Final Report of the Needs Assessment for the USU IT Department, 2004

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Executive Summary

This report describes the results from the needs analysis conducted for the Instructional Technology (IT) Department at Utah State University (USU). This study was begun in Fall Semester of 2004 as part of the course InsT 7300 taught by Dr. Nick Eastmond. Dr. Byron Burnham, Head of the IT department, defined the need for this study and was its client. The original study sought to answer four questions:

1. What is the quality of the students?
2. What is the quality of the faculty?
3. What is the quality of the curriculum?
4. What are other indicators of quality within the department?

The Logan and Davis County students involved in this project were divided into four main groups to conduct this study. The groups sought data from:

1. Alumni
2. Faculty
3. Current Students and Employers
4. Institutional Data Sources

These data were collected via web based survey, direct interview, telephone interview, and through data mining. Data were collected and analyzed by these groups. These reports were to be compiled for a final report. The production of this document was delayed to allow for reanalysis of several of the data sources. All data contained in the current report have been reanalyzed by Shane DeMars. Editing and analysis review was conducted by Matt Barclay and Nick Eastmond.

Data are presented here for Alumni, Faculty, and Current Students. Employer responses were excluded from reanalysis due to insufficient sample size but are included in the study's integration section. Inclusion of the institutional data would have produced no value added; *ergo* this data was excluded from this document.

Faculty Quality

The overall perceived quality of the faculty is high in the areas of collegiality, care for students, and knowledge. Furthermore, faculty highly valued their amicable work environment. Diversity of the faculty has increased along cultural, ethnic, and gender lines, but has decreased in some areas of expertise and experience. There is also concern that faculty may be too quick to agree with each other.

Student Quality

Student quality is variable. Overall information seems to indicate that the quality of M.Ed. students in increasing. This may, however, be at the expense of a perceived decrease in M.S. student quality. Doctoral student quality is variable. There has been a consistent high quality of students with aspirations to work in academia and to certain projects in the department, but a noted decrease in the quality or application by those interested in industry among doctoral students.

Curriculum - General

There are four general conclusions concerning the curriculum at large in all academic programs offered in the IT Department. First, the ability to apply skills was seen as a benefit to students and alumni, but there was general concern that there is not enough application of learning. Employers noted a decrement in ability of graduates to apply skills, students relayed the need for increased opportunity to apply knowledge and skills. This includes not

only instructional development skills, but also the application of knowledge from readings and more theoretical work.

Second, is the decrease in basic skill abilities. This was noted by employers, and faculty. Proposed reasons for this include an overdependence on reading as a form of instruction, little opportunity to apply and practice, and an overemphasized focus on skill integration before skill acquisition.

Third, is a lack of integration and alignment of courses. This point is heavily influences by the preceding two. The lack of integrated instructional objectives between courses, and alignment of courses, may be one reason that many students are perceived as lacking abilities.

Lastly, there has been a reduced emphasis of business skills in the curriculum. Nearly all depressed quantitative responses from alumni were related to business skills. These were further supported by qualitative responses from alumni, current students, and some faculty. Particularly cited were the needs for evaluation skills, and project management skills. (Quantitative data centered on implementation and management of instruction, but these areas were not specifically mentioned in qualitative responses.)

Curriculum - Programs

No blanket statement can be made about the quality of the M.Ed. curriculum, except that there is a perceived lack of instructional variability offered in the courses. Many are seen as lacking dynamic presentations, and sometimes feedback.

The M.S. program seems to be in flux. There is a marked decrease in business emphasis within the curriculum. There seems to be an erosion of the students' ability to apply skills; especially basic skills. Further, there is a perception that the M.S. coursework does not prepare students for advancement to doctoral level coursework.

The Ed.S. degree has a purpose and structure not generally known by most faculty within the department, and some faculty commented that it should be considered for removal.

The Ph.D. curriculum has its greatest strength in its flexibility, but this flexibility may also lead to student attrition. There is a sentiment among students and alumni in favor of increasing the research focus of coursework. Current students were further concerned with faculty's use of some instructional methods, and the ability of students to apply learning.

Recommendations

Based on the reexamination of the data from this study six recommendations are presented.

1. Articulate and express a vision for each academic program, then align program core courses with this vision and each other.
2. Increase application of coursework, once students are prepared for the tasks.
3. Develop a plan for recruiting students.
4. Increase the research focus in Ph.D. program.
5. Focus on business application in M.S. coursework

6. Foster an acceptance and valuation of critical feedback and constructive confrontation within relationships in the department.

Outline

Introduction

This document comprises the final report on the data gathered for the Fall 2004 needs assessment of the Instructional Technology (IT) Department at Utah State University (USU). The data presented in this document were gathered by four separate student groups enrolled in InsT 7300 during fall semester 2004. Nearly all data have been reexamined for presentation in this document.

Background of the study

The data for this needs assessment were originally collected in partial fulfillment of the course InsT 7300. Offered in fall semester of 2004, this course on qualitative research methods was offered to 6 students at the Logan campus, and 14 at the Davis County extension. The client for this study was Byron Burnham, Ph.D. A quality assurance committee provided oversight for the development of the study instruments. On this committee was Dr. Yanghee Kim, Dr. Mimi Recker, and Deonne Dawson.

The original research was guided by four questions that sought to determine:

1. What is the quality of the students?
2. What is the quality of the faculty?
3. What is the quality of the curriculum?
4. What are other indicators of quality within the department?

This last item consisted largely of program infrastructure, culture, atmosphere, and events. There were five sources of data used to determine the answers to these questions:

1. Alumni
2. Faculty
3. Current Students
4. Employers
5. Institutional Data

The students of InsT 7300 were divided into four groups to collect these data. The Logan campus group conducted faculty interviews. The remaining groups consisted of members of the Davis County cohort. One group collected the data from both the employers and current students. Another collected data from alumni, and the last gathered institutional data.

Original analyses of the data were conducted by the data-collecting groups. Documentation of original analyses and more extensive discussion of data collection methods are available in the original reports. The individual sections contained in this report will briefly describe the original data collection as well as the analysis and interpretation which occurred for this report. Those interested in viewing the original reports, or the raw data, may access this information in the CD-ROM accompanying this document.

Data are presented separately below, then integrated to provide a comprehensive view of where findings converge. Finally, recommendations are provided based on these data. Limitations will be discussed as they pertain to individual data sources.

The author acknowledges the contributions of those students of InsT 7300 who gathered the original data. Additionally, Matt Barclay provided editorial assistance and validation of data interpretation.

Alumni

This study assessed the extent to which alumni were satisfied with the preparation they received from the IT department for performing core IT competencies in the workplace. The competencies used to design the survey instrument were taken from the International Board of Standards for Training, Performance, and Instruction (IBSTPI)[1]. A second section of the survey gathered descriptive data to create a profile of the typical IT graduate. This study used an online survey to collect both qualitative and quantitative data.

Instrument

Data collection consisted of a survey delivered via the internet. A questionnaire was created with two major sections. The first section had four parts consisting of 25 questions. These four parts correspond with the IBSTPI standards of 1) Professional Foundations, 2) Planning and Analysis, 3) Design and Development, and 4) Implementation and Management. Each question asked respondents to rate the item on a five-point Likert-type scale ranging from 5 (very satisfied) to 1 (very dissatisfied). One question was included for each main sub-topic of the four major topics listed above.

The second section consisted of demographic questions. This section also asked two questions of a qualitative nature and two quantitative items requesting an overall assessment of the quality of their experience. Approval was obtained from the quality assurance committee as well as the USU institutional review board for this instrument as well as all others.

Participants

The target population was all USU IT graduates within the past five years. The number and demographic distribution of the total population was 91/269. The initial sample consisted of all alumni who either registered their names with the IT web site or registered with the USU Alumni Association. A total of 269 email addresses were collected from these sources; only one address was refused as no longer registered. Responses totaled 91 with 83 of these (91%) respondents having graduated in the last 5 years. Of these 59 were male and 32 female. There were 77 responses from masters students – there was no delineation between M.S. students and M.Ed. students – only one Ed.S. alumnus responded, and nine Ph.D. alumni responded. (Four alumni did not respond this item.)

Method

An email was sent out on November 11, 2004 introducing the survey and soliciting responses. A second email was sent on November 17; and a final emailing was sent on November 19. Both follow-ups reminded participants to respond to the survey. Data collection ended November 24, 2004. Due to a server error some participants were unable to complete the survey[2].

[1] Richey, R.C., Fields, D.C., & Foxon, M. (2001). Instructional design competencies: The standards. (3rd ed.) Syracuse, NY. ERIC Clearinghouse on Information and Technology

[2] Ten participants were originally rejected when trying to submit their survey results. Problems for five participants were resolved; the five remaining did not complete the survey. A search of the raw access logs revealed that 109 alumni

Quantitative Results

The quantitative data were gathered from the 25 items in the initial section relating to the IBSTPI standards. These standards and their corresponding survey items fall into the four categories listed above. Findings will be discussed by category. The two global quantitative items are discussed at the end of this section.

