Changes Based on Data

PROGRAM: M. Ed. in Curriculum and Learning (Concentration: Teaching Children Mathematics)

Name of Assessment	Results/Data	Changes Made To Date	Changes Planned To Date	How data is shared with faculty, candidates, and professional community
Assessment 2: Course Grades in the Teaching Children Mathematics Concentration	• Overall, candidates graduating between Spring 2008 and Fall 2010 achieved consistently target grades (A and A-) in all major courses in the program. A few students scored at the acceptable level (B and B+) on a few courses, and only two candidates got C or C+ in a course. There were no consistent patterns of higher or lower achievement in any of the courses and variations seemed to be on an individual level rather than on a course basis. On the other hand, we did notice a slight tendency for grades in the larger graduating classes to decrease	No changes have been made to date based on grades in the major.	We plan to examine our admissions criteria to determine: a)the level at which all accepted candidates are meeting our entry criteria and if this level as shifted over time; b)whether we might want to change our entry criteria to ensure greater student success, and c)review our interim transition point criteria to see if we need to add a more specific interim gateway requirement before candidates can proceed to the pre-thesis level (ELCL 628) or if we need to break our interim transition points into two sections.	Data charts are shared between the two permanent faculty members who teach the TCM courses. Performance on this assessment is also reviewed with candidates when they come for advisement. Since grades appear on transcripts, all future employees can have access to this information if candidates agree.

	somewhat from a mean of 3.90 in Spring 2008 to a mean of 3.79 in Spring 2009 and 3.58 in Spring 2010. These shifts seemed to be attributable to four particular candidates and cut across all courses			
Assessment 3: Lesson Plan in ELCL 614, Multiple Representations of Mathematics Across the Curriculum	Overall, candidates in the Spring 2008, 2009, 2010 and fall 2010 semesters performed adequately in all 9 elements. The individual scores were either "acceptable" or "target." The mean of the 9 elements remained above 2.5 all 4 semesters, indicating the candidates proved to have a broad proficiency in their instruction. Although the fall 2010 mean scores was slightly lower, it reflected the small sample of individuals in the group.	Instructors met to discuss the reliability of the assessment strategy. The reliability index was very high and thus no major changes were made. In addition, this is a group assignment, and as such it is a bit difficult to assess each individual's score because it depends on the group effort. For example, if their identification of multiple representation was rated only "acceptable," then there is a very good chance that there group-mates learning was uniform.	No additional changes have been planned to date although we may want to revise the scoring rubric to reflect more individual contributions to the group project.	Data charts are shared between the two faculty members in the concentration. Performance on this assignment is also reviewed with candidates individually.
Assessment 4: Ideal Lesson Plan with Adaptations and	This annual assignment has shown a steady	Based on assessment results in 2007, the course	In the future, it is expected that there will be greater	Data charts are shared between the two

Implementation in ELCL 626	increase in candidate performance between 2007 and 2009, moving from an overall mean of barely acceptable (2.03) to solidly acceptable and moving toward target (2.53). This shift is largely attributed to growth in candidates' performance in the areas of formulating assessment plans, pre-implementation troubleshooting of lesson procedures that need to be adapted for special education students, and planning further instructional changes reflecting on lesson implementation results. It was also noted that in Fall 2009, candidates performance declined in the area of planning adaptations.	and assignment were modified to focus more clearly on pre-lesson assessment and post-lesson assessment as a means of measuring student learning. In addition, a more systematic procedure for troubleshooting areas of potential difficulty for special education and/or ELL students was provided for candidates so that they could better match adaptations to individual learning needs. In Spring 2011, when the course is currently being offered, a greater effort was made to include special education teachers in the course in order to strengthen the area of familiarity with methods for adapting instruction. Five candidates from the M.Ed. in Special Education program participated. A reliability check on the assessment also indicated that the assignment needs to be modified to include a separate section on future	collaboration with faculty and candidates from the Advanced Studies track of the M.Ed. in Special Education program. When originally conceived, this course was taught as a cross-departmental offering and it should go back to that format in the future.	permanent faculty members who teach TCM courses. Performance on this assignment is also reviewed with candidates individually and posted on Blackboard in a Discussion Board Forum visible to all registered students in the course.

		plans. This change was made in December 2009.		

