

College of Education and Affiliated Programs
Annual Assessment Report Template – Spring 2010
Educational Technology

Background

1. Describe your program (enrollment, number of faculty, general goals). Have there been any major changes since your last report?

The educational technology program at CSULB prepares its graduates to capitalize on the potential of educational technology to improve learning. In connection with the mission of the College of Education, the program educates graduates who understand technology in relation to its societal and cultural context, critically evaluate benefits and limitations of technologies, and build on ways of using technology towards socially positive ends. Specifically, the program prepares graduates for educational technology leadership roles in schools, educational institutions, and other agencies. It also provides a foundation for individuals planning to pursue doctoral degrees. Graduates of the program learn strategies for applying theoretical perspectives to use technology in the service of practical problems. They learn to evaluate, design, develop, and effectively use technology for educational purposes. The program fully supports the goal of the College to “prepare socially-responsible leaders for a rapidly-changing, technologically-rich world.”

There are three full-time and two part-time faculty members teaching in the program. About fifty candidates are working towards their MA degrees. During the 2008-2009 academic year, eleven students graduated from the program. The program has not made any major changes since the last report submitted in May, 2009.

Table 1*Program Student Learning Outcomes and Relevant Standards*

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
SLOs	Research/apply knowledge of multicultural, ethical, and legal issues pertaining to using educational technologies and networks within the global community.	Synthesize leadership principles within the practice of educational technology planning, coordination and professional development.	Apply instructional design principles to develop and evaluate electronic materials for learning.	Integrate theoretical perspectives to review, interpret, and/or conduct research in educational technology.	Demonstrate effective written, electronic, and oral communications that reflect crucial thinking.
Signature Assignment(s)	Final project	Final project	Web design project; Multimedia project	Final project	Project
National Standards	Educational technology leaders understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and develop programs facilitating application of that understanding in practice throughout their district/region/state.	Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.	Candidates demonstrate the knowledge, skills, and dispositions to design conditions for learning by applying principles of instructional systems design, message design, instructional strategies, and learner characteristics. Candidates demonstrate the knowledge, skills, and dispositions to develop instructional materials and experiences using print, audiovisual, computer-based, and integrated technologies.	Candidates demonstrate knowledge, skills, and dispositions to evaluate the adequacy of instruction and learning by applying principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and long-range planning.	Use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning. Candidates: 1. Model the use of telecommunications tools and resources for information sharing, remote information access, and multimedia/hypermedia publishing in order to nurture student learning. 2. Communicate with colleagues and discuss current research to support instruction, using applications including electronic mail, online conferencing, and Web browsers. 3. Participate in online collaborative curricular projects and team activities to build bodies of knowledge around

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
					specific topics. 4. Design, develop, and maintain Web pages and sites that support communication between the school and community.
Conceptual Framework	Values Diversity, Prepares Leaders	School Improvement; Service and Collaboration	Promotes Growth	Promotes Growth; Research and Evaluation	Promotes Growth
NCATE Elements	Knowledge and Skills – Other; Student Learning – Other	Knowledge and Skills – Other	Student Learning – Other	Knowledge and Skills – Other	Professional Dispositions

Table 2*Program Specific Candidate Information, 2008-2009 (snapshot taken F09) – Transition Point 1 (Admission to Program)*

	Number Applied	Number Accepted	Number Matriculated
TOTAL	20	19	15

Table 3*Program Specific Candidate Information, 2008-2009 (snapshot taken F09) – Transition Point 2 (Advancement to Culminating Experience)*

	Number
Thesis (698)¹	1
Comps²	8
Project (695)³	6

Table 4*Program Specific Candidate Information, 2008-2009 (snapshot taken F09) – Transition Point 3 (Exit)*

	Number
Degree	11

Table 5*Faculty Profile 2008-09*

Status	Number
Full-time TT/Lect.	3
Part-time Lecturer	2
Total:	5

¹ This is data on students who were enrolled in thesis work during Fall 2008 and Spring 2009. This figure may include students who actually “crossed into” this transition point prior to Fall 2008 and were still making progress on their theses at this time.

² This is data on the number of students who *applied* to take the comprehensive examination in Summer 2008, Fall 2008, or Spring 2009. The data include students who may not have taken or passed the examination(s).

³ This is data on students who were conducting culminating projects during Fall 2008 and Spring 2009. This figure may include students who actually “crossed into” this transition point prior to Fall 2008 and were still making progress on their theses at this time.

2. How many of the total full- and part-time faculty in the program reviewed and discussed the assessment findings described in this document? Please attach minutes and/or completed worksheets/artifacts to document this meeting.

The data meeting took place from 10:30 am to 12:30 pm on March 19, 2010 in LA1-207. Three full-time program faculty members participated in the discussion. Meeting minutes are attached at the end of this document.

Data

3. Question 3 is in 2 parts focused on *primary* data sources related to: student learning and program effectiveness/student experience:
 - a. Candidate Performance Data: Provide *direct* evidence for the student learning outcomes assessed this year and describe how they were assessed (the tools, assignments, etc. used). Describe the process used for collection and analysis. Present descriptive statistics such as the range, median, mean, percentage passing as appropriate for each outcome.

Table 6 presents an overview of the program's SLOs and related signature assignments.

Table 6

Program Student Learning Outcomes and Signature Assignments

	Student Learning Outcomes	Signature Assignment(s) Course(s)	Description of the Assignment
1	Apply knowledge of multicultural, ethical, and legal issues pertaining to using educational technologies and networks within the global community.	ETEC 525	Option one: research and write a paper related to the social and cultural implications of technology. Option two: implement a global learning project involving collaboration with a classroom in another country.
2	Synthesize leadership principles within the practice of educational technology planning, coordination and professional development.	ETEC 530	Write a grant for educational technology funding.
3	Apply instructional design principles to develop and evaluate electronic materials for learning.	<ul style="list-style-type: none"> • ETEC 551 • ETEC 570 	<ul style="list-style-type: none"> • Evaluate a web site including a comprehensive overview of the design, the content, and the contribution of the website to the field. (ETEC 551). • Create an interactive lesson or a tutorial and create a professional-looking presentation based on visual principles (ETEC 570).
4	Integrate theoretical perspectives to review, interpret, and/or conduct research in educational technology.	ETEC 510	Compare the prominent learning theories adopted in the field of educational technology and make connections between theories and practices.
5	Demonstrate knowledge, skills, and dispositions to locate, evaluate, and select technology resources for	ETEC 523	Develop an electronic portfolio as a web site, wiki, a blog, or any Web 2.0 technology.

professional development.		
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The program faculty reviewed data on the following three SLOs during this assessment cycle:

SLO 2: Candidates synthesize leadership principles within the practice of educational technology planning, coordination and professional development.

SLO 3: Candidates apply instructional design principles to develop and evaluate electronic materials for learning.

SLO 4: Candidates Integrate theoretical perspectives to review, interpret, and/or conduct research in educational technology.

Each of the SLOs was evaluated in a required course: ETEC 530 (SLO 2), 551 (SLO 3), and 510 (SLO 4). The faculty members who taught these classes assigned a signature assignment to all candidates and scored the assignment according to a rubric developed by the program faculty. The following discussion presents descriptions of the three assignments and the data relevant to each of the assignments.

Signature assignment used in ETEC 530 that addresses SLO 2

Assignment Description: The signature assignment comes from ETEC 530 Educational Technology Leadership. The assignment had four options:

Grant - Find a grant, write a proposal and submit it for educational technology funding - response to submission required for full credit.

Leadership Development Plan - Create a technology staff development plan for an organization to take place over the period of one year including an evaluation component.

Community Partnership Plan - Create a 2-year community partnership plan between an educational technology environment (or potential) and stakeholders within the community.

Technology Use Plan - Develop a 5-year technology use plan for an organization including a needs assessment plan, funding possibilities, proposed new technologies and staff development requirements.

Data Collection Processes: The signature assignment was given to candidates in ETEC 530 in Summer 2009. The assignment grades were scored according to the following scale:

A-4 points

B-3 points

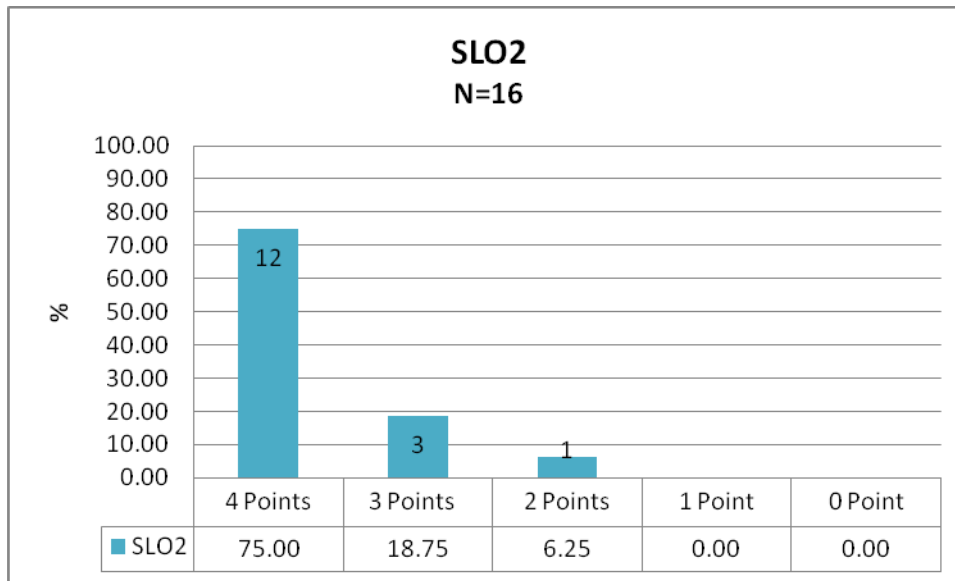
C- 2 points

D-1 points

Criteria data for this assignment were not collected. Data from the evaluation of these assignments are presented in Figure 1 below.

Figure 1

SLO 2 – Overall SLO Scores for ETEC 530



Signature assignment used in ETEC 551 that addresses SLO 3

Assignment Description: For this assignment candidates evaluate and present an educational website or an educational software program on a CD-ROM. They are expected to write a paper with a minimum of 1000 words for the evaluation and then present the website (not the paper) to the class. They need to find good examples of e-learning by focusing on a particular subject matter or a very specific topic or skill (e.g., how to swim, photosynthesis, laws of motion, American civil war, how to play piano, how to fix your car, 6th grade math, introduction to mechanics, global warming or earthquakes). They need to demonstrate that they are quite familiar with the website and can easily find what their audience is looking for.

Data Collection Process: The signature assignment was given to candidates in ETEC 551 in Spring 2009. A total of 24 candidates enrolled in the class. One candidate did not submit his signature assignment. The candidates were instructed to write their web evaluation based on instructional design principles that they learned in the class and in the other classes. To facilitate the candidates' evaluation, the instructor provided them with a list of 32 criteria. The candidates were then asked to explain how each of the 32 criteria was applied in the design of the website. If a criterion was not applied, the candidate must explain in what ways the criterion was not applicable to the website under evaluation.

The following rubric was used to evaluate the candidates' signature assignment:

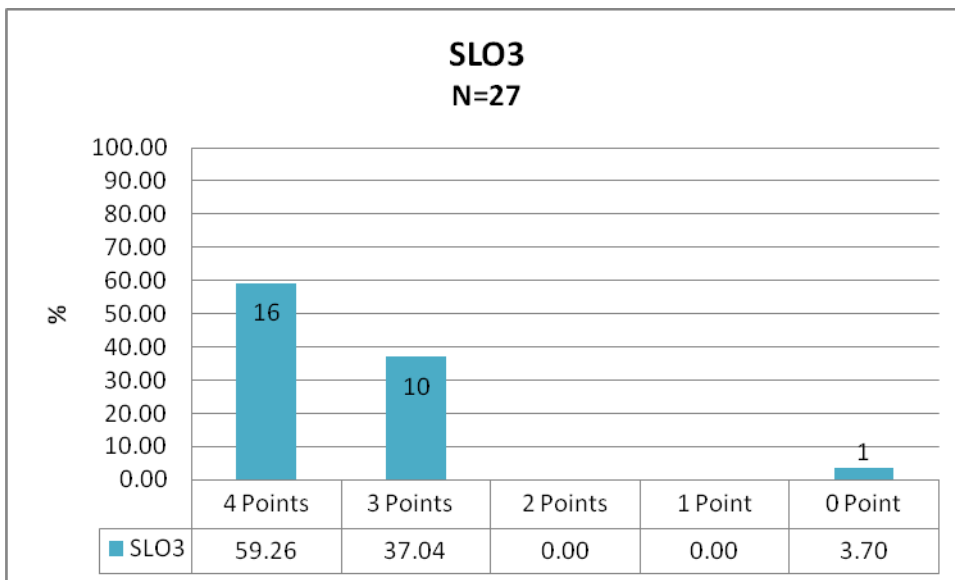
Grades and points	Criteria
Grade F - Incomplete or missing work (0-15)	No submission, Late submission.
Grade D -Does not meet	The length is less than 1000 words. The content is mainly taken

Grades and points	Criteria
expectations (15-20)	from the website through copy and paste or paraphrasing. No personal opinion and no evaluation based on instructional design or web design principles.
Grade C - Meets some expectations (20-23)	In his/her own words explains the main goal of the web site, the authors or the sponsors, and the target audience. Explains the importance, uniqueness, and the contribution of the website. Explains the content of the website including major sections topics, or levels. Presents a brief summary of the website in his/her own words. The web design principles are mentioned but no real evaluation is done based on instructional design or web design principles.
Grade B - Meets expectations (23-26)	Covers all grade C criteria. Furthermore, Includes his/her personal opinion of the website based on his/her own criteria and/or the criteria which he/she associates with the needs of particular types of readers including his/her own needs. It covers a minimum of 10 of the web design criteria listed in the above instructions in his/her evaluation. There is no detailed comparison with similar web sites.
Grade A - Exceeds expectations (27-30)	Covers grade B criteria. Goes beyond 1000 words. Furthermore he/she explains in detail how at least 20 of the web design criteria are implemented in the web site with SPECIFIC examples. Compares this web site with similar web sites in some detail. Makes some constructive suggestions on how to improve the web site.

The following chart shows candidates' performance on the signature assignment:

Figure 2

SLO 3 – Overall SLO Scores for ETEC 552



Signature assignment used in ETEC 510 that addresses SLO 4

Assignment Description: In groups of four, candidates compare the prominent learning approaches (behaviorism, cognitivism, and constructivism) adopted in the design of technology-enhanced instructional materials and make connections between these approaches and practices. For each approach, they are required to identify an educational software program or an instructional Web site that can be used to illustrate that approach. They then analyze each program/site and discuss how it reflects the given approach by addressing the following seven items pertinent to each approach: (1) factors that influence learning, (2) role(s) that computer technology can play in learning and instruction, (3) principles that are relevant to the design of technology-enhanced instruction, (4) ways that instruction should be structured, (5) ways that learning should be evaluated, (6) ways that feedback should be given, and (7) ways that transfer of learning occurs. Next, the candidates present the findings of their comparison in a short paper and illustrate the features of the educational software programs or instructional Web sites of their choice in a multimedia presentation.

Data Collection Process: The signature assignment was given to 24 candidates in ETEC 510 in Spring 2009. The candidates worked in groups of four to collaboratively complete the assignment. Each group’s assignment was evaluated using a scoring rubric which incorporated comments on the paper and the multimedia presentation. Candidates working in the same group received the same score for the assignment. The criteria for evaluation were (a) discussion of the three approaches, (b) selection of the programs/ web sites, (c) analysis of programs/ sites, (d) writing and organization, (e) mechanics and professional presentation, and (f) multimedia presentation. Both overall scores and criteria data were collected.

The following figures present the data from the evaluation of these assignments in graphical form.

Figure 3

SLO 4 – Overall SLO Scores for ETEC 510

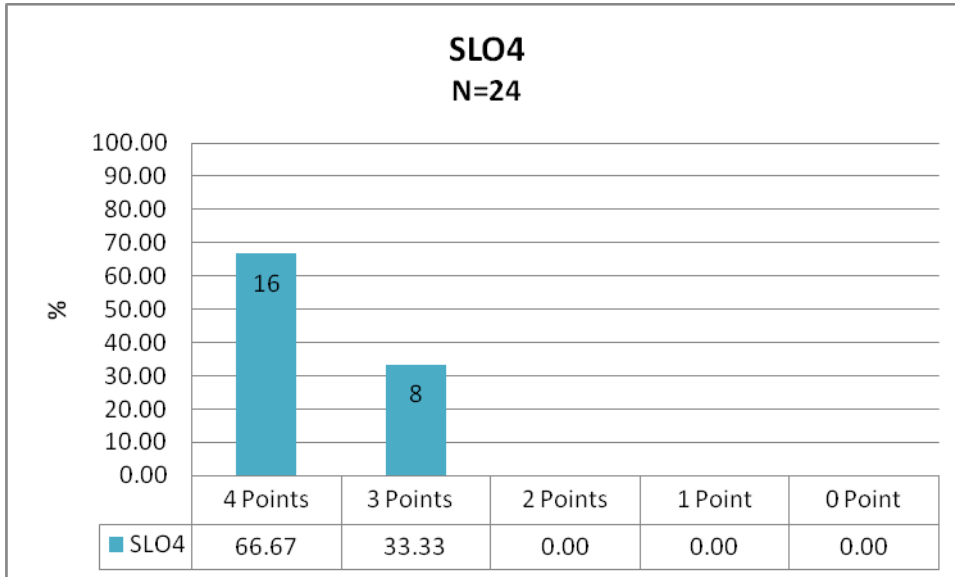
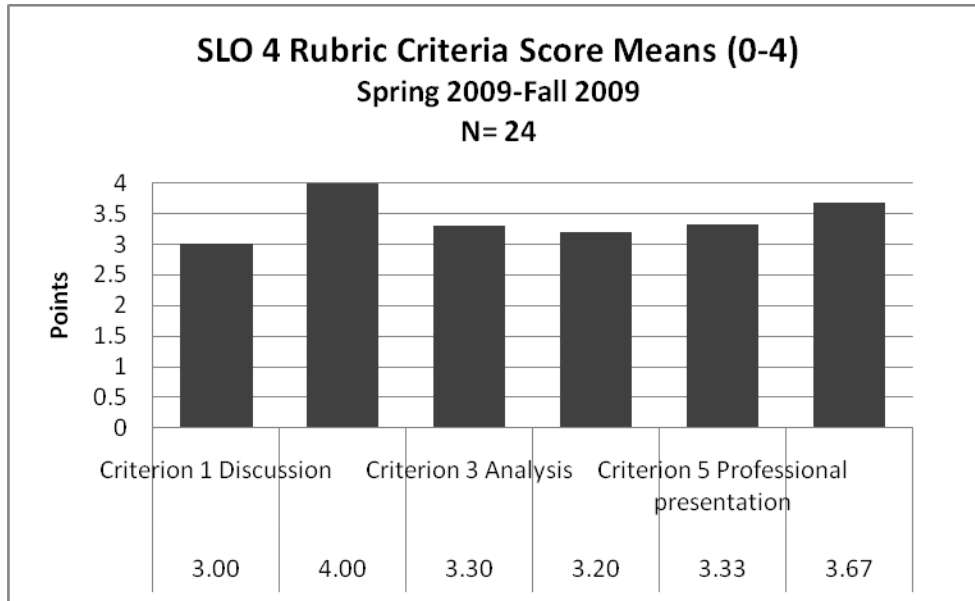


Figure 4

SLO 4 Criteria Score Means (0-4), Spring 2009-Fall 2009



- b) Program Effectiveness Data: What data were collected to determine program effectiveness and how (e.g., post-program surveys, employer feedback, focus groups, retention data)? This may be indirect evidence of student learning, satisfaction data, or other indicators of program effectiveness. Describe the process used for collection and analysis. Present descriptive statistics such as the range, median, mean, or summarized qualitative data, for each outcome.

Data from informal exit interviews of candidates (conducted by faculty) were gathered. Findings included suggestions on increasing the frequencies of course offerings as well as clarifying the exit requirements (including the following three options: comprehensive exams, thesis, and projects).

4. OPTIONAL: You may provide *additional* information (e.g., other data, copies of letters of support from granting agencies or school staff, etc.) about candidate performance, the student experience or program effectiveness used to inform programmatic decision making. This may include quantitative and qualitative data sources.

Analysis and Actions

5. What do the data for each outcome say regarding candidate performance and program effectiveness? Please note particular areas of strength or in need of improvement.

The data from the signature assignments inform us about the candidates' attainment of the three SLOs under review. In general, most candidates did well on the three SLOs, though there were some candidates who were struggling. One candidate did not meet expectations for SLO 2 and SLO 3. All candidates met expectations for SLO 4. The following discussion presents detailed analysis of the data relevant to the three SLOs.

Analysis of the data for SLO 2 (ETEC 530)

As indicated in Figure 1, on the signature assignment for this SLO, 75% of candidates received a rating of “4,” and 18.75% of candidates received a rating of “3.” Thus, 94% of candidates met the standard with a rating of “3” or “4.” The conclusions that can be reached from these data are limited. As mentioned earlier, it was derived from four distinct assignments and did not include data from the criteria for assessing the assignment.

Analysis of the data for SLO 3 (ETEC 551)

As shown in Figure 2, on the signature assignment for this SLO, 59.26% of candidates received a rating of “4,” 37.04% of candidates received a rating of “3,” and 3.70% of candidates received a rating of “0.” Evidently 96.30% of candidates met the standard with a rating of “3” or “4.” The candidate who received a rating of “0” did not submit the signature assignment.

While it is not evident in Figure 2, the instructor reported that the notable weakness in candidates’ assignments was the lack of the ability to apply design principles to their evaluation of web sites. Although the candidates were able to critically evaluate web sites with reference to other important criteria (e.g., authority and objectivity), they did not follow the directions for the assignment to build their critiques on design principles.

The instructor also found that while the rubric used in assessing the signature assignment was helpful in guiding candidates to meet the SLO criteria, it was not very helpful as a tool for program evaluation. This holistic rubric did not provide information about candidates’ performances on different aspects of the grading criteria.

Analysis of the data for SLO 4 (ETEC 510)

As indicated in Figure 3, on the signature assignment for this SLO, 66.67% of candidates received a rating of “4,” and 33.33% of candidates received a rating of “3.” All candidates met the standard with a rating of “3” or “4.” Since this is a group assignment and each candidate working in the same group received the same score, the data could not show individual performance among these group members. On the one hand, the assignment encouraged collaboration among candidates. On the other hand, it fell short in keeping track of each individual candidate’s performance.

Figure 4 provides a detailed view of the individual criteria scores. The most highly rated criterion concerned the selection of software programs/ web sites for evaluation: all candidates obtained a rating of “4.” Before making final decisions, most groups received suggestions and comments from the instructor on the selection of the programs/ sites. Without doubt, the instructor’s early feedback on the selection contributed to the attainment of the criterion. The two criteria that were rated the lowest were the “discussion of the learning approaches” and “writing and organization,” with a rating of 3.00 and 3.20 respectively. Several groups did not demonstrate adequate understanding of the cognitive approach as it applied to the design of technology-enhanced instruction. The papers that several groups submitted were not organized properly.

6. How do these findings compare to past assessment findings?

In Fall 2008, the program faculty started to collect data from signature assignments, which have been used as baseline data for comparison. The findings from the data collected for review during this assessment circle were similar to those from past assessments.

7. What steps, if any, will be taken with regard to curriculum, programs, practices, assessment processes, etc. based on these findings in Questions 5 and 6? Please link proposed changes to data discussed in Q5.

Steps to be taken for SLO 2 (ETEC 530)

It was found that giving candidates four different options resulted in limited conclusions that could be drawn from the data. During the next assessment cycle, the instructor will modify the signature assignment to better take advantage of the CED assessment system. In particular, he will modify the signature assignment so that it has only one or two options. In addition, he will collect data on the criteria that form the basis for the assessment.

Steps to be taken for SLO 3 (ETEC 551)

The analysis showed that candidates had difficulties with applying design principles to their evaluation of web sites. During the next assessment cycle, the instructor will provide guidance in this area and give more opportunities for students to practice. In addition, the instructor will replace the holistic rubric with an analytical one in order to collect data that can better inform the program faculty about candidates' strengths and weaknesses.

Steps to be taken for SLO 4 (ETEC 510)

The analysis indicated the need for additional instruction on the application of the cognitive learning approach to the design of technology-enhanced instruction. Moreover, the analysis pointed out the need to help students strengthen their scholarly writing. It was also found that the signature assignment did not provide useful data for understanding an individual candidate's performance. During the next assessment cycle, the instructor will design activities that reinforce candidates' understanding of the cognitive approach, encourage or require candidates to attend writing workshops, and design a new signature assignment that can identify an individual candidate's effort and performance.

Action Items

For SLO 2 (ETEC 530)

Priority	Action or Proposed Changes To Be Made	By Whom?	By When?
1	Modify the signature assignment	S. Adams	Fall, 2010
2	Collect criteria data	S. Adams	Fall, 2010

For SLO 3 (ETEC 551)

Priority	Action or Proposed Changes To Be Made	By Whom?	By When?
1	Replace the holistic rubric with an analytical one	A. Rezaei	Spring, 2011
2	Provide guidance and more opportunities for candidates to practice	A. Rezaei	Spring, 2011

For SLO 4 (ETEC 510)

Priority	Action or Proposed Changes To Be Made	By Whom?	By When?
1	Design a new signature assignment	T. Chen	Spring, 2011
2	Design activities that reinforce candidates' understanding of the cognitive approach	T. Chen	Spring, 2011
3	Encourage or require candidates to	T. Chen	Spring, 2011

Priority	Action or Proposed Changes To Be Made	By Whom?	By When?
	attend writing workshops		

Appendix

Meeting Minutes

Educational Technology Graduate Program

Data Analysis Meeting

11:40 am – 12:45 pm, March 19, 2010

Participants: Steve Adams, Teresa Chen, Ali Rezaei

Four SLOs were analyzed in this meeting.

SLO 1- Research/apply knowledge of multicultural, ethical, and legal issues pertaining to using educational technologies and networks within the global community. This SLO is mainly addressed in ETEC 525.

SLO 2- Synthesize leadership principles within the practice of educational technology planning, coordination and professional development. This SLO is mainly addressed in ETEC 530.

SLO 3- Apply instructional design principles to develop and evaluate electronic materials for learning. This SLO is mainly addressed in ETEC 551

SLO 4: Integrate theoretical perspectives to review, interpret, and/or conduct research in educational technology. This SLO is mainly addressed in ETEC 510.

SLO1- We examined the charts made by Assessment Office. For this course students have 2 options. The first option is to write a paper and the second option is to participate on a global network discussion. Dr. Adams noticed that the criteria 6 in the chart in fact belongs to his second option while in the chart it is shown in the first chart.

Overall it was observed that students did a better performance this year in comparison with last year. It was also noticed that students did a better performance on the second option (social network activity). Further examination of data showed that student performance on writing was lower in comparison with other categories in both option 1 and option 2.

However, students' writing was better on the second option rather than the first option. Dr. Adams suggested that this might happened because in the second option less writing is expected.

SLO 2- It was discussed that because there are 5 options for this signature assignment it is hard to make any conclusions or comparison with last year's data. We thought that in the future we give students only 2 options for the signature assignment.

SLO 3- This student learning outcome is addressed in 2 courses; ETEC 551 and ETEC 570. In 2009 only ETEC 551 was offered. Examining the chart and comparing it with last year's data indicate the students' performance was improved. However, we realized that we have to report and analyze not only students' scores on the signature assignment but also we need their scores on each category of the rubric.

It was also observed that the holistic rubric used in this course does not provide useful information for course improvement. Therefore, it was suggested that we should use an analytical rubric for the signature assignment.

SLO 4- Dr. Chen demonstrated some sample students' projects. Careful examination of students' project indicated that they are having problems understanding the differences between two theories of learning: cognitivism and constructivism. It was suggested that we should not assume that students are familiar with these theories and perhaps next time we should teach some basic introduction to learning theories.

The meeting was adjourned at 12:45 PM.