Because of the low response rate among Ed.S. students polled, the single Ed.S. response was aggregated with those of the Ph.D. alumni. Additionally, most data are not disaggregated by degree type. Such analyses were only performed where it was thought that degree type would have a major response influence (e.g. it may be expected that doctoral graduates would earn significantly higher salaries). Lastly, responses have not been differentiated by gender. The initial analysis did analyze the data with this distinction and yielded significant differences. However, an examination of the data revealed that where differences were found those differences could be attributed to lower response rates by females (only one female doctoral alumnus responded) or factors other than gender.

Professional Foundations

The professional foundations section consisted of seven items corresponding to the major sub points in the IBSTPI standards for professional foundations within the field. Results indicate that respondents were, on average, satisfied with the education they received in these areas. (Original items may be found in the survey attached in appendix 1, or in the original report.) This is indicated by the average minimum rating of 4.0, or satisfied. The anomaly in this section is item PF4 which queried participants' ability to "identify and resolve ethical and legal implications of design in the workplace." Table 1, below, shows the overall lower mean response of PF4 in this area. This finding would indicate that this issue may need to be afforded greater attention in the curriculum of the department.

Planning & Analysis

The planning and analysis section of the survey contained seven items which queried participants on their ability to conduct those activities associated with this phase of instructional design. Included are items addressing PA1 (needs assessment), PA2 (curriculum and program design), PA3 (determining instructional content), PA4 (identify and describe target population characteristics), PA5 (learning environment characteristics), PA6 (characteristics of emerging technologies for instruction), and PA7 (reflection of situational elements). Results are listed in Table 2 below. Mean scores for all planning and analysis items fell between 3.98 and 4.11, indicating respondents were satisfied overall with the education they received in this area.

attempted access to the survey with 18 (16%) failing to succeed.

Professional Foundations

	N	Range	Minimum	Maximum	Mean	Std. Deviation
PF1	91	3	2	5	4.19	.698
PF2	91	3	2	5	4.38	.592
PF3	91	3	2	5	4.01	.863
PF4	87	3	2	5	3.61	.957
PF5	90	3	2	5	3.99	.868
PF6	89	3	2	5	4.04	.706
PF7	91	3	2	5	4.00	.856
Valid N (listwise)	86					

Table 1. – Results from the Professional Foundations section of the alumni survey.

Planning & Analysis

	N	Range	Minimum	Maximum	Mean	Std. Deviation
PA1	91	3	2	5	4.07	.917
PA2	91	3	2	5	3.98	1.022
PA3	89	3	2	5	4.10	.826
PA4	91	3	2	5	4.05	.835
PA5	90	3	2	5	4.06	.770
PA6	88	3	2	5	4.11	.863
PA7	89	3	2	5	4.10	.798
Valid N (listwise)	84					

Table 2. – Results from the Planning & Analysis section of the alumni survey.

Design & Development

This section of the survey contained six items probing participants' abilities to design and develop instruction. Results are reported in Table 3. Means for items DD1-4 indicate alumni's satisfaction with their ability to design, sequence, modify and develop instructional materials. Means for items DD5 and DD6 - which respectively address the ability to design instruction based on learner differences and the ability to evaluate and assess instruction – showed lower satisfaction from respondents. The marginally lower mean response is supported in the case of item DD6 by qualitative responses (see qualitative section below) indicating the need for increased knowledge of evaluation.

Design & Development

	N	Range	Minimum	Maximum	Mean	Std. Deviation
DD1	90	3	2	5	4.06	.812
DD2	91	3	2	5	4.12	.880
DD3	90	3	2	5	4.19	.873
DD4	91	4	1	5	4.31	.878
DD5	87	3	2	5	3.77	.949
DD6	91	4	1	5	3.81	.977
Valid N (listwise)	85					

Table 3. – Results from the Design & Development portion of the alumni survey.

Implementation & Management

	N	Range	Minimum	Maximum	Mean	Std. Deviation
IM1	90	4	1	5	3.87	1.019
IM2	91	3	2	5	4.08	.885
IM3	88	4	1	5	3.20	1.074
IM4	83	4	1	5	3.20	1.045
IM5	89	3	2	5	3.73	.939
Valid N (listwise)	82					

Table 4 .- Results from the Implementation & Management section of the alumni survey.

Implementation & Management

The five items in the implementation and management section displayed the overall lowest mean scores (see Table 4 above) from the quantitative section of the survey. In some cases – IM3 (3.20) and IM4 (3.20) – means were significantly lower than any other scores on the survey. The items in this section reflect participants' confidence in their ability to generally implement and manage instruction. Overall suppressed means in this section are supported by responses in the qualitative section (see below) indicating the perceived need for an increased focus on certain business skills in the curriculum. The combination of findings may produce the most significant finding from this data, at least in terms of implications for curricular change.

Global Items

There were two items of a global nature contained in the final section of the survey. The first asked alumni: Overall how well did your degree in IT prepare you for working in the field? Responses ranged from a high of Very Well (5) to a low of Not at all (1). Of those responding to the survey, 66.7% responded to this item. Response means were 4.35 for alumni with a master's degree, and 4.67 for alumni with a doctoral degree. There was no significant difference between response groups. This would seem to indicate that alumni of the last five years were overall satisfied with the education they received from the IT department and felt prepared to face workplace challenges.

The second global item asked alumni whether they would recommend USU's IT program to a friend who was considering graduate school. Responses ranged from a high of Strongly Recommend (5) to a low of Strongly Discourage (1). Again no significant response differences occurred as a result of degree type. Mean responses of masters degree alumni was 4.35 and doctoral alumni was 4.67. Response rates were nearly 100% with only one non-response. This would seem to indicate that alumni would recommend the program to friends.

Taken together these two global items indicate that alumni of the last five years were generally satisfied with the education they received enough to recommend the program to others.

Qualitative Results

The alumni survey ended with two qualitative items. These were:

1. *What was the best thing about your experience in IT at USU?*
2. *What would you change about the Instructional Technology Program at USU?*

Verbatim quotations were transcribed, examined and coded. Most responses were short and only coded in a single area. In some cases respondents listed several areas that allowed for multi-area coding. A few respondents listed "none" or "nothing" as their response to the items. These items were excluded as non-responses. There were a nominal number of responses which did not align with other responses; these are not reported here. In most cases the response of a single individual was not considered a sufficient sample to warrant mentioning in this report. Lastly, for the reasons described in the quantitative section above, responses are not disaggregated by degree type.

Question 1 – The best thing about IT at USU

Easily the greatest single item mentioned by respondents as positive (n = 58) dealt with the relationships they developed. For the majority of alumni (n = 34) the faculty made their experience at USU. For a second group (n = 16) it was the networking that occurred with students, faculty, and others during their time in IT. A smaller group (n = 8) mentioned the value that the other students brought to the program.

Responses about the faculty largely focused on their approachability, support and care, and expertise.

- The faculty--they were so helpful and supportive. They treated us like real professionals. They were truly experts and leaders in their field.
- The professors and teachers. They were completely supportive and interested in each student's success. I cannot say enough about the positive experiences I had with all my teachers.
- The Instructors gave me personal attention and sought out ways for me to use my previous education and experiences in classes and on Inst Design projects. The faculty valued my opinions.
- The faculty (at the time I attended) were outstanding. They were very involved in my education and really cared about me personally.
- Professors with work experience
- Dynamic professors with a real passion who helped me think differently about the way I perceive information in the world, and then helped me learn to present that view to others through effective instructional design.
- Faculty were very approachable. Just stopping by offices, they would talk, share

stories, answer my questions, and listen to what I had to say.
- The faculty was superb. I enjoyed the relationship with the faculty. I felt lucky being on site where classes were being broadcast...it offered one on one communication with instructors. I probably would not have had enjoyed it as much if I had been at one of the satellite locations.

Below are some comments made by those who considered networking and relationships that they developed in general as the best thing about their IT degree.

- Networking with students from all over the state of Utah.
- Being on campus and having the opportunity to interact with a wide variety students and professors in the pursuit of my degree.
- Good collaborative environment created among the students.
- The network of friends, contacts, and associates made in the degree.
- Gave me connections
- I liked the networking that happened when the department brought in many people to lecture, present, and interview for jobs. I liked the support the department offered to attending international conferences (financial, advising, and introducing to other people).
- When I did my Master's degree we had recruiters coming in two and three times each month, and when we I went to AECT everyone knew about our program and our faculty. Those are all impressive indicators that you made the right choice.

The group that valued their peers above everything else had this to say:

- The other students--I enjoyed my associations with the other students enrolled in the program. I loved working and interacting with such dedicated and smart people.
- It was certainly the people. I felt like I interacted with the best people around. I still have friendships with them. I mean the students. They were insightful, caring, and great to work with.
- The people. We had some really smart and interesting students during my time as a master's student and my discussions with them influenced a lot of the way that I thought and perform now.

Many alumni (n = 19) mentioned the value they found in the applied nature of the coursework and assessments in the program. A subset of seven respondents specifically mentioned the value of working on “real-world” projects.

- Practical experience. I write and teach distance education courses. I feel I am 'good' at it because of my personal experience of a distance educational program.
- Their assignments were meaningful and related to real life on the job.
- The hands-on experience in the master's program was phenomenal. I would strongly recommend that program but NOT recommend the Ph.D. program.
- Having opportunities to apply theory and principles that I was learning in the classroom to work on projects and a research assistantship.
- At the time I went through the program, the best thing was the ability to work with real companies on real projects. This was in Dr. Merrill's project management class.
- Actually doing a real world project and going through the entire project.
- The project approach that helped me build a portfolio, but also was not simply "throwing us in the deep end" which can happen when the project approach is done poorly. There was good support from faculty/instructors while we were working on our projects, and they supplemented our learning well.

