



UNIVERSITY OF MARYLAND

EDUC 498V

Assessment and Design Strategies for Improving Student Learning: Utilizing Data with Technology Tools for Instructional Decisions

SYLLABUS

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Credits:	3 credit

Catalogue Description:

Explore systemic improvement strategies to curriculum planning, assessment, and instruction through **utilizing data and data analysis via technology tools**. This course is designed to assist educators in identifying and using data that are most effective in assisting improvement of student achievement and system efficacy.

Course Description:

As the gap between low and high achieving students continues to grow and the implementation of high-stakes accountability systems becomes the norm, the need for data to guide classroom decisions becomes increasingly important. Unfortunately, many practicing educators have little or no experience in using **data systematically to inform decisions about classroom teaching**. The density and range of available information contributes to the arduous task of effectively analyzing and applying assessment results to decisions about day to day instruction.

Data can be used not only to evaluate and track student performance but also to assess instructional effectiveness and various other factors that influence student learning. This course will address some of the common questions that educators have about data driven school improvement. What types of data should be collected? How might teachers collect data effectively with current technology applications? How might teachers use data for school improvement? What steps should schools take to improve their use of data?

This course will explore systemic improvement strategies to curriculum planning, assessment, and instruction through utilizing data and data analysis via technology tools. Content is designed to assist educators in identifying and using

data that are most effective in assisting improvement of student achievement and system efficacy, and examine a variety of innovative curriculum design and classroom assessment practices, including instructional rubrics, student self-assessment, ongoing assessment, problem based and backward design models, **integrated with the aid of technology applications**. Educators will locate, access, retrieve, evaluate, and archive information pertaining to their school's, as well as their individual classroom **assessment scores, state content standards, and performance assessment tasks**, and design, test, and revise curriculum projects and assessment tools for use in your own classroom.

*Course content helps educators address ISTE NETS*S and MTTTS Standard IV and INTASC Principles 1 & 8.. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.*

IV.A. Teachers apply technology in assessing student learning of subject matter using a variety of assessment techniques.

IV.B. Teachers use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

IV.C. Teachers apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

Course Objectives:

Emphasis will be placed on building skills and confidence in participants' abilities to:

1. locate, explore and analyze state ([MSDE/ DCPS](#)) and other available data (i.e., [MD Tech Inventory](#), [Pew Internet and Life Project](#), [Boards Panel](#));
2. utilize "state" ([MSDE/ DCPS](#) /) and national content standards and benchmarks;
3. investigate and apply specific technology tools (e.g., Excel) for organizing the data available on a district, school, and classroom level;
4. explore processes that facilitate the use of data in driving instruction;
5. explore common curriculum, assessment, and instruction practices that (a) promote and (b) may interfere with the cultivation of student understanding;
6. examine a continuum of methods for appropriately assessing the degree of student understanding; and
7. investigate approaches to curriculum and instruction designed to engage student's in inquiry and promote student learning.

Course Goals:

1. To understand the role of data, feedback and assessment in understanding;
2. To understand how to promote thinking, understanding, and academic achievement through the use of assessment tools and curriculum design techniques;
3. To understand how to monitor students' understandings through a variety of means and to adjust instruction accordingly; and

4. To appreciate and capitalize on the opportunities and challenges afforded by alternative forms of assessment

Readings:

Recommended readings are included in this syllabus. **Others** can be found at www.edtechoutreach.umd.edu and within a WebCT supplement.

Texts:

Required:

1. Lissitz, R. W. & Schafer, W.D. (2001). *Assessment in educational reform: Both means and ends*. Pearson Allyn & Bacon; 1st edition. ISBN: 0205332692. [Amazon](#) \$48.00 or \$23.00 used.
2. Towne, I. & Shavelson, R.J. (2003). *Scientific research in education*. Joseph Henry Press; ISBN: 0309082919. [Amazon](#) \$25.00.

