learning, which isn't? What are the characteristics of successful learners? They need to ask questions about course content: How much content is being learned? Which elements are being learned? What is the depth of the learning? They need to ask questions about teaching: What could I change about my teaching to increase student learning? (Angelo & Cross, 1994, p. 12)

Teachers who become involved in the educational continuous improvement process realize that "[a]ssessment is not an end in itself--rather a step in the journey to

improvement of the entire delivery system" (Chaffee & Sherr, 1992, p. 86).

### Assumption 5

***Systematic inquiry and intellectual challenge are powerful sources of motivation, growth, and renewal for college teachers, and Classroom Assessment can provide such challenge.***

Teachers incorporate their skill, experience, past knowledge and insight into the development of classroom research projects. Project design, implementation, and results involve them in stimulating discussions with their colleagues and within their departments. Faculty are challenged to change the way they think about teaching and learning.

Robert Barr, Palomar College, furthers this call to action in his paper, "From Teaching to Learning: A New Paradigm for Undergraduate Education." In one particular section, Barr outlines an educational shift which focuses on rethinking instruction in terms of learning. Classroom assessment supports these learning assertions by exploring individual assimilation of course content, by applying content-related information, and by accepting student differences in thinking and learning.

Similarly, in his Carnegie Foundation report (1990) Ernest Boyer challenges faculty to include *discovery* or research, *application and integration* to connect the disciplines, and *teaching* to span teaching and learning in their intellectual activities. These three parts of faculty scholarship require ". . . pedagogical knowledge as well as disciplinary knowledge, and it goes beyond transmitting knowledge to transforming and extending it through helping students learn how to make use of it" (Boyer in Cross, 1994, p. 292).

#### Instruction paradigm

#### Learning paradigm

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| * Knowledge exists as a separate entity  | * Knowledge exists in each person's mind and is shaped by individual experience |
| * Knowledge comes in <i>chunks</i> and <i>bits</i> that can be acquired through the senses | * Knowledge is constructed, created, and <i>gotten</i>                          |
| * Learning is cumulative and linear  | * Learning is a nesting and interacting of frameworks                           |
| * Fits the storehouse of knowledge metaphor  | * Fits learning how to ride a bicycle metaphor                                  |
| * Learning is teacher-centered and controlled  | * Learning is student-centered and controlled                                   |
| * <i>Live</i> teacher, <i>live</i> students required                                       | * <i>Active</i> learner required, but not <i>live</i> teacher                   |



## Instruction Paradigm (cont.)

## Learning Paradigm (cont.)

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| * The classroom and learning are competitive and individualistic | * Learning environments and learning are cooperative, collaborative, and supportive |
| * Talent and ability are rare                                    | * Talent and ability are abundant (Barr, 1995, p. 6)                                |

Barr concludes that the instruction paradigm focuses faculty energies on a means (teaching) to an end (learning). In contrast, with a learning paradigm the end is the end--teaching and learning are not separate entities but one enjoined process. Institutions of the future will be able to create these powerful learning environments through teamwork, restructuring, and innovation.

### Assumption 6

***Classroom Assessment does not require specialized training; it can be carried out by dedicated teachers from all disciplines.***

The individual teacher decides what, when, where, and how to assess. He/she makes choices about how to respond to the gathered information. Assessment techniques are simply more tools to add to a good teacher's repertoire of strategies. Basic questions should be asked when preparing an assessment. Is there a behavioral variable, either teacher or student, that could be changed to improve learning? Is the technique simple and easy to prepare and administer? Are results quick to analyze?

When designing a project, teachers should

- \_ choose a target class that is going well;
- \_ plan the classroom assessment with a particular focused goal in mind;
- \_ teach the lesson and assess the learning; and d) analyze the feedback and communicate results to students (Angelo & Cross, 1993).

Various strategies range from simple questionnaires, empty outlines, various grids, and one minute papers to more complex strategies such as approximate analogies, analytic memos, process analyzes, and concept maps. The one minute papers originated with Charles Schwartz, a physics professor, at the University of California. Schwartz stresses two questions at the end of a class: "What was the most important thing you learned today?" and "What questions are uppermost in your mind as we conclude this class session?" (Cross, 1994, p. 303). Any faculty member in any discipline could use this strategy.