Assessment 6: Case Study in Math Clinic (ELCL 620)	Overall, the data indicate that candidates have been performing well on this assessment and making steady increases in performance, moving from a high acceptable mean of 2.67 in 2008 and toward target (2.71) in 2009 and 2010.	Reliability ratings indicated that there was some inconsistency on ratings of the case summary and recommendations and so element criteria were clarified for better scoring in December 2009.	No additional changes are planned at this time.	The parent report, a short version of the full case study, is presented to parents at the end of the semester and may be shared with school teachers at the parents' discretion. Data charts are shared between the two permanent faculty members who teach TCM courses. Performance on this assignment is also reviewed with candidates individually and posted on Blackboard in a Discussion Board Forum visible to all registered students in the course.
Assessment 7: Plan for a Three-Session Staff Development or Parent Workshop Series. This is the Comprehensive Exit Requirement for the TCM program. There is no implementation required at the present time.	Overall the data from 2008-2010 indicate that candidates have been performing at the acceptable level on this measure (2.00 – 2.40), with no progress made toward increasing scores as a group. However, a wide range of individual	A change was made in the assignment wording to emphasize the importance of specifying the learning outcomes and ways of assessing them. In addition, in conferencing with candidates during the preparation of this assessment, all were given	In the future, we may rework the assignment so that it does not require three hypothetical planned workshops, but will require only one workshop conducted with peers and through which attainment of learning outcomes can be assessed.	Data charts are shared between the two permanent faculty members who teach TCM courses. Performance on this assignment is also extensively reviewed with candidates individually during the formulation and candidates are

	differences in performance of candidates was observed (from 1.80-3.00). An examination of scores indicated that highest ratings were obtained on the section of the report describing the background and rationale for the proposed workshops and lowest ratings were obtained on descriptions of expected learning outcomes and ways of assessing them. A reliability check indicated that all elements were reliably rated.	specific guidance re: sharpening and specifying learning outcomes and ways of assessing them.	In addition, the rubric will be modified to include a rating for the presentation as well as a peer rating format for participants to complete on the quality of the presentation.	provided with a formal rating and narrative feedback on their performance on this assignment. In addition, a copy of the letter indicating the passing level of the candidates on this assessment is placed in permanent candidate files.
Assessment 8: Equity Plan Project in ELCL 616, Contemporary Trends and Issues in Mathematics Education	Overall the data from 2008-2009 (course was not given in 2010 and 2011 data are not yet collected) indicate that candidates have been performing at a high acceptable level on this measure (2.49 – 2.53). However, a wide range of individual differences in performance of candidates was observed (from 2.00-3.00). An examination of scores indicated that highest ratings were	The wording of the assignment was changed in December 2009 to clarify the meaning of what is mean by an "equity issue" and how a plan might address this. To date, however, this change did not result in higher scores on this element.	Tying the assignment to the specific readings for the course on equity may be attempted in the future.	Data charts are shared between the two permanent faculty members who teach TCM courses. Performance on this assignment is also reviewed with candidates individually and posted on Blackboard in a Discussion Board Forum visible to all registered students in the course.

	consistently obtained on the section of the report describing the implementation of the plan and its assessment of impact and lowest ratings were obtained defining the equity issue and purpose of the intervention. Reliability ratings were consistent.			

Learning Technologies SPA Report - Section V
Use of Assessments Results to Improve Candidate and Program Performance

(1) Content Knowledge
The content knowledge of candidates in the M.Ed. Learning Technologies program at William Paterson University is assessed through Educational Technology Website, New Technologies Presentation & Trouble Shooting Guide projects assigned in the entry course to the program, ELCL-605 (Assessment 1) as well as course grades received by candidates in the five (5) Learning Technologies mandatory core courses (Assessment 2).