Several alumni (9) mentioned the value they found in the flexibility of the degree. All but one of these responses contains a statement that leads one to believe they mere made by M.Ed. alumni:

- I could take most of the classes over ed-net right at the high school I teach at.
- The convenience of the program. As a working educator, the program was well defined and accessible to my personal schedule.

There were a few other minor groupings (4-5) of respondents who mentioned the value of theory classes:

- Strong classes in learning theory and the design of sound effective instructional strategies and products.
- There was a good balance between learning theory, instruction design theory, and the learning of current applications (video, computer, etc.) then used in the market.

…basic instructional design skills

- The ADDIE model and evaluation process.
- Learning to do an effective Needs Analysis and knowing the tools to implement into the process and effectively creating sound instruction.

…and technology.

- Using technology in the classroom and as a performance improvement tool.
- I really enjoyed implementing new technologies into the instructional design model and then using them to teach.

Only two respondents specifically mentioned the value of participating in a research group. This may be a result of the low response rate (n = 9) from doctoral alumni, and the fact that most M.S. and M.Ed. students do not engage in research.

Question 2 – What would you change about the program?

An examination of the second qualitative question listed above showed several areas that alumni view as deficient or needing change. The areas described below are divided into the relevant categorical headings which rank prominent in the examination of the data.

By far the greatest number of responses fell into the categories of practice and application of knowledge, skills, and abilities (KSA). Many of the responses suggested that alumni felt the need for more practice within a particular area. Other response statements explicated the need to apply knowledge to projects and real world situations. Because of the similarity of these concepts they are presented together. Fifteen responses specifically identified the deficiency of either the application or practice of skills during their experience at USU. A selection of salient responses is listed below:

- Need to revamp/reintroduce the "real world" work experiences. As a hiring manager, I have seen a decline in the real world experience a USU grad has upon completion of the program.
- The program lacked practice of several critical skills: designing learning interactions, writing effective instructions, message design and more.
- Clearer, more specific training or courses on how to implement complex instructional theories in real-world environment
- …put theory into its proper place. Most companies want somebody that can talk theory to customers, but most importantly produce quality products that meet the needs of the customer. If possible more hands on projects. Rapid prototyping and course production experience
- Less theory and more 'real world' schooling. Most IDs go into the training world, and more emphasis on designing facilitator and participant guides, designing PowerPoint, making learning interactive, etc., would have been profoundly useful.

Many respondents identified the need for a greater focus on evaluation within the IT program at USU. Alumni identified these skills as an important component for their current work. There is a minor subset of respondents who identified assessment skills as lacking in the IT program in addition to the evaluation skills. Overall 11 alumni specifically mentioned the need for greater focus on evaluation and assessment.

- I am probably weaker in … how to actually do Kirkpatrick levels 3 and 4 evaluation to make a business case, than I feel like I should be
- Our company emphasizes Performance Improvement and ROI… would be helpful to me.
- Offering courses on: 1. Evaluation of current training/education programs
- more emphasis on needs analysis and evaluation of instruction
- More instruction about how to effectively evaluate instructional programs
- More emphasis on the evaluation process and how the results of instruction are tied back to the objectives of a course.
- They (*the students in the IT program*) also need to learn how to show return on investment, so that managers can equate instructional design/training with $

A significant portion (13) of respondents mentioned the need for a greater connection between their coursework and business skills. A subset of these respondents specifically pointed out the need for increased project management skills. Most of the responses above that call for an increased focus on evaluation describe some aspect of business application. If these numbers are additionally considered then 24 alumni made mentioned of the need for increased business focus. These calls for change correlate with the depressed quantitative scores on the evaluation, implementation, and management sections.

- I am probably weaker in the areas of management of development and implementation (business skills), … than I feel like I should be
- more information provided about the business end of the area i.e. budgets, project management, working between departments. More information about training enterprise systems.
- Tighter connection with business training… More emphasis on training management, program management etc … the training management piece that I did not get out of the IT department
- Teach students how training and development departments actually operate in corporations. Students need a better context for how I.T. fits in a business.
- Overlap with other programs, such as business and HR. I do a lot of HR systems work as it applies to performance improvement.
- more information provided about… project management
- more skills training on Project Management and working in diverse teams

Seven respondents specifically mentioned the change in the faculty of the IT department and the lack of diversity as a perceived or potential problem for the program. It bears noting that the 2001 Regent's report compiled by outside raters specifically mentioned this lack of diversity as a potential problem.

- The program was at its peak when I was there several years ago. I feel that it has become weak due to a loss of some of our key faculty members. Newer faculty seem to lack some of the *diversity* and creativity that previously existed
- hire more professors who understand and are proficient with technologies IT grads use in the field; avoid hiring theorists with only academic experience
- Need faculty with more experience. Lost a lot of reputable faculty in the department.
- There needs to be senior faculty who are recognized in the field...at least one, or USU's IT program will begin to lose some credibility.

Limitations

The data gathered from the alumni survey are some of the best presented in this report. There are however limitations to interpreting this data. Primarily, the organization of the instrument in assessing the curriculum alignment with IBSTPI standards,

although appropriate, led to a loss of data from alumni on the quality of students, faculty, and other indicators. These were not explicit goals of the instrument's creation, but some data in these areas have been gathered from the two qualitative items. We are led to believe that the quality of the IT faculty is high given the overwhelming emphasis that alumni placed on the value of the IT professors. Unfortunately there is limited information to tell us what made the faculty so great, and with the recent and dramatic changes in faculty this data has reduced utility. (Many of the faculty labeled great were named, and many are no longer at USU.)

The second limitation with these data relates to the sample. Although the total sample size of 91 is adequate, only 9 Ph.D. alumni and one Ed.S. alumnus responded. This is a limited sample from which to draw generalizations. Caution should be used in interpreting these data with respect to the doctoral alumni.

Faculty

The current faculty of the IT department at USU were interviewed as another primary source of data for the needs assessment. Pairs of the four participating doctoral students at the Logan campus used a semi-structured interview to talk with faculty on an individual basis. Data were compiled, transcribed, and checked with the individual faculty members for accuracy. Some of these member checks were returned by faculty members, others were not. Reports were then combined to present findings representative of the entire faculty of the department. A review of this report led to minimal reinterpretations. These reinterpretations were checked with some of the original data collection members for accuracy. Presented below is an abbreviation of the original findings which includes those reinterpretations.

Change

Although not specifically noted as a finding in the original report, a review of the interviews reveals a particular focus on the changes the department has been experiencing in the last couple of years. With the loss of several senior faculty members, the remaining faculty have experienced shifting roles. One of the formerly junior faculty members said, “I feel like I ought to take a leadership role more than before.” While a long time senior faculty member commented, “I didn’t think of my role as a senior member of the faculty until recently.” And “I have become more involved in the faculty activities of the department recently specifically because Byron asked me to. He felt I could be of some value to the younger faculty members.”

Many faculty members consider this a time of opportunity with new energy and unity within the department. They feel the old guard is retiring from many instructional technology departments throughout the country, causing an infusion of new faculty members. This new blood brings important skills and accomplishments to the department. A senior member commented, “The faculty has a fair degree of energy and is on the cusp of doing really great things. We are in mid step and about to put our foot down regarding what we do. We have a great past that we can build upon and extend with excellent friends, alumni, and past staff.”

Quality of the Students

When asked about the quality of students, most faculty members chose to discuss only one particular group of students (Ph.D., M.S., or M.Ed. students). When probed about other student groups, faculty members tended to state that they do not associate with them or are not involved enough to make a comment. Additionally, the presence of very new faculty members restricts their ability to compare the current USU students to previous cohorts.

Few faculty members commented at any length on the quality of the students. Several made only blanket statements about students being “great” “sharp” or “intelligent.” These limited statements yield limited interpretive value. Several did go on to make comments regarding recruiting, curriculum, or interpersonal relationship issues, but due to lack of probes or poor transcription little more is presented relating to student quality.

Ph.D.

Faculty expressed mixed concerns over doctoral candidates. General impressions paint a positive picture, and many faculty are inspired by plans to increase this level of quality. There is however a noted attrition problem and a recent decrease in quality students with an industry focus.

Here is what some faculty had to say on the positive side:

- The pool of applicants was stronger than past years and we accepted few doctoral students.
- I have been impressed that we get brighter students every year, particularly at the doctoral level.

At least one faculty member has seen an increase in student quality, potentially due to the attractiveness of certain projects.

- We're attracting heavier hitting students than we were before. Good students help attract other good students. And the projects they are working on are doing something [positive] to the reputation of the department.

Some faculty members seemed positive and excited about plans to raise the bar of Ph.D. student quality.

- Some of the students that have passed through have done work that will be surpassed by current students.
- I think it starts with a good class. Raise the bar. Quality will breed quality. Success begets success.
- We are raising this program to a new level, and I'm very proud to be a part of that

Others expressed concern that quality may have gone down, a concern that was shared by some students, and that attrition is a big problem.

- Academic track students are of the same quality, but industry track students are of a lesser quality than in the past.
- Last year's Ph.D. class was very intelligent, very diffuse in interests, and that may or may not be a bad thing. I'm worried about them getting through the program.
- We have a serious problem with attrition.

