Barbara A. Doyle  
Annotated Bibliography  
Edu 636

**Introduction**

In starting this research I was interested in finding an alternate assessment model that would better suit student achievement in both the math and science classrooms. Since most students express anxiety over test taking I immediately sought modes that would reduce test anxiety; this lead to research on computerized testing where students could control their outside environment and work at their own pace and an interest in self regulated learning. This annotated bibliography is focuses on and is separated into the topics of test anxiety and computerized ‘take at home’ testing, alternative testing methods and self regulated learners.

**References**

**Test Anxiety**


The article focuses on strategies implemented by the Newcastle medical school to reduce the effects of test anxiety. Stress induced from test anxiety has been shown to influence specific performance but has not been shown to correlate to performance or knowledge base. This reason lead to the development of strategies for dealing with test anxiety since it can unfairly discriminate against students who are qualified but exhibit greater test anxiety. The new approach to assessment was to offer students a greater range of assessment options, supply diagnostic feedback to students and allow them to evaluate their own performance and plan accordingly for remediation, and to have an open system where the evaluation standards are known to the students before the assessment. Although the new procedures seemed to reduce some stress they also introduced others, there was no conclusive correlation but to agree that open communication of expectations and results between faculty and students had the best overall effect.


This article studies the effects of math anxiety on math performance and achievement. Although decreasing there is a consistent negative correlation
between math anxiety and performance; this math anxiety has a definite correlation to regular test anxiety containing its two components of emotion (anxiety) and worry (poor performance). The study found that math and test anxiety increased in cultures where placement testing extended into future careers. The study focused on sixth grade students in the U.S., China and Taiwan. Performance was better in the Asian counterparts although test anxiety was present in both for different reasons. Intervention strategies of relaxation and modeling resulted in the reduction of test anxiety.


Anxiety studies can be affected by many outside influences, such as; age, sex, intelligence, and stress level. Anxiety was also shown to be greatly affected by previous failure experience. The group tested was all of the eighth grade level so the study focused on the other four and tested the hypothesis that groups with the higher anxiety, previous failures and female would have higher anxiety and lower performance. The study only proved to have marginal results. The previous failure experience did not provide a huge difference in scoring. The difference in sex was only marginal as well, and anxiety levels did not correlate to score results either. The study conclude that better instruments for measuring test anxiety would need to be put into place.


Test anxiety relates directly to one’s stress over having their performance evaluated. The article discusses the various scales that are currently used to measure test anxiety, including Mandler and Sarason’s scaled questionnaire, Sarason’s original true false questionnaire, and Osterhouse’s Inventory of Test Anxiety. These scales were designed to test worry and emotions related to test taking situations. Studies were inconclusive correlating test anxiety to grade point average. Reasons for this are that students often realized that the surveys were related to anxiety and were not completely truthful and that high and low level students were not greatly affected by test anxiety at all. Middle performing students were found to be the most affected by test anxiety. However this could not correlate to the actual learning of the material but only to their performance on the assessment.
The article describes how Computerized Adaptive Tests (CAT) self regulate themselves by scoring each response and the providing the appropriate difficulty level for each item that follows through percent error calculations. In Self-Adaptive Tests (SAT) students are allowed to choose their own difficulty rating for each item. The study reveals that the CAT testing was more efficient and had greater precision measurement of student abilities. The results also showed that the SAT testing yielded higher proficiency ratings for the students and biased the scores in their favor. This result was again correlated to a reduction in test anxiety since students were given more control over the assessment.

The article discusses the importance of Computerized Adaptive Testing (CAT) to be regulated with the Paper & Pencil (P&P) version of itself. The reason for this regulation is so that the testing no student has an unfair advantage when taking the test in either mode. Comparability issues arise since the CAT test is adaptive as it progresses while the P&P test is stationary. However since both exist and are in use for some general and certification testing situations, this article proposes a framework for their comparability. It is intended for use in developing accurate CAT tests that result in efficient and fair evaluations of students. The initial lack of comparability was evident through differences in average scale scores however it was determined that with modification to the CAT length and pool size scale scores could be comparable.