## Assumption 7

***By collaborating with colleagues and actively involving students in Classroom Assessment efforts, faculty and students enhance learning and personal satisfaction.***

As previously stated, individual teachers can obtain useful feedback on what, how much and how well their students are learning. Students can increase their self assessing and directing skills. The learner takes the responsibility for his/her learning. In today's world "[t]he rapid pace of change requires the student to 'own' his learning. He[she] should be prepared for active, self-directed exploration and inquiry throughout life. A major design objective is thus to maximize freedom of the learner" (Harrison, 1995, p. 319).

Classroom assessment provides a context-specific record of data for both the teacher and the student. The record charts progress toward objectives, provides the opportunity for early intervention and correction of misunderstandings, and reinforces learning.

The classroom assessment movement offers a new way of gaining insights into what students are or are not learning. In working with teachers who are involved in the classroom assessment movement, Cross notes that teachers are quite original in designing their own classroom assessment techniques. Furthermore creating assessments and analyzing collected data stimulates their intellect and for some, increases their interest in teaching (Cross, 1994, p.304).

Teachers ". . . need to convert students from institutionally directed education to self-directed education. . . , to move students from reliance on authoritative sources of information toward developing and evaluating their own sources . . . and to move from a focus on the content of learning to an equal or greater concern with the process of learning. Students in our classrooms need to learn how to continue to learn, and not merely to learn the facts, principles, and theories we present to them there. We need to change educational systems in which the learner is primarily a passive recipient of learning, by designing systems in which students actively create their own learning" (Harrison, 1995, p. 319).

Classroom assessment offers such a change in the educational system by imbedding teaching in learning and learning in teaching.

## References

- Adler, Mortimer, J. (1984). *The paideria program: an educational syllabus*. New York: Macmillan.
- Angelo, Thomas A., & Cross, K. Patricia. (1993). *Classroom assessment techniques: a handbook for college teachers*. 2nd Ed. San Francisco: Jossey-Bass.
- Arnes, Nancy. (1979, July). Teaching effectiveness: research-based analysis. National Institute for Staff and Organizational Development at the University of Texas at Austin, *Innovation Abstracts*, 1(1).
- Barr, Robert B. (1995). From teaching to learning: a new paradigm for undergraduate education. Paper presented at 1995 National Council for Staff, Program, and Organizational Development national conference.
- Chaffee, Ellen E. & Sherr, Lawrence A. (1992). *Quality: transforming postsecondary education* (ASHE-ERIC Research Report, No. 3). Washington DC: Association for the Study of Higher Education.
- Chickering, Arthur W. & Gamson, Zelda F. (1987, March). Seven principles for good practice in undergraduate education. American Association of Higher Education bulletin.
- Cross, K. Patricia. (1994). Improving the quality of instruction. In *Higher Learning in America 1980-2000* edited by Arthur Levine. Baltimore MD: John Hopkins University Press.
- Cross, K. Patricia. & Angelo, Thomas A. (1988). *Classroom assessment techniques: a handbook for college teachers*. Ann Arbor MI: National Center for Research to Improve Postsecondary Teaching and Learning.
- Eison, James A. & Bonwell, Charles C. (1991). *Active learning: creating excitement in the classroom*. (ASHE-ERIC Research Report No. 1). Washington DC: Association for the Study of Higher Education.
- Fink, L. Dee. (1988). Improving the evaluation of college teaching. In *A Handbook for New Practitioners* edited by Emily C. Wadsworth. Stillwater OK: New Forums Press.
- Harp, Bill. (Ed.). (1994). *Assessment and evaluation for student centered learning*. 2nd Ed. Norwood MA: Christopher-Gordon Publishers, Inc.
- Harrison, Roger. (1995). *The collected papers of Roger Harrison*. San Francisco: Jossey-Bass.
- Johnson, Glenn R. (1995). *First steps to excellence in college teaching*. Madison WI: Magna Publications, Inc.
- Kirkley, Donna. (1992, winter). Do it yourself faculty development: classroom research for beginners. *The Journal of Staff, Program, and Organization Development*, 10(4) 203-206.
- Lucas, Ann F. (1994). *Strengthening departmental leadership*. San Francisco: Jossey-Bass.
- Wotruba, T.R., and Wright, P.L. (1975). How to develop a teacher rating instrument. *Journal of Higher Education*. 46, 653,663