Some offered explanations for these results such as the constraints due to location and funding.

- Given the constraints that USU has (such as location and culture) we have a hard time getting the best and brightest. But we do very well given these constraints.
- Each year, by the time we've eliminated a number of foreign applicants, identified all students who are not qualified, and decided on those four or five that we are going to accept, some of the top students get better offers at other universities. *Better* meaning they get a guarantee of a job and funding.
- I'd love to be able to go out recruiting saying that if you come here we will guarantee you funding. But rather, we have to say, we will try to get you funding.

Additionally, the faculty noted the change in doctoral student interests, offering likely explanations for this change.

- If we want to attract more industry capable Ph.D. students, the department head should attend more professional conferences to network with potential recruiters.
- Dave Merrill brought a reputation to the department. But this pool of applicants is the last that will have been attracted by Merrill.

Several faculty expressed concern about recruiting quality students in the future.

- I think we should recruit Ph.D. students at major universities with IT programs. Our stats are great, but of our 60 annual applicants, traditionally, half are from China. Unfortunately, we cannot accept too many foreign students as not to overwhelm faculty and other students with language issues.

Ed.S.

Few faculty commented on the Ed.S. program, or the students. Most avoided or skipped over the topic. When probed about this program faculty members said one of three things:

1. The department needs to identify what the Ed.S. degree is for
2. They declined to comment because of lack of involvement in this program, or
3. They had negative things to say.

From one faculty member came the following statement:

> I don't know why we have the Ed. Specialist program, nor do I know what type of students are in this program. I say either let's have the students stop at a Masters or continue on to a Ph.D. We have never really defined what and who the Ed. Specialist degree is for.

One faculty member, seeing the Ed.S. as half way between the M.S. and Ph.D., suggested that the program should be "cut from the books" because "the degree is not well represented by us, or respected by other institutions."

M. S.

Overall, there was a general feel among faculty that the quality of the M.S. students has declined this year. Three individuals specifically mentioned that there are some students this year that never should have been admitted. Some think the reduction in quality may be due to a greater proportion of students opting to enter the M.Ed. program. A need is recognized for an increase in recruiting for this program. Faculty had the following comments:

- A few students are outstanding, a few should never have been admitted, and the rest are average.
- 1/3 of the students are exceptional, 1/3 are good, and 1/3 are underperforming. Usually, 1/3 of the students are outstanding and 2/3 of them are good. We had a problem this last admissions year with not having enough applicants at the Masters level. Almost everyone with late applications was accepted to fill spots. And, our selection criteria weren't rigorous enough.
- One reason for a drop in quality in M.S. students is more of them are going through the M.Ed. program.

- Maybe we ought to recruit students for our [Masters] program.
- We should recruit at Brigham Young University, Utah Valley State College, Southern Utah University, and University of Utah, but we don't. They all have great programs, minors, or undergraduate degrees in media production or instructional technology. It would give us a better group of Masters students.

M.Ed.

Contrary to responses about M.S. students, faculty members who commented on M.Ed. students tended to describe their quality as increasing. They also mentioned the high numbers enrolled as a detriment for maintaining a quality distance program.

- I've seen an increase in their quality.
- They are very motivated, willing to work hard, in many ways they have a variety of backgrounds and, as a result, bring real life problems and also include more creativity. They are much more practical, pragmatic, and proactive, often seeking and contributing outside material. These seem to be universal traits over the years. They are looking for real world solutions.
- I never want to teach in Ed Tech again. The cohort is too large.

Working Environment

Atmosphere

The faculty members were unanimous in saying that there is greater unity among the faculty now than in the past. This increased unity began to be apparent at the faculty retreat during the summer. Increased support has replaced the lack of cooperation felt in the past. The following statements describe this overarching sentiment:

- Our faculty has good energy and research interests are more aligned. It was possible in half a day to write a mission statement that everyone had a part in and agreed with.
- In the past, there were some dominant members of the group. If you didn't agree with their interests, then your interests would be minimized if they didn't align.
- They are not worried about one-upmanship. There have been times when faculty members have stormed out of meetings, but not with this group. They do challenge one another, but they are not reckless in their challenging. They have regard for the individuals, but will challenge the ideas.
- In the past, we talked a lot about teamwork, but we never acted like a team. We used to have very contentious meetings, that didn't seem to make a lot of progress. The meetings were volatile. People would stomp out, so you avoided certain topics
- I am optimistic about how faculty get along with one another. I believe that we are getting things done in faculty meetings and retreats. I have no evidence of enmity among faculty. It feels like everyone respects everyone else. This is the most positive faculty have been in a long time.

Not dismissing the value of cooperation, one faculty member expressed concern that too much agreement can itself lead to difficulties.

> "Everybody looks cooperative, sometimes too cooperative. It is the other extreme from antagonism. Each faculty member tends to be too accommodating. I am concerned about the importance of carrying on argument. If a faculty member recommends something, everyone tries to accommodate the idea, rather than bring up caveats or weaknesses. This atmosphere makes it difficult to counter ideas. For example, one person in charge of portions of the curriculum proposed the recommended curriculum. Not many people questioned the suggestion. If anybody recommends additions, they tended to be immediately accommodating without discussion. This might result in a less coherent curriculum. I feel less comfortable when people are too nice in discussing serious issues and would appreciate a little more dialog and discussion."

Facilities

On one hand, there were many positives that were spoken about the facilities in the department, and on the other, not surprisingly, were the recommendations for more money and resources. As one said, "there are very few problems here that throwing a little more money at wouldn't fix." Grants provide some of this money and some faculty view grants as essential for being able to complete expected assignments at a Research 1 institution; at minimum, if only to provide for graduate and research assistants.

- The facilities here are the best I have seen for a College of Education. They are much larger and nicer than [another university].
- We could have a better infrastructure: office cleaned more than once a month, high speed wireless connection for anyone anywhere, access to lots of great software, and computers in pods in the classrooms that can be used for collaboration.
- I'm always fighting for software upgrades. Ten years ago we got money to do a software upgrade, but it hasn't been upgraded. For now, I expect my students to buy [particular software], but it's a hefty

> expense. We want students to be able to list tools on their Vita. I buy [this particular software] myself. Without upgrading myself, I would be so far behind that I couldn't collaborate with other professionals using this software. For some things we should expect to get the software through grants, but for basic programs required for our teaching, the software should be provided for us.

- Faculty members that receive adequate grants do well, and faculty members that don't, don't have the resources they need.

- Having graduate assistants is almost necessary for a faculty member with a normal role assignment. There's an infinite amount of work that needs to be done, with teaching and research assignments. Sometimes I find myself doing triage on projects, trying to decide what to let die.

Some junior faculty members felt their time was not used efficiently or effectively. They felt that what they spend most of their time doing is not viewed as important in a tenure review.

- The new faculty need to have better mentoring. Being a new faculty member brings a steep learning curve. You should have a senior faculty member serving as a mentor. Not a tenure review member, but a coach. You need that when you're hired.

- Tenure and promotion is based upon research and writing. Therefore teaching, consulting with students, and serving on committees should be secondary, yet I feel like I'm spending 80% of my time on the secondary tasks and only 20% of my time on research and writing.

Gender Equity

Two faculty members brought up the fact that gender equity has increased in the department.

> When I first arrived, the department wasn't very female friendly. Female faculty members were silently ignored when they made comments or came up with new ideas. When a male faculty member said the same thing, they would be acknowledged. Not that any of the male faculty members were male chauvinists. It's just that they unconsciously paid more attention to the other male faculty members.

Administration of the Department

Faculty members are highly satisfied with the administration and the support staff, making comments such as:

- Byron gives everyone a voice. In faculty meetings he's constantly encouraging everyone to participate, including those who are being quiet.

- He gives a tremendous amount of support to each of us. He will go though whatever red tape necessary to help us with our projects and interests.

- Byron is a human shield for things the faculty members want to get done. He just does it, jumping through bureaucratic hoops. Some faculty members want Byron to articulate the departmental vision. He thinks the faculty ought to articulate that. I agree with Byron.

- We also have a great front office and support staff who provide support under tough conditions.

Quality of the Curriculum

Ph.D.

The department's flexible curriculum allows students to outline their own program of study and gives faculty members the ability to teach courses aligned with their interests. Unfortunately, these two benefits can become a weakness. Well-prepared, self-motivated students with clear goals tend to flourish under the low structure and higher flexibility of the Ph.D. program. Those who are not so focused tend to struggle and may risk contributing to the

attrition problem referred to by one long time department member.

- There's a flexible curriculum. Students are allowed to start right off being involved in whatever their specific interests are. They can focus on those interests, preferably with a faculty member who is also interested, and create a program of study catered to their needs.
- The diversity of the curriculum is a weakness as well as a strength; it can be a problem if you have students that don't know what they want to do.
- We have a serious attrition problem with Ph.D. students. Many are dropping out before they finish. Our priority should be helping people work through the pipeline in an appropriate amount of time.