Optional:

1. Arter, J.A. & McTighe, J. (2000). *Scoring rubrics in the classroom : Using performance criteria for assessing and improving student performance*. Corwin Press; ISBN: 0761975748. [Amazon](#) \$69.95.
2. Fewell, P.J. & Gibbs, W.J. (2002). *Microsoft® Office for teachers*. ISBN: 0130324019. [Amazon](#) \$29.00 Used \$23.00. [Barnes and Noble](#) \$29.00 and Used \$18.23
3. Glatthorn, A.A. (1999). *Performance standards authentic learning. Eye on education*. ISBN: 1883001714. [Amazon](#) \$29.95
4. Gredler, M.E. (2000). *Classroom assessment and learning*. Addison-Wesley Pub Co. ISBN: 0321013352. [Amazon](#) \$75.00 or \$45.00 used.
5. McMillan, J.H., & Wergin, J.F. (2001). *Understanding and evaluating educational research*. Prentice Hall; 2nd edition. ISBN: 0130271675. [Amazon](#) \$36.00 used \$19.95.
6. McTighe, J. & Wiggins, G.P. (2000). *Understanding by design*. Prentice Hall College Div. ISBN: 013093058X . [Amazon](#) \$23.00 or [ASCD](#) \$20.95. Supplied by AAAS.
7. Mills, S.C., & Roblyer, M.D. (2002). *Technology Tools for Teachers: A Microsoft® Office Tutorial*. Pearson Education, Inc. ISBN: 0130293814. [Amazon](#) \$30.00 and used \$21.70. [Barnes & Noble](#) \$30.00 and used \$19.80.
8. Shinn, E.C. (2003). *Microsoft® Office XP/2002/v.X for Teachers: A Tutorial*. Pearson Education, Inc.; ISBN: 0130987433 [Amazon](#) \$31.00 /\$18.91 used. [Barnes and Noble](#) \$31.00 Used \$19.58.

Methodology:

This course will utilize a combination of face to face and on-line lecture and reading materials, hands-on experiences, discussions, guest speakers, group work and projects to help participants understand effective strategies for utilizing data and data analysis with technology tools to help guide instructional decisions for their classroom.

Student Expectations and Procedures:

1. Students are expected to obtain and actively use a computer account with access to the Internet and WebCT discussion site (the University provides such accounts free to enrolled students.) Students are expected to use **anti-virus software and backup all work**. Since the course will sometimes meet on-line it is of importance that you assure that your computer access can easily support the WebCT environment. WebCT Student Manual - <http://www.courses.umd.edu/studentmanual/>
2. Completion of assigned tasks and readings **prior to each class** is required in order to facilitate student learning.
3. It is expected that students will initiate, participate in and facilitate (both in class and on-line) discussions on course topics, issues and readings. Please see the [on-line discussion grading rubric](#).
4. If you have a documented disability and wish to discuss academic accommodations please contact me as soon as possible.
5. Students missing the deadline for an assignment must make immediate arrangements with the instructor to fulfill that requirement before the next class session.
6. Please carefully edit all written assignments. A lack of care in proofreading or composition can negatively affect your final grade.
7. The citation style employed should be accurate, acceptable, and recognizable (MLA, Chicago or APA) practice. The [American Psychological Association](#) (APA: <http://www.apa.org>) style of citation is preferred. For quick basics, visit:
 - o Columbia University Press - http://www.columbia.edu/cu/cup/cgos/idx_basic.html
8. The University of Maryland has developed a policy describing appropriate academic conduct. Turning in assignments that use substantial portions of the work of others without attribution is considered plagiarizing and is specifically prohibited. Please review information regarding the [Honor Code](#) and other academic integrity policies at: <http://www.jpo.umd.edu/conduct/conduct.html>.

Instructor Responsibilities

Just as we have high expectations for students, we also have high expectations for ourselves. Students should expect that the instructor for this course will:

1. Be prepared for class, read and return students' work in a timely manner, and be interested and engaged in students' work;
2. Remember that each student brings different background knowledge about both content and online experiences to this course, as well as help students develop their personal interests whenever possible;
3. Help students identify sources of additional substantive and methodological expertise, as needed;
4. Meet with students individually or in groups upon request and be available in person, by telephone, and by email to answer questions; and
5. Work hard, have fun and empower students to plan and engage in high quality discussions and experiences.
6. Email with students is not always a low threshold technology. Students sometimes feel that faculty/instructors should be available to answer questions 24/7 or whenever the student is online. This expectation of an immediate response can occasionally create a negative communication environment. Students' emails can also add significantly to faculty/instructor workload. While my past performance has indicated that I return emails promptly (sometimes to students surprise within minutes), in order to eliminate the possibility of problems due to assumptions, the following is the course minimal guideline: All emails will be answered within 24 hours of receipt except on weekends (begins after 4:00 on Friday)-which may take longer. I do however; HIGHLY recommend that you send emails whenever a question arises, while the above is only a statement of minimal expectations on my part.

