MIT Program
MASTER OF SCIENCE IN INSTRUCTIONAL TECHNOLOGY

MIT Program at UNCW: Are the current competencies geared towards preparing students for employment after graduation?

MIT Program Competencies and AECT New Definition Problem

MIT 530: Evaluation and Change in Instructional Development
Needs Assessment Report

Submitted by

Amanda Blakley
Erin Gunter
Kara Lee
Whitney McSwain

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Executive Summary

The Master of Science in Instructional Technology (MIT) program, housed in the Watson School of Education, is offered through the University of North Carolina Wilmington. MIT is one of 30 master's programs offered at UNCW, and has been existence since the year 2000. The program provides two tracks for professionals: the M-licensure certification and the degree seeking track. Upon completion of the MIT program, students are prepared for a range of highly competitive professional areas such as: business and industry, public and private K-12 education, military, government, health institutions, as well as higher education.

Currently the MIT program serves 16 students and is overseen by Dr. Vance Durrington. The program has four full-time faculty members, two part-time faculty members, and two technical supporting staff members. The program consists of 36 credit hours: 15 hours of foundation courses, 15 hours of specialty area courses, 2 hours of seminar series colloquium, 1 hour of professional internship, and 3 hours of portfolio or thesis work. Throughout the completion of these courses students are educated on current topics within the instructional technology field and gain the knowledge needed to compete with other professionals when seeking employment.

The Association of Education and Communication Technology (AECT) is a highly regarded association in the instructional technology field. Originally, the MIT program was designed around the AECT's 1994 definition of instructional technology. As of 2008, the AECT changed their definition of instructional technology and the faculty of the program wants to know if they are providing students with the most current education.

In an attempt to identify and define the needs of the program in terms of adjusting the curriculum to meet the new definition, several steps were taken:

1. Research and comparison of the new AECT definition with the old definition
2. Conduct an interview with Dr. Chen (Professor in the MIT program/SME)
3. Facilitating an online survey, submitted to 126 MIT Alumni and other IT professional
4. Analyze the survey responses (47.6 percent response rate)

Upon completion of the survey, responses yielded several common factors including:

1. All current competencies offered by the MIT program at UNCW are regarded as important or very important by the survey respondents.
2. Although all competencies were important, not all competencies are regarded by the survey respondents as requirements in the work place.

The survey yielded results that were concentrated in the K-12 education field. Therefore, it did not adequately reflect the attitudes, skill sets, and knowledge requirements of professional in business/industry, higher education, healthcare, military, and government. As a result, we have concluded that further research in the other job fields is necessary to determine the relevance current competencies offered by the MIT program at UNCW.

Based on our data, the current competencies are important but not necessarily required in the work place. It is recommended to use the data from this needs assessment report to determine which competencies to focus on and which ones are not functional in the workplace. It is also recommended that the MIT program at UNCW conducts further research in fields other than K-12 education. A follow-up interview with K-12 personnel and MIT alumni should be conducted to further explore the attitudes reflected in the survey responses. A job analysis should also be conducted and cross-referenced with the results of our research.

Introduction

Context

The University of North Carolina Wilmington (UNCW) is a division of North Carolina's higher education system. Within this institution is the Master of Science in Instructional Technology (MIT) program, which is housed in the Watson School of Education. MIT is one of 30 master's programs offered at UNCW, and has been in existence since the year 2000. The program provides two options for professionals: the M level licensure certification and the degree seeking track. After completion of the MIT program, professionals are prepared for a range of highly competitive professional areas such as: business and industry, public and private K-12 education, military, government, health institutions, as well as higher education. The MIT program is highly specialized and the faculty pride themselves on tailoring the content and instruction to best fit student needs. Courses are offered virtually through an online learning environment as well as on-campus in a face to face setting. Usually a student will experience both types of learning environment during their experience within the MIT program.

Currently the MIT program serves 16 students and is overseen by Dr. Vance Durrington. The program has four full-time faculty members, two part-time faculty members, and two technical supporting staff members. The program consists of 36 credit hours: 15 hours of foundation/core courses, 15 hours of specialty/focus area courses, 2 hours of a seminar series colloquium, 1 hour of professional internship, and 3 hours of portfolio or thesis work. Throughout the completion of these courses students are educated on current topics within the instructional technology field and gain the knowledge needed to compete with other professionals when seeking employment.

The MIT program is aimed at preparing students for employment upon graduation in a wide range of professional roles which include, but are not limited to:

- Instructional Design and Development
- Instructional Delivery Systems and Implementation
- Assessment, Evaluation, and Research
- Materials and Media Development/Production
- Program Management and Organizational Development
- Emerging and innovative technologies

The courses offered within the MIT program are designed to teach concepts, principles, and methods for using technology as a tool for instruction.

Purpose

During MIT 530 Evaluation and Change in Instructional Development, there was a discussion held based on our current MIT program and the courses offered. Dr. Sue Jen Chen, a full time professor, expressed concern that the MIT faculty and staff want to make sure they are adequately preparing graduates for the work force. She further explained that the MIT program was designed around the Association of Education and Communication Technology's (AECT) 1994 definition of instructional technology, which is defined using five main domains. According to the AECT's old definition, the field of instructional technology was based on theory and practice in design, development, utilization, evaluation, and management. As of 2008, the AECT changed their definition of instructional technology and the faculty of the program wants to know if they are providing students with the most current education.