The article begins with an explanation of Item Response Theory (IRT) and its application to computerized adaptive (CA) testing. IRT allows for students to be evaluated on the same scale even though they are administered different test items. It later discusses Self Adapted (SA) tests, where students can choose the difficulty level of the items asked. The higher difficulty setting a student chooses the more credit they would receive. Students become motivated to achieve higher and do
not always choose the lowest difficulty, they also tended to increase the difficulty level as the progressed through the test and became more confident. The SA test mode scored higher than the random CA mode which implies that there is a direct correlation to test performance and test anxiety

**Alternative Assessments**


This article discusses whether national standards and assessments really upgrade curriculum and student performance in schools. Assessment reforms are targeted at forming better methods of learning that challenge students to higher order thinking and student engagement. Teaching needs to adapt to the new modes of learning as well as assessments. Teachers work to create new lessons and experiences for students but then use the same standardized assessments. The changes in curriculum and assessment should invest in teacher knowledge, school resources; it should define what students need to know and do and how they are to be assessed.


The author analyzes the function of assessment in society, the school system and classroom. The focus on society is analyzed by how assessment is influenced by political and economic issues. Political and economic issues that affect assessment are qualification for job certifications, the allocation of funds in the education system and influence over the development of curricula. The focus on school system is analyzed by how assessment was influenced by the changing views of learning and teaching practices. A growing emphasis on measuring outputs influenced assessment in the school system. Higher performance allowed school systems to not only exert their power over the curricula but over incoming funds. The final focus on the classroom focuses on the social aspect of the classroom and the classroom’s developing practices. It focuses on how assessment is used to develop power relations in the classroom. Assessment also develops a norm for performance in the classroom that then all students are measured against.

This article discusses classroom assessment reforms through four perspectives; technological, cultural, political and postmodern. The technological approach focuses on the strategies and organization and structure to implement new assessment modes into the classroom. It also searches for ways to make them uniform so that they can be incorporated into any classroom with positive results. The cultural perspective focuses on how the technological innovations are integrated into the social and cultural aspects of the school community and classroom. The political perspective focuses on the execution and negotiation of power and authority in the respective groups involved; student, teacher, administrator, school district and state. The postmodern perspective focuses on the evolution of assessment and how it is affected by the continually changing society. Each of the perspectives discusses the advantages and the risks that are involved in incorporating the new assessment strategies.


The article discusses methods for incorporating new assessment strategies into mathematics classroom; the largest barrier to this is the required standardized testing from states and school districts. Also they discuss the lack of discussion comparing assessment and grading in mathematics classrooms. Another down side to mathematics assessment was found to be that most teachers still rely on short answer tests in their math classrooms. This limits student’s involvement and inhibits higher level thinking that is necessary for a complete understanding of mathematics. Teachers chosen for the study were all actively pursuing professional development and outside sources to improve instruction in their classrooms; however most of the teacher’s assessments were still short answer tests and quizzes. The classrooms additionally all had limited access to technology either because of high demands or funding. The study suggests that teachers need training in modes of assessment that are easy to implement but still promote higher level thinking. Also teachers need to incorporate changes they made in their teaching into their assessment practices as well; most teachers believed it just carried over. They were changing instruction but not assessment.


This article focuses on teachers in the UK and how they assess student performance in the classroom. Teachers use their judgment and interpretation of
evidence in the classroom to evaluate students on a daily basis. It is important to evaluate what priorities are important to students and teachers in these evaluations. Teachers are expected to not evaluate a student’s current performance but also a student’s future abilities and grades. The teacher is not only influenced by her previous experiences but incorporates the observations, written work, tests, oral questioning, and interpersonal knowledge of the students. The issues that arise in that this assessment is not static and changes according to the teacher performing the evaluation.

**Self-Regulated Learners**


The study focuses on a seventh grade classroom where the teacher and university professor implement activities designed to help students build skills to control their learning. They focused on four areas: first, the use of strategy instruction so students could participate in their learning through inquiry. Second, it was implemented through a two year professional development that focused on problem based learning and encouraged students to become active participants in their learning. Third, the lessons provided to students needed to be rich in problem solving and motivated the students to explore new solutions and knowledge. Finally, creating classroom discourse so students were not only involved in their learning but also in the development of the lesson and eventually curriculum.


Self regulated learners possess qualities like time management, goal setting and motivation. The article discusses not only how self-regulation helps students achieve in school but also how to provide students with the skills to self regulate and compensate for different learning styles as well. Learning becomes a proactive process for the student instead of an event that happened to them. Zimmerman discusses this development in the student through three phases; the Forethought phase, the Performance phase and the Self-Reflection phase. The article concludes that self-regulation is not an intrinsic quality but can be taught. Students need to become invested by having choices and options to make their education their own.