Grading Policy and Rubrics:

Grades will be based on the content, clarity of writing and creativity of work in assignments completed for this course. The extent and quality of participation in course discussions (face to face and virtual) will also be evaluated in determining the final grade. The relative portion of the grade assigned to each course component will include:

- a. Participation in face to face/on-line discussions **(15%)**
- b. Mini-assignments and activities (i.e., district/school data analysis, classroom assessments, rubric development etc...) and Evaluation, critiquing, and discussion of peer work **(30%)**
- c. Final Project. The final project for this course involves the development, testing and analyze of data of a problem based project/activity or assignment with

assessment(s) and instructional rubrics for use in your own classroom/school (or other professional context). You will create, discuss, share, revise and produce a "tested" (or analyzed for administrators) final product **(40%)**

- d. Final Reflection Journal/Paper/Project-- reflecting on your own ideas and practices as well as on those introduced in this course **(15%)**

All deadlines will be detailed in the course outline.

The evaluation criteria for this course are described in more detail in the [grading rubric](#).

The grading rubric describes participant performance expectations and efforts most valued. Professionalism, completeness, timeliness and quality are all considered in the evaluation process.

Educational Technology Outreach Grading Rubric

Letter Grade	Extent, Quality and Creativity of Work	Completeness of Work	Timelessness of work	Participation in discussions
A+	Exceptional Quality and insight; honors spirit of task; a rare and valuable contribution to understanding	100% complete (or beyond); a model for others to follow; honors spirit of task	100% on time	insightful, thoughtful and stimulating contributions to discussions; beyond what is normally expected; 100%
A	Convincingly on target with the purpose of the assignment; evidence of growth; learning difficult to refute; worthy contribution to our understanding; reader not distracted by errors in grammar, writing flow, spelling or punctuation	What is missing may not be missed; accurate; a whole product	Almost always on time; rare but forgivable tardiness	Thought provoking discussions; 100% contribution
A-	Fulfills all primary requirements of the assignment; some evidence of growth; learning difficult to refute; contribution to our understanding; reader not distracted by errors in grammar, writing flow, spelling or punctuation	A whole product but lacks "the extras"; accurate; on target with regard to task	Almost always on time; rare but forgivable tardiness	At least 95% contribution to discussions; dialogue thoughtful and insightful but lacks vigor or conviction
B+/B	Competent and worthy; provides credible evidence of learning and growth; may not completely honor spirit of task; perhaps an "off-day"; errors of grammar, spelling, punctuation distract the reader	Moderate shortcomings; minor elements missing; affects instructor's ability to see the product as a whole	Late and/or often enough to alarm instructor; not necessarily chronic	Moderate participation with some insightful comments
B-	Passable; only enough to get by; needs more proofreading or writing skills	Sufficient; least you could do and justify	Some tasks could be late	Barely participates in discussion; class contributions add little insightfulness and do not provoke further discussion
C	Undergraduate level/quality; unsophisticated; exhibits little course concept or concepts	Evidence of learning or growth insufficient	Excessively or repeatedly late	Limited participation in discussion; Little if any preparation or thought in dialogue
F	Unacceptable	Difficult to recognize as the assigned task or not turned in at all	Missing/not submitted	Little if any participation in discussions

The following Rubric will be used when assessing the effectiveness of student participation in Online activities.