Aside from the change in the AECT definition, the MIT program faculty are also concerned that jobs in the industry have changed their job requirements/expectations, skill sets, and knowledge bases to better fit current technology trends. The MIT program identified that they need to prepare students for existing professions and also for jobs that do not yet exist in our technology dependent society. The program also desires that students will be on the competitive edge when they graduate, thus finding a job is immediate after graduation.

The purpose of this needs assessment is to evaluate the current MIT curriculum in order to make changes to the structure of the program. AECT has revised their definition of instructional technology and released the definition in 2008. Since the beginning of the MIT program at UNCW, careers as an instructional technologist have also changed in terms of the knowledge and skills that are expected from perspective employees. This needs assessment will focus on alterations that can be made to progress the program and provide students with the knowledge and skills needed to enter the workforce. MIT alumni, MIT faculty, higher education faculty, and Principals and Assistant Principals from K-12 schools, will participate in this assessment, involving both surveying and interviewing. The results of the needs assessment will then be communicated to stakeholders to propose solutions to the current problem facing the MIT program at UNCW.

Needs Assessment Process

Description of Needs Assessment Methodology

The model that was used to conduct the needs assessment for the UNCW MIT program is Allison Rossett's Training Needs Assessment (TNA) model. This model was chosen due to Rossett's focus on purpose-based TNA and because it determined the following: the optimal levels of performance/knowledge, the actual levels of the performance/knowledge, the feelings of the stakeholders, the possible causes of the problem, and the proposed solutions to the problem (1987). Optimal performance/knowledge regarding the new AECT definition, actual performance/knowledge regarding the current MIT competencies at UNCW, and feelings/attitudes of the stakeholders regarding the problem were collected utilizing Rossett's model. Possible causes to the current problem that face the MIT program at UNCW were discovered as a result of collecting data and opinions from stakeholders.

The TNA team addressed the six steps of Rossett's model to conduct the needs assessment: Assess the Context, Determine Purposes, Select Techniques and Tools, Develop a TNA Plan, Develop Stage Planner(s), and Communicate Results (227).

- Assess the Context – during this step the TNA team determined the following: who wants or doesn't want the problem solved, the current performance problem or innovation needed, who served as sources for this information, what records were available, the amount of support that the project will have, and who else needs to know about the findings of the project.
- Determine Purposes – during this step the TNA team determined the optimal levels of performance/knowledge, actual levels of the performance/knowledge, the feelings of the stakeholders, the possible causes of the problem, and the solutions to the problem.
- Select Techniques and Tools – during this step the TNA team reviewed the possible techniques: extant data analysis, needs assessment, or subject matter analysis and task analysis. Then the TNA team took a look at the tools available: interviews, observations, group meetings, surveys or questionnaires. The TNA team then determined which techniques or tools would be used to conduct the needs assessment.

- Development of a TNA Plan – during this step the TNA team wrote down what they had discovered using a Training Needs Assessment Planner that is supplied in Rossett's book. This planner allowed the TNA team a guide to follow for the activities that happened during the TNA process. The plan determined the stages that would be conducted during the needs assessment, the techniques to be used, the tools that will be utilized, and an explanation of the context and purposes. The TNA team also kept in mind that the TNA planner is tentative schedule and is subject to change.
- Develop Stage Planners – during this step the TNA team took a closer look at the different stages to be used in conducting the needs assessment process. This step completes Rossett's stage planner for each particular stage of the needs assessment.
- Communicating Results – during this step the TNA team communicated results during the needs assessment process to tell stakeholders what has been learned and the implications for solving the problem. The TNA team will also communicate results to the stakeholders afterwards that share the results and make the necessary recommendations.

To gather the data that was necessary for this needs assessment the following techniques were: extant data analysis (Stage One), interviews with subject matter experts (Stage Two), and a survey distributed to all MIT alumni and K-12 personnel in New Hanover County (Stage Three). The following tables describe the context, purposes, data collection stages, and the tools used for the data collection process:

TNA Planner Context

Resources	Constraints
Subject Matter Expert • Dr. Chen • Dr. Ritzhhaupt	Limited extant data
Project Contact Individual • Dr. Chen	Very limited budget
MIT Program Faculty	Short timeline
Alumni from the MIT Program at UNCW	Limited time and resources to collect data, small survey population
Higher Education Faculty	Small survey population, limited time to collect data
K-12 Principals and Assistant Principals	Small survey population, limited time to collect data

TNA Planner Purposes

TNA Planner Purposes		
Description	Status	Sources
Optimal	Students receive more skill based training. Students receive exposure to more types of software. MIT program is parallel to the	Subject Matter Analysis, Extant Data Analysis, Subject Matter Expert, Project Contact Individual, MIT Program Faculty, K-12 Personnel, MIT

	new AECT definition.	Alumni, Higher Education Faculty
Actual	The current MIT curriculum prepares its graduates to meet the basic requirements of an Instructional Designer. The current MIT curriculum is not aligned with the newest AECT definition of Instructional Technology which was revised in 2008.	Subject Matter Analysis, Subject Matter Expert, Extant Data Analysis, Project Contact Individual, MIT Program Faculty, MIT Alumni, K-12 Personnel, Higher Education Faculty
Feeling	The program may need to be adjusted in order to focus more on skills that are needed as an Instructional Designer.	Project Contact Individual, MIT Program Faculty, MIT Alumni, K-12 Personnel, Higher Education Faculty
Causes	Change in AECT definition, Changes in the workforce, changes in software being utilized by Instructional Designers, changes in technology and overall increase in the use of Instructional technology.	Subject Matter Analysis, Extant Data Analysis, Project Contact Individual, MIT Program