Principal Findings and Interpretation of the Findings: Data from Assessments 1 and 2 demonstrate that candidates are gaining the content knowledge and skills expected of an Educational Technology Facilitator. All the Learning Technology courses, starting with ELCL-605 require that candidates use current information and communication technologies and at the same time that they think about themselves as technology leaders and this are apparent when viewing the Assessment 1 assignments and work done in the other courses.

Program Changes Based on the Findings: As a result of our analysis of the data, each year, we have been (and plan to continue) revising the assignments in the ELCL-605 and four other Learning Technologies courses to ensure that candidates are:
• familiarized with relevant and promising leading edge information and communication technologies - for example, the Trouble Shooting Guide previously required that candidates create this using a word processing program, but now they are required to create it using a weblog which can be updated as new versions of the technology they are providing the guide for are released.
• exposed to the most current theories and practices in the field of educational technology - for example, ELCL 605 now includes a discussion of the TPCK (Technological Pedagogical Content Knowledge) model.

(2) Pedagogical and Professional Knowledge, Skills, and Dispositions
The pedagogical knowledge, skills, and dispositions of candidates in the Learning Technologies program are evaluated through a Lesson Plan Database and Teacher's Technology Skills Checklist assignment (Assessment 3), a Tech-Integration Virtual Mentoring field experience (Assessment 4), Candidate-led Discussion Forums on Social, Ethical, and Legal Issues (Assessment 6), a Technology Skills Rubric and Spreadsheet assignment (Assessment 7), and a Technology Grant Proposal assignment (Assessment 8).

Principal Findings and Interpretation of the Findings: Data from these assessments demonstrate that candidates are able to appropriately integrate technology into effective educational experiences for K-12 students as well as support peer teachers in this endeavor. In addition, these assessments indicate that candidates are gaining the skills and dispositions needed to assume leadership roles in their schools, model digital citizenship, and become change agents and advocates for constructive technology usage. One area of weakness indicated by the data is in candidates' knowledge and understanding on the use of technology to support diverse learner needs and backgrounds and to plan for the management of technology resources and students' usage.

Program Changes Based on the Findings: Based on our analysis of the data each year, we have been (and plan to continue) revising the program to
• design assignments and learning experiences which require candidates to assume leadership roles in all LT courses - for example, the addition of the virtual field experience which puts candidates in the role of a mentor for peer teachers.
• strengthen instruction and assignment requirements for support of diverse needs and backgrounds of students in all LT courses
• strengthen instruction and assignment requirements for management and upkeep of technology and media resources as well as management of student access and usage of these resources in all LT courses

(3) Student learning
Impact of the Learning Technologies candidates on student achievement is assessed through the M.Ed. Educational Research Thesis completed in ELCL-629 and ELCL-630 (Assessment 5). Candidates design and carryout an educational research project exploring the effect of one or more educational technology approaches or applications on K-12 learning, using qualitative, quantitative and mixed-methods approaches. The five-chapter thesis includes background literature, problem statement, methodology, data results, discussion, full bibliography, and appendices showing examples of assessment and instructional tools used.

Principal Findings and Interpretation of the Findings: Data from this assessment indicates that candidates are able to collect and analyze data on student learning in connection with the use of information and communication technologies in an educational context. One area of weakness indicated by the data is candidates' understanding and ability to identify how their own research study fits into the larger realm of educational technology research (and educational research in general).

Program Changes Based on the Findings: As a result of our analysis of the data each year, we have been (and plan to continue) revising the program to
• strengthen instruction and requirements in educational research processes and throughout the program.
• look for ways to help candidates connect their research project to the larger field - for example, we encourage (and fund) candidates who are interest in presenting their research at regional conferences such as the Northeastern Educational Research Association (a regional division of the AERA) and we will continue to push this as well as support candidates who want to publish their findings.

The WPU M.Ed. in Curriculum and Learning, Learning Technologies program has used and will continue to utilize assessment results to improve candidate performance as well as enhance program quality as demonstrated above. Faculty members in the program are committed to using a variety of meaningful and valid assessments to meet ISTE Technology Facilitator standards.