Category	0	1 Poor	2 Average	3 Good	4 Excellent	Points Earned
Promptness and contributions	No posts	Limited response to threads/mini assignments; rarely participates freely; rarely responds to others; unequal distribution throughout the week and throughout weekly threads	Responds to most threads but usually only once; limited meaningful response to others; unequal distribution - either posting in beginning and not checking back or posting so late no one can add meaningful response; inconsistent throughout weekly threads	Multiple posting to most threads, but unequal distribution- either posting in beginning and not checking back or posting so late no one can add meaningful response; adds meaningful response to others posts	Multiple postings to all threads; equal distribution throughout the week and throughout the topics; good self-initiative to start additional discussion threads	
Relevance		Responses done are short or irrelevant to the discussion threads	Many posts are short and not meaningful and offers no further insight to topic; occasionally posts off task/topic	Posts frequently and always relevant to topic; prompts further discussion to topic; when able (posts in time) adds to discussion by responding to others	Posts frequently and always relevant to topic; prompts further discussion to topic; adds to discussion by responding to others; cites additional references related to topic	
Connection to readings		Few responses that indicate limited initiative, insight and connection to readings;	Limited initiative, insight and connection to readings; not evident that readings were connected to discussion/mini assignment;	Most posts indicate that readings were understood and connects them to the discussion topic/mini assignment	Almost all topic threads indicate that readings were understood; incorporates reading knowledge well into responses	
Addition to the Learning Community		Makes little effort to participate actively and meaningfully in the community as it develops; seems indifferent	Marginal effort to become an active member of the group	Interacts but not knowledgeable about online protocol- either often lurks in background (responding only after others start) and does not try to direct discussion or overly dominates the discussions	Interacts freely keeping in mind the needs of the community; attempts often to motivate or redirect the group discussion when it strays	

**The University of Maryland, College Park
College of Education**

How this course addresses :
the MSDE Teacher Technology Standards (MTTS)
and ISTE/NETS*T Foundations for All Teachers
and INTASC Principles

Course Title: Assessment and Design Strategies for Improving Student Learning: Utilizing Data with Technology Tools for Instructional Decisions

Completion of any course does not certify competency in the identified area, however, it will contribute to development of the competency

Standard and Outcomes	Indicators	Addressed in this course	Examples
<p>I. Information Access, Evaluation, Processing and Application</p> <p>Access, evaluate, process and apply information efficiently and effectively.</p> <p>IA-IE, VC, VD 1, 9</p>	<ol style="list-style-type: none"> 1. Identify, locate, retrieve and differentiate among a variety of electronic sources of information using technology. 2. Evaluate information critically and competently for a specific purpose. 3. Organize, categorize and store information for efficient retrieval. 4. Apply information accurately in order to solve a problem or answer a question. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Students are asked to a) identify on their own and b) explore a wide selection of online resources, electronic tools (assessments and interactive surveys) and databases --students must evaluate, critique, synthesize and organize data profiles on a number of case studies (including their own school/class) to solve a variety of questions</p>
<p>II. Communication</p> <p>A. Use technology effectively and appropriately to interact electronically.</p> <p>VC, VD 6, 9, 10</p>	<ol style="list-style-type: none"> 1. Use telecommunications to collaborate with peers, parents, colleagues, administrators and/or experts in the field. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Students participate electronically via email, WebCT discussion threads, weekly chats, online guest speakers and through other online environments (Tapped-In ENT)</p>
<p>B. Use technology to communicate information in a variety of formats.</p> <p>VC, VD 6, 9</p>	<ol style="list-style-type: none"> 1. Select appropriate technologies for a particular communication goal. 2. Use productivity tools to publish information. 3. Use multiple digital sources to communicate information online. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Students participate electronically via email, WebCT discussion threads, weekly chats, online guest speakers and through other online environments (Tapped-In ENT) Students also produce a variety of electronically created materials to include, spreadsheets with EXCEL, online units through interactive online templates, tables, word documents with team editing and a variety of multi/hypermedia mini projects</p>
<p>III. Legal, Social and Ethical Issues</p> <p>Demonstrate an understanding of the legal, social and ethical issues related to technology use.</p> <p>II, VI A-E 3, 4, 5, 7, 9</p>	<ol style="list-style-type: none"> 1. Identify ethical and legal issues using technology. 2. Analyze issues related to the uses of technology in educational settings. 3. Establish classroom policies and procedures that ensure compliance with copyright law, <i>Fair Use</i> guidelines, security, privacy and student online protection. 4. Use classroom procedures to manage an equitable, safe and healthy environment for students. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Ethical, social and legal issues are touched on throughout the course with particular emphasis and discussion devoted towards data collection impact on social, students and teacher rights and data confidentiality, as well as, assessment strategies and differential instruction that address cultural, gender, learning styles differences as well as NCLB mandates towards MSP/IMAP/AYP.</p>