Contrast these with the opinions of faculty who desire very little or no structure in the curriculum:

- One of the strengths is the flexibility in which courses students can take. Any movements toward standardizing the Ph.D. program would be a bad idea. Requiring everyone to take a whole bunch of classes does not lead to the type of program that we want.
- Some might feel that we allow our students to specialize too early so they end up with too narrow of a command on the field. But, since this is such a broad, interdisciplinary and diverse field, there is no consensus among faculty on what students should know. So, we leave it up to the students and their advisors. This supports what I have said for a long time, that we really haven't got a field at all.

These differences in perceptions of faculty members could be a confounding factor for the students and the direction the department is headed. Some faculty had very definite ideas for competencies that students should have:

- Students aren't leaving with enough technical ability. This is an Instructional *Technology* department. We really can't have graduates, even and especially, at the Ph.D. level who cannot run the technology used in learning.

Another faculty member calls for more alignment of content between courses to achieve the goals of the department.

- Courses should be a little bit more integrated with each other. Here, overall, professors can teach whatever they want, instead of aligning with others. My understanding is that education should be goal-oriented; courses should be aligned to achieve preset goals.

And another describes what they see as a needed change in the foundation course for the doctoral program.

- Current issues course needs to teach current issues rather than just faculty interests. As an alternative each professor can present their research for about an hour through established colloquia or seminar courses. Then if students are interested they meet with faculty individually to pursue that area of research. That way we can save time and allow students to concentrate on dissertation work.

One thing that faculty agree on is the upturn in the curriculum as a result of changes in the research core.

- We are returning to the way it used to be. See, we never used to offer the 7200 Quantitative and 7300 Qualitative courses in our department. I feel that by having these courses we lowered the rigor and strength of our program. I'm glad to see we are again sending our Ph.D. students up to Ed Psych.
- I like the direction that the curriculum is taking. It's going to change for the better. The majority of the faculty felt it needed to change by adding some rigor and standards and by reducing the wide variation in dissertation quality.

M.S.

The faculty expressed a real concern that the M.S. students are not getting what they need on several points. Comments focus on their being theory weak, ill-prepared to go on to doctoral level work,

and their inability to master and apply the basics of instructional design.

- Masters students are theory weak. There is a heavy leaning toward practical application.
- Students planning to continue on to Ph.D. programs are ill-prepared. They end up being theory weak.
- I wish that students knew more about performance technology, analysis, and evaluation. We're getting feedback that they need to know about Kirkpatrick's four levels of evaluation.
- I am concerned about the students' inability to apply what they have learned, which is the second part of ISD; the first being knowing the basics. They cannot apply what they haven't learned. I asked students to do instructional analysis and they didn't have a grasp on the fundamentals.
- The decision to have a six credit core class was ugly. People in the department don't have a team-teaching mentality. There was no synthesis. It was as if there were two three credit classes instead of a true team-taught six credit class. A 12 hour core in a 36 hour program should be the fundamentals to the discipline. I have hopes for the next couple of years.
- Some M.S. students are overwhelmed with the amount of reading. They're not able to do application because they don't know the basics.
- We had a difficult time transitioning from the quarter system to the semester system. We didn't study the program ahead of time. Had we conducted a good needs assessment, we would have done a much better job [in transitioning]. Instead, we patched together what wasn't working.
- Students do not feel confident at the completion of course work.
- I am concerned that the curriculum isn't integrated/streamlined.

Implied in the above comments are issues that are directly related to the instruction and the curriculum of the M.S. core courses. Without further investigation one may only speculate whether the instruction is to blame for students' lack of ability to apply basic skills and theories, or if a larger part of the burden should fall on the curriculum as set by the department.

M.Ed.

Faculty made no direct comments about the curriculum of the M.Ed. program. This is likely due to an oversight on the part of the interviewers in not focusing questions in this direction. IT may also reflect an ongoing lack of attention by the faculty generally to the content of that degree.

Limitations

The decision to conduct interviews provided the richest source of data from faculty. There are, however, limitations to interpretability. There is a potential limitation in the candor with which faculty responded to interviewers. Interviews were conducted by current students and this may have colored the statements that faculty chose to make in their responses. It is unknown the extent to which this occurred or the effect it had on the data collected. There is no specific reason to suspect that this did occur, but the possibility remains that the professors were not as candid as they might have been with an external needs assessor.

Of greater concern for the purposes of this study are the limited responses. As stated above many faculty members limited their comments on the quality of students to a specific group that they work most closely with. While this focus is understandable, it means that responses are from a more limited sample of informed persons. Furthermore the responses faculty gave in several areas (e.g. student quality) were often blanket statements that yielded little actionable data. Few comments were specific enough to be

useful in making recommendations. These limitations result from a combination of inadequate interview methods as well as possible interviewee response bias.

Current Students

A web-based survey was developed to collect data from current students. The instrument was delivered via the survey site www.surveymonkey.com. An e-mail message was sent out to 217 current students asking for their participation, of these 185 were delivered. (The remaining 32 were undelivered due to cancelled e-mail accounts, spam-blockers, or mail-servers that were down.) Students had 10 days to respond after the initial mailing. Reminder e-mails were sent out after 5 days to encourage those who had not responded to respond. A total of 60 students responded with a response rate of 32%.

The instrument contained 16 quantitative items and two qualitative items. An examination of the instrument after data collection revealed that all but one of the quantitative items were demographic or were not interpretable. For example, one item queried students whether they felt that they were able to present at conferences. Responses could be attributed to a variety of reasons, self-efficacy or faculty assistance being just two examples.

For these reasons only the qualitative items were reanalyzed and included in this report. These two qualitative items, like those on the alumni survey, were open-ended and requested students to:

1. *List three things that you enjoy or are gaining in the IT program*
2. *List three things that you would like to see changed or improved in the IT program.*

Results are reported below delineated by the program that respondents are enrolled in.

Analysis & Coding procedures

Most responses were a sentence or less, and their main point obvious. This allowed for simple coding and categorization. Unfortunately there were few categories, and often statements were novel enough to prevent categorization. The findings below represent those responses coded similarly with more than two responses.

Question 1

M.S.

A total of 13 MS students responded to the survey. Three of these did not complete the qualitative section. Those that did primarily described the positive nature of their relationships with their peers, the quality of the faculty, and that they are gaining some knowledge. Some caution is required in drawing conclusions from this small sample.

As with most others in this assessment, this group mentioned the faculty as one of the most positive aspects of their IT experiences. The MS students primarily cite the knowledge and approachability of the faculty.

- Instructors are approachable
- Highly skilled and knowledgeable faculty
- The instructors are very friendly and intelligent

A few students mentioned the value of peer interaction:

- The students are very friendly and group work isn't as bad as I thought because of this.
- I have enjoyed getting to know the other students and how the department was able to encourage us to get to know one another.

Several of the remaining responses mentioned aspects of the coursework

that they enjoyed. They mention primarily the appeal of the field in general, but also the variety in the coursework and the projects they worked on.

- Knowledge of learning theory underlying instructional design
- Challenging, but not overwhelming courses.
- The projects and studies have been very interesting to me.
- I enjoyed having a big variety in classes being taught.

M.Ed.

Twenty M.Ed. students responded to the survey, only one of which failed to complete the qualitative section, leaving 19 responses. Although this is a limited number if responses it is somewhat better response rate than that of the MS participants.

Students primarily commented on the positive nature of the program's flexibility: an obvious benefit of an online program.

- I love the convenience of Distance Education.
- Flexibility of program and helpfulness of instructors.
- I like the convenience of online classes and the evening classes so it is possible to get this degree while employed.

Others commented on communication and conversations with peers

- Discussing topics online with individuals has been wonderful.
- I enjoy the ability to talk with people in a non confrontational manner.
- I have most enjoyed meeting the other students;

And as reported before with alumni many respondents mentioned the excellence of the faculty, with some identified by name more than once.

- I really like the Instructors. Erin Brewer, David Wiley and Kevin Reeve and Dr. Dave Lundstrom are all excellent, well qualified, highly motivated instructors. I can tell they really care about us learning the material.
- Great teachers, excited about their work
- Most enjoyed professors critical responses to work and encourage to pursue advancing efforts of discipline.
- The instructors are very willing to help with any problems that arise.

The remaining responses were either idiosyncratic enough to disallow categorization, or they were of smaller categories (<4 responses). The one worth mentioning for its similarity to coded categories from other students is the applicability of the instruction.

- Current applicability of instruction.
- More skills to help me in the work force
- So far the program has been incredibly helpful. I have learned many things that have already helped me with my current job.
- Research theory (very applicable)

Ph.D.

The greatest number of responses came from the Ph.D. students. The single Ed.S. response was coded with the Ph.D. responses. In this category 25 responded to the survey and 22 completed the qualitative section.

The largest response category focused on the excellence of the instructors. This often included specific names, and focused on their availability, approachability, and collegial relationships rather than on their knowledge or teaching ability, as M.S. and M.Ed. students did.

- Access to instructors has been very good with few exceptions.
- Faculty are always available for their students.
- Without doubt or hesitation I can say that each faculty member that I have encountered is passionate about both their own research interests and their students.
- Most faculty are nice and helpful.

- The instructors are really kind and helpful. Although I know only 2-3 instructors very well. I think whenever I need help, they will help me with their suggestions.

Several doctoral students cited the benefits they find in the program's flexibility. This mainly focused on the possibility of course substitution and customization of degree, but a couple of students appreciated evening and off campus courses.

- Flexibility in subbing other course more useful to my own plans with 'required' courses.
- Flexibility to design the degree to my own requirements.
- Opportunity to tailor my course of study to my own interests.
- The ability to enroll in evening classes.
- off campus courses

A small group of four responses described the value of peer relationships.

- My fellow students are enthusiastic about being here, being in the field, and being able to make a positive impact on the world.
- I really enjoy the students. I have built lasting friendships.
- Interactions with other students

The remaining responses were not amenable to categorization as they were largely idiosyncratic and have been omitted.

Question 2 - Change & Improvement

M.S.

Response rates for the change and improvement section were the same as for question one (n = 10). Unlike question one, analysis of the data from this group failed to reveal enough similarities to be coded into categories. In no cases were there more than two similar answers. These data were reviewed by another individual to the same set of conclusions.

M.Ed.

As in question one, 19 responses were collected. The responses from M.Ed. students fell into several small categories. Most of these only contain three similar responses – hardly overwhelming or sufficiently generalizable. Fortunately, one much larger category containing 12 responses also emerged.

The largest response category seemed to imply the need for the instruction to be changed or improved. Problems raised centered around a lack of what one respondent termed "dynamic presentations." The comments did not imply a desire for entertainment, rather a desire for variability. A couple of other responses relate a lack of feedback as an important issue to be addressed.

- The EdNet system is wonderful, but it would be nice if the instructors would move around and use the white board, and stuff. Instead they sit at the desk and we just talk. Mind you, the discussions are great, and I do learn alot, but I would like some variation.
- So far, all instruction over the WebCT is PowerPoint or copies of articles/books. I would like to see more variability in programs, perhaps video feeds or audio.
- I wish that there could be more to the learning methods than just to read articles.
- Better response time from some of the teachers.
- There was one class…that feedback was never given to the students on any aspect of it.

Some minor coded categories of responses for needed changes include:
Communication

- Communication between the department and students, the term Dr. Stoddard left, was like talking to a brick wall. Sherri was swamped, and unable to give answers if you could ever talk to her. The department

should be ashamed of the way the students were treated that term.
- Communication outside of class work was not very good. It has improved greatly since the end of the Summer 2004 term.

Guidance with portfolios

- More guidance, and examples of what has been done by other students for their final project.
- Require the portfolio class at the beginning rather than the end of the program of study. This would make it clearer what is expected and set it up for easy additions throughout the program of study.

Lack of Organization

- The department seems to be disorganized. At the beginning of the semester, our classes were given different course numbers on the various documents and online, and other areas. Many people that I have discussed things with have been quite disappointed with the organization of the department and the classes. I am aware of several individuals who have left the department because of such disorganizations.
- More upfront planning to program. Seems like things were being rearranged and such within weeks of starts of semesters.
- This year seemed somewhat disorganized in respect to a workshop we were to have in the summer that never materialized and getting set up with a chair person for our project.

And the department website

- The it.usu.edu website is a horrible site. Everything is 2-3 years old. Be my guest, put yourself in my shoes and try to download something that doesn't say 2003 or 2002 at the top of the page. It's virtually impossible. The IT dept. claims to really support distance learning, but your site doesn't reflect any pride whatsoever in your program. I think you guys should be embarrassed. The site is not informative, nor is it updated. For the amount of students paying you guys tuition you should be able to afford a web administrator who could update everything. I think I could update the whole site in a week, that's all it would take. Even [a faculty member] is misinformed about the info available. [The persons] thinks the forms are updated and they aren't.

Ed.S. & Ph.D.

As in question one, responses from doctoral students (n = 22) represented a larger portion of the current student body. They were also more lengthy and more specific.

Well over half of the responses from doctoral students described the need for change and improvement in the instruction or curriculum. Although some simply stated the need for "better trained instructors" most responses went into detail. Many described the need for "balance in course design" between understanding theories and how to apply them, with the projects that make up many courses. A few mentioned the need for greater feedback and increased discussions.

- We need quality over quantity. Reading enough to fill a library doesn't mean that we know or understand it all. Academic osmosis is a myth! There needs to be corresponding in-depth discussion and guidance of all readings, assignments, and projects. The idea is not to drown us, it is to provide the instruction and mentorship we need to succeed in this field. (And just for clarification, mandatory postings to a bulletin board do not qualify as discussion.)
- Increase balance in course design between constructivist/minimalist activity based projects (which are currently overemphasized) and theoretical and practical understanding of background information. Implied in this is increased congruence between the activities or projects of the course and the readings and other class activities.
- Instruction which [would allow] a thorough understanding of both the practical and theoretical aspects of the necessary knowledge and skills prior to being asked to use them in a real world project.
- Correspondingly, just because we are thrown into real world projects with a sink or swim mentality, and we happen to

survive, does not mean that we have been trained to be world-class swimmers. Yes, survival swimming is important, but if you have the potential to be an Olympic class swimmer and all your trainer does is throw you overboard during storms you will never master the breaststroke. We are here to become masters of our trade, not just people who can survive a storm

- In other words, I would like to see an emphasis on the foundational aspects of the subject matter, from designing our first piece of instruction to writing up the conclusions to our dissertation.
- Increased use of formative assessment. There appears to be little to no use of this mode of assessment. If the aim of the class is to help the student LEARN then there should be more formative assessment incorporated throughout the courses. Currently most courses only involve summative assessments, which become summative evaluations and do not aid the student to increase their understanding of the material.

Several respondents mentioned the need for an increased research focus in the program.

- More emphasis on research-based practices, not someone's 'theory' which hasn't been tested
- Increased focus on building research criticism and connoisseurship skills. Including a greater emphasis on research design and evaluation, and an understanding of statistical methodology, interpretation, and use. It takes this knowledge to accurately interpret the value of research within our field; which is, I hope, what we are basing instructional design decisions on.
- For Ph.D. level, we need more methodology courses

Several students recognized the need to "fill the open faculty positions." A couple of students mentioned this because they wanted "more committee chair selections." Others gave more specific suggestions for hiring:

- Stronger faculty members with a comprehensive understanding of IT
- Department should hire more faculty from outside of Utah.
- We need senior faculty who are recognized in the field...we miss Merrill, Soulier, and Gibbons.

The minor categories of responses (those with only 3-5 responses) included a perceived need for:

- More guidance with publications
- More practical experience doing the things we talk about. I get tired of talking about theories and want to practice using them.
- More online courses,

One unique response related a concern of the Davis County cohort.

- More opportunity for distance ed students to get involved with the professor's projects. I sometimes feel like, 'this is an instructional technology program?' I thought we were supposed to be the experts and distance learning, yet I have felt so much resistance to including the distance ed group at times. I would like to see the distance group accepted at the same level the as the on campus group when it comes to student opportunities to interact with teachers' projects.

Limitations

The data gathered from the current students is subject to quite severe limitation in its interpretability. This is primarily a result of the low response rate from all but doctoral students. Had the original instrument's quantitative items been constructed more appropriately this may have been ameliorated to some degree. Incidental probing revealed that many students did not see the value in responding to the items on the survey. Several also interpreted the last item requesting their email address as intrusive.

Of greater concern to interpretability is the open nature of the items. The survey items to which participants responded

asked for three “things that you enjoy or are gaining in the IT program” or “three things that you would like to see changed or improved in IT.” This allows for a very wide array of responses. Some participants supplied three responses, but many provided less. When these three responses from one individual are coded into three different categories, it provides that individual’s opinion with greater emphasis than the individual who supplied one response. In essence the students who supplied three responses has a greater “voice.”

It should be noted that students involved in conducting the needs assessment were also asked to participate as respondents to the student questionnaire.

Employers

Data was collected from employers of USU, IT alumni. This was conducted via telephone interview. Of the eight employers contacted for this survey, one yielded no response. The input from another indicates that the interviewee did not interact significantly with the graduates to be able to answer accurately. Of the remaining survey participants, two came from separate divisions of the same organization.

Due to the very limited sample size these data have not been reexamined and presented here. Where applicable, extractions from the employer survey are presented in the data integration section, when they provide support for other key findings. These data may be examined in full in the original analysis documentation on the CD.

Institutional Data

Institutional data such as faculty course evaluations, grants, and publications were gathered. Attempts were made at assessing the alignment of courses with IBSTPI standards, and at comparing USU's program with that of other top tier institutions. A review of these data resulted in the determination that their inclusion would result in no value added to this report. For a review of this data see the original report included on the CD.

Integration

This section of the report will integrate the findings of the above data to present general conclusions from the needs assessment. Integrated findings will be discussed within the four original questions that drove this study.

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1 – Quality of the students

Ph.D.
The doctoral students in the IT department have received generally good reviews detailing their quality. There is no feedback from outside sources to describe the quality of doctoral alumni, so all evidence must necessarily come from the opinions of those sources tapped by this study - primarily faculty.

Although one faculty member described an increase in the quality of students attracted to certain projects, others noted that the recent loss of prominent faculty members will alter the applicant pool.

> "… this pool of applicants is the last that will have been attracted by Merrill."

Additionally, the quality of those without academic leanings was described as declining. This may be due to faculty change and the curriculum itself (see below).

> "Academic track students are of the same quality, but industry track students are of a lesser quality than in the past."

More active recruitment may be advised.

> "Given the constraints that USU has (such as location and culture) we have a hard time getting the best and brightest."

> "I think we should recruit Ph.D. students at major universities with IT programs. Our stats are great, but of our 60 annual applicants, traditionally, half are from China."

Ed.S.
Too little information was gathered about this group of students to make any substantive comments.

M.S.
There is a real concern that the quality of the M.S. students has declined. It has been suggested that this may be due to increases in application to the M.Ed. program which has perhaps led to decreases in high quality applicants for the M.S. program.

> "1/3 of the students are exceptional, 1/3 are good, and 1/3 are underperforming. Usually, 1/3 of the students are outstanding and 2/3 of them are good."

M.Ed.
The consensus opinion from faculty members is that the quality of the M.Ed. students is on the rise.

> "They are very motivated, willing to work hard, in many ways they have a variety of backgrounds and, as a result, bring real life problems and also include more creativity."

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2 – Quality of the Faculty

General
Consensus opinion of the faculty is that they are the heart of all that is great in the IT program. Current students and alumni both described the faculty as part of the best of their USU experience. Positive comments are variously attributed to their approachability, cordiality, caring friendly nature, and knowledge/expertise.

> "Without doubt or hesitation I can say that each faculty member that I have encountered is passionate about both their own research interests and their students."

Instruction

Notably absent is any mention of the faculty's instructional ability. Unfortunately this has been called into question by many current students. Some students commented that a great deal of instruction is "just PowerPoint" and that they "wish there could be more to the learning methods than just read[ing] articles." It seems that students value their relationship with faculty and the expertise they offer, but that they are dissatisfied with the way instruction is being provided.

Some students mentioned the lack of "formative assessment" and "feedback". One person complained of incongruence between in and out of class work, requesting "corresponding in-depth discussion and guidance of all readings, assignments, and projects." Finally, a comprehensive response described the need for:

> "Instruction which allowed a thorough understanding of both the practical and theoretical aspects of the necessary knowledge and skills prior to being asked to use them in a real world project." (Ph.D. student)

Department Change

Current professors have enjoyed some changes that have come with the arrival of new faculty, such as less competition, increased cooperation, and a friendlier, more productive atmosphere.

> "This is the most positive faculty have been in a long time." (Faculty opinion)

There are, however, concerns raised that this atmosphere may become unproductive if the sense of cooperation prevents the acceptance of constructive criticism and occasional confrontation.

> "Everybody looks cooperative, sometimes too cooperative. It is the other extreme from antagonism. Each faculty member tends to be too accommodating. I am concerned about the importance of carrying on argument. If a faculty member recommends something, everyone tries to accommodate the idea, rather than bring up caveats or weaknesses. This atmosphere makes it difficult to counter ideas… I feel less comfortable when people are too nice in discussing serious issues and would appreciate a little more dialog and discussion." (Faculty opinion)

The concerns expressed by the professor quoted here are a direct echo of the idea presented in the 2001 External Regent's review that there exists a "fragmented faculty vision." These reviewers concluded, as did this faculty member, that:

> "such scholarly diffidence can lead to a paucity of discussion and stagnating of academic progress if left unchallenged."

Diversity

There are a variety of ways that diversity may be defined. In the present study several voices state that the department is both diverse and lacking diversity. Six alumni explicitly mention the department's lack of diversity as a problem. Recent losses and hires are beginning to address these issues. The department has no lack of gender diversity; reports from faculty further detail improved gender equality. The newest faculty hires are increasing ethnic diversity in the IT department. Additionally, the cultural diversity of the department is increasing. These traditional definitions of diversity seem to be addressed.

Faculty and alumni have noted the recent losses in the department changing not only the experience level, but also the expertise focus. From a recent alumni,

"The department has lost many good faculty members, and is currently lacking depth and diversity."

What may be lacking is another type of diversity. Specifically, the department may be lacking faculty members whose research interests and professional experiences are aligned with an instructionist perspective. Many faculty have some experience in these areas, at least in an academic sense, but none focus on instructional design issues as a major topic. The department also lacks a faculty member with corporate and industry focus. A department member commented, "We are sorely lacking in real world experience [among faculty members]."

If these gaps continue they will effect 1) the students attracted to USU, 2) the contacts the department has in industry, and 3) the nature of the curriculum. [Note: at the time of this study a faculty search for three positions was proceeding, representing 30% of the faculty work force.]

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3 – Quality of the Curriculum

General

Four general themes – application, basic skills, integration, and business focus – were identified as important and necessary for maintaining and improving the excellence of the curriculum. These themes are not specific to just one academic program, they may apply to several or all. The needs identified with specific programs are identified after these general themes.

Application

The application of skills to real work experiences and hands on practice, received frequent comment by students, both former and present. Many stated that these experiences were the best part of their experiences at USU. Alternately others stated that there was a distinct lack of useful application. What may be needed is for the department to insure that the curriculum adequately address basic theoretical skills and concepts while providing for opportunities to for students to apply the same in practical instructional settings. Alumni specifically commented that "the best thing was the ability to work with real companies on real projects." If possible relationships with businesses should be reestablished so that these types of experiences may happen once again, and prevent situations as described by an employer in the following comment:

> "[Students] need to know how to apply the theory. I hired a designer from USU and gave him an assignment. One hour later he came back and said, "I learned all this from a text book but I don't know how to actually do it."

And from two alumni:

> "As a hiring manager, I have seen a decline in the real world experience a USU grad has upon completion of the program."

> "Most companies want somebody that can talk theory to customers, but most importantly produce quality products that meet the needs of the customer. If possible more hands on projects. Rapid prototyping and course production experience. If I am going to hire somebody I want to know that they can produce courseware, design documents, storyboards, etc."

Basic Skills

Several voices have converged to distain of some students' inability to apply the basics. A faculty member stated being,

> "concerned about the students' inability to apply what they have learned, which is the second part of ISD; the first being knowing the basics. They cannot apply what they haven't learned."

Alumni have stated that:

> "The program lacked practice of several critical skills: designing learning interactions, writing effective instructions, message design and more."

From the limited responses from employers came similar comments.

> "Eight years ago USU graduates came to us with ISD skills, but the past few years we don't find the depth in your graduates they once had, so basically we have to train them to design. (from an ID firm)"

And this last comment came from an alumnus:

> "We currently do not find high levels of fundamental Instructional Design knowledge and skills as practitioners in your Masters students we have interviewed in the last year or so."

While the previous section dealt with the manner in which courses are of an applied nature and allow for practice, this section focuses on the lack of comprehension of basic skills. The connection between these sections is that without the fundamental knowledge of basic skills one may not be fully capable of their integration in an applied setting. It follows then that one must fully understand these skills, be able to apply them, and then be able to integrate their application to whole processes.

Integration

Echoing some of the above sentiments there seems to be a lack of integration in the curriculum at large. This may result from a lack of departmental vision concerning the purpose of the academic programs offered in IT, and the understanding of how the component courses fit together to support these programs. A long time professor mentions the lack of "synthesis" in "the decision to have a six credit core class." The result was described as "ugly." Another stated more generally that,

> "here, overall, professors teach whatever they want instead of streamlining (integrating) with others. My understanding is that education should be goal oriented; courses should be aligned to achieve preset goals."

Business & Evaluation Skills

Faculty, current students, alumni, and the few employers contacted have noted a loss of focus on business related skills. At least one faculty member has acknowledged that some of these skills are needed by students in the department.

> "I wish that students knew more about performance technology, analysis, and evaluation."

This sentiment was echoed by a major telecommunications employer.

> "I sincerely feel that the USU IT department…is out of touch with business. They need to look at the curriculum."

And from Masters alumni came comments such as the need for "tighter connection with business training" "more emphasis on training management, program management etc." and "the training management piece that I did not get out of the IT department."

In particular a lack of evaluation and project management skills were identified as most frequently in qualitative responses. Quantitative responses from alumni revealed that their lowest satisfaction scores correspond to their lack of abilities in evaluation and in the implementation and management of instruction.

Academic Programs

Ph.D.

Doctoral students largely appreciated the "flexibility to design the degree to my own requirements." The greatest needs that Ph.D. students identified were the instructional methods and integration of more research focus to the curriculum. One student's response summed up these concerns.

> "Increased focus on building research criticism and connoisseurship skills, including a greater emphasis on research design and evaluation, and an understanding of statistical methodology, interpretation, and use. It takes this knowledge to accurately interpret the value of research within our field; which is, I hope, what we are basing instructional design decisions on."

Ed.S.
There was insufficient data specific to this program to comment on the quality of its curriculum specifically.

M.S.
Many faculty identified the theory skills of the M.S. students as deficient, and several mentioned the erosion of the ability to apply basic skills (described above). Although multiple faculty commented specifically on lack of theory, this may be seen as a basic skill.

A second major concern facing M.S. students is the absence of business related skills (also described above). In the past decade, the M.S. program has been seen as an industry-focused program. If these skills are allowed to decline further in the M.S. curriculum then the reputation of the program may itself wane.

M.Ed.
There were few comments in this report about the quality of this area of the curriculum. As stated in the general section above students still want to see more application of theory to practice. For the M.Ed. students the two specific issues may be the need for variability in the instruction they receive, and better organization of the program. Several students have noted that a lack in these areas has negatively impacted the curriculum. There is some evidence that the latter issue of organization may already be improving due to recent changes in the M.Ed. program's administration.

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4 – Other indicators of Quality

Facilities
Most faculty and students appreciated the facilities that the department has. Some described them as better in comparison to similar departments at other institutions. There were minor voices describing how pictures, plants, or different paint, would improve the environment. Since the collection of this data at least one of these recommendations (pictures) has been fulfilled.

Administration
Faculty and students were unified in their praise of the support they receive from the department's administrative team. Several specific mentions of the excellent work of the department head appeared. Faculty noted that he, "gives everyone a voice" as well as "a tremendous amount of support" some of which is no doubt a result of his perceived adroitness at "jumping through bureaucratic hoops."

Technology
There were a couple of complaints aired about technical difficulties. Some faculty complained about a lack of basic software upgrades that they saw

hampering their professional abilities. Additionally, complaints came from students (M.Ed. students in particular) concerning the lack of maintenance for the department website.

Recommendations

It should be clear from the preceding sections that the IT department of USU has a number of outstanding qualities. The greatest of these is the excellence of the faculty and the concern they show to students. The professors in these roles have helped make this a top tier program. The following recommendations, based on the data gathered by this study, are made in an effort to help USU retain its established level of excellence.

1. Articulate and express a vision for each academic program, then align program core courses with this vision and each other.
There are several points of disagreement between faculty regarding the purpose of some programs and the goals for the students enrolled in these programs. What is sorely needed is an explicitly stated purpose for each program, and a unified understanding of the learning and knowledge goals of these programs. This will both allow for and facilitate a discussion to more appropriately integrate and align courses in each program.

The current lack of alignment and integration means that the courses present knowledge as separate entities rather than as separate limbs; students realize little integration of course knowledge. Instructional goals of various courses need to be aligned so that courses complement one another and build the knowledge structures and understanding necessary to meet the articulated vision for their program.

2. Increase application of coursework.
A variety of sources have verified the value of the project-based nature of coursework in the IT department. Many of those same sources have decried the inappropriate implementation of these methods. The overarching point of contention is the sink or swim, minimalist realization of these pedagogical tools. This may have led to the increasing perception that students have begun to lose the ability to apply basic skills. It is suggested that after the issue described in point one above is dealt with that more appropriate instructional methodology be applied to the courses design.

For the M.S. students this would be an increasing the focus on understanding the basics and their individual application before delving into projects which integrate these skills. Previous curriculum structure provided for greater depth of these core skills. This was apparently changed in Fall 2003 to allow students to engage in more projects. However students cannot practice integrating skills they have yet to establish.

Many classes also currently rely on readings as a primary instructional vehicle. Although appropriate, without the feedback that accompanies dialogue and application, learning is not assured. For theories and much research methodology, dialogue may be appropriate application. For other skills project based activities may be more appropriate. Both are recommended.

3. Develop a plan for recruiting students.
Faculty noted a decrease in the quality of some student groups. They have also articulated several recruitment ideas that may ameliorate this issue. The quality of the incoming student ultimately reflects upon the department when those students leave. It also impacts the experience students have while they are in the program. Both current students and alumni described the value that peer interactions had on their USU experience. If the quality of the students wanes, the quality of those interactions will likely follow suite.

4. Increase research focus in Ph.D. program.
If the doctoral program is perceived as a research degree, and it is the intention of the department to produce academicians, then it is imperative that the students of the IT department gain a greater understanding of both qualitative and quantitative research strategies, to include research and statistical methodology. This emphasis upon method allows informed evaluation and critique of research and greater understanding of the origin of theories within the field.

The decision to require research courses outside the department is lauded. It is further suggested that these courses 1) be required early in the program, so that this knowledge may be applied to all courses, and 2) that core courses increase their research focus. Increasing the focus of reading material on empirical research and evaluation studies combined with a critical discussion of these studies in class would provide a necessary step in this direction.

5. Focus on business application in MS coursework
Alumni responses to the quantitative survey questions reveal a perceived lack of business and evaluation skills on the part of the students. This lack may or may not be a result of recent departmental changes, but the problem is an important one to address. Increasing curricular focus on instructional implementation and management skills as well as project management and evaluation could help in redressing this need. Further, fostering relationships with external agencies to allow students to “work on real world projects with real world clients” (alumni comment) would allow for more genuine practice and consideration of more legitimate industry concerns than current internal university projects allow.

6. Foster an acceptance and valuation of critical feedback and constructive confrontation within relationships in the department.
This includes relationships within and between both faculty members and students (doctoral students in particular). By critical feedback is meant the presentation of feedback of a critical review nature; the type of feedback one receives from one’s peers in article reviews. By constructive confrontation is meant the fostering of the acceptance of difference in views within the department. This allows peers to feel safe expressing conflicting views and interpretations of issues. By no means is this an avocation of unconstructive confrontation – the type which leads to contentious arguments – but of the constructive type which fosters the production of new ideas and the valuation of difference between individuals.

Appendix 1

Questions from Alumni Survey

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1 of 5 - Professional Foundations
How satisfied are you with the instruction you received from the Instructional Technology department in developing **your ability to perform** the following:

PF1: to apply current research and theory to the practice of instructional design.
Very Satisfied, Satisfied, Undecided, Dissatisfied, Very dissatisfied
PF2: to update and improve your knowledge, skills and attitudes pertaining to instructional design.
PF3: to apply fundamental research skills to instructional design projects.
PF4: to identify and resolve ethical and legal implications of design in the work place.
PF5: to communicate effectively in visual form.
PF6: to communicate effectively in oral form.
PF7: to communicate effectively in written form.

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2 of 5 - Planning and Analysis
How satisfied are you with the instruction you received from the Instructional Technology department in developing **your ability to perform** the following:

PA1: to conduct a needs assessment.
Very Satisfied, Satisfied, Undecided, Dissatisfied, Very dissatisfied
PA2: to design a curricula or program.
PA3: to select and use a variety of techniques for determining instructional content.
PA4: to identify and describe target population characteristics. PA5: e) to analyze the characteristics of the learning environment.
PA6: to analyze the characteristics of existing and emerging technologies and their use in an instructional environment.
PA7: to reflect upon the elements of a situation before finalizing design solutions and strategies.

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3 of 5 - Design and Development
How satisfied are you with the instruction you received from the Instructional Technology department in developing **your ability to perform** the following:

DD1: to select, modify, or create a design and development model appropriate for a given project.
Very Satisfied, Satisfied, Undecided, Dissatisfied, Very dissatisfied
DD2: to select and use a variety of techniques to define and sequence the instructional content and strategies.
DD3: to select or modify existing instructional materials.
DD4: to develop instructional materials.
DD5: to design instruction that reflects an understanding of the diversity of learners and

groups of learners.
DD6: f) to evaluate and assess instruction and its impact.

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4 of 5 - Implementation and Management
How satisfied are you with the instruction you received from the Instructional Technology department in developing **your ability to perform** the following:

IM1: to plan and manage instructional design projects.
Very Satisfied, Satisfied, Undecided, Dissatisfied, Very dissatisfied
IM2: to promote collaboration, partnerships and relationships among the participants in a design project.
IM3: to apply business skills to managing instructional design.
IM4: to design instructional management systems.
IM5: to provide for the effective implementation of instructional products and programs.

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5 of 5 - Descriptive Information

DI1: Are you male or female?

DI2: What degree(s) do you hold from Utah State University in Instructional Technology?
Masters
Education Specialist
Doctorate

DI3: How long did it take for you to complete your Masters degree?
2 Years
3 Years
4 Years or more

DI3: How long did it take for you to complete your Education Specialist degree?
2 Years, 3 Years, 4 Years or more

DI3: How long did it take for you to complete your Doctorate degree?
2 Years, 3 Years, 4 Years, 5 years, 6 or more years

DI4: Are you currently employed in the field of Instructional Technology? Yes, No

DI5: Overall how well did your degree in Instructional Technology prepare you for working in the field? Very well, Well, Undecided, Not well, Not at all

DI6: How long did it take from your graduation date until you were employed?
A company hired me prior to my graduation date
1 month or less

2-3 months
4-5 months
6 months or more
I was employed before starting graduate school and continued with that job

DI7: What is your current salary in US dollars?
Less than $40,000, $40,000-$50,000, $50,000-$60,000; $60,000-$70,000; $70,000 or more

DI8: How satisfied are you with your current job?
Very satisfied, Satisfied, Undecided, Dissatisfied, Very dissatisfied

DI9: How much influence did your degree in Instructional Technology have in getting your first job after graduation?
A lot, Some, Undecided, Not much, None

DI10: How much influence did your degree in Instructional Technology have in getting your current job?
A lot, Some, Undecided, Not much, None

DI11: How much influence did Utah State faculty/staff have in getting your first job after graduation?
A lot, Some, Undecided, Not much, None

DI12: How often do you use skills and/or training at work that you acquired through your Instructional Technology degree?
Always, Often, Undecided, Sometimes, Never

DI13: Which of the following interest you? Please tick any that apply and provide a comment
News/Updates from the IT department
Short Courses
Reunions

DI14: Would you recommend USU's IT program to a friend who was considering graduate school?
Strongly Recommend, Recommend, Undecided, Would not Recommend, Strongly Discourage

DI15: What was the best thing about your experience in Instructional Technology at Utah State University?

DI16: What would you change about the Instructional Technology program at Utah State University?