<p>IV. Assessment for Administration and Instruction</p> <p>Use technology to analyze problems and develop data-driven solutions for instructional and school improvement.</p> <p>IV A-C</p> <p style="text-align: right;">1, 7</p>	<ol style="list-style-type: none"> Research and analyze data related to student and school performance. Apply findings and solutions to establish instructional and school improvement goals. Use appropriate technology to share results and solutions with others, such as parents and the larger community. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>This course was designed to address this standard. Please see course syllabi and outline.</p>
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Standard and Outcomes	Indicators	Addressed in this course	Examples
<p>V. Integrating Technology into the Curriculum and Instruction</p> <p>Design, implement and assess learning experiences that incorporate use of technology in a curriculum-related instructional activity to support understanding, inquiry, problem solving, communication and/or collaboration.</p> <p>II, III A- III D</p> <p style="text-align: right;">1, 2, 3, 4, 5, 7</p>	<ol style="list-style-type: none"> Assess students' learning/ instructional needs to identify the appropriate technology for instruction. Evaluate technology materials and media to determine their most appropriate instructional use. Select and apply research-based practices for integrating technology into instruction. Use appropriate instructional strategies for integrating technology into instruction. Select and use appropriate technology to support content-specific student learning outcomes. Develop an appropriate assessment for measuring student outcomes through the use of technology. Manage a technology-enhanced environment to maximize student learning. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>This standard addresses this standard briefly by highlighting the importance of including students in the process of developing rubrics, assessments, having students visit and utilize the online state assessment examples to both practice taking and scoring, having and their students keep track of their own grades and learning goals via technology applications, and having participants become familiar and comfortable enough with spreadsheets and databases that they can utilize strategies and techniques to integrate within their own classroom.</p>
<p>VI. Assistive Technology</p> <p>Understand human, equity and developmental issues surrounding the use of assistive technology to enhance student learning performance and apply that understanding to practice.</p> <p>VI A-E</p> <p style="text-align: right;">3, 9</p>	<ol style="list-style-type: none"> Identify and analyze assistive technology resources that accommodate individual student learning needs. Apply assistive technology to the instructional process and evaluate its impact on learners with diverse backgrounds, characteristics and abilities. 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>This course briefly investigates multiple learning styles and assessments and data modifications (IMAP) but does not investigate AT resources/devices</p>
<p>VII. Professional Growth</p> <p>Develop professional practices that support continual learning and professional growth in technology.</p> <p>IA, IB, VA</p> <p style="text-align: right;">9</p>	<ol style="list-style-type: none"> Create a professional development plan that includes resources to support the use of technology in lifelong learning. Use resources of professional organizations and groups that support the integration of technology into instruction. Continually evaluate and reflect on professional practices and emerging technologies to support student learning. Identify local, state and national standards and use them to improve teaching and learning. 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>The courses journey allows participants to take knowledge learned and apply to their own classroom/training setting. Multiple resources for further investigation are included. Standards at the national, state, and LSS level as well as technology standards and IT Literacy standards for both educator and student are discussed and explored in detail.</p>

Correlation of the MTTs NETS*T & INTASC

MTTS Addressed							INTASC Principles Addressed									
1	2	3	4	5	6	7	ISTE NETS-Teacher Standards									
							1	2	3	4	5	6	7	8	9	10
X						X	I. Technology Operations and Concepts. Teachers demonstrate a sound understanding of technology operation and concepts.	X ¹								X
		X		X			II. Planning and Designing Learning Environments and Experiences. Teachers plan and design effective learning environments and experiences supported by technology.			X	X	X		X		
			X	X			III. Teaching, Learning, and the Curriculum. Teachers implement curriculum plans, that include methods and strategies that apply technology to maximize student learning.	X	X	X	X	X		X		
			X				IV. Assessment and Evaluation. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.	X							X	
X	X					X	V. Productivity and Professional Practice. Teachers use technology to enhance their productivity and professional practice.						X			X
		X			X		VI. Social, Ethical, Legal, and Human Issues. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PreK-12 schools and apply those principles in practice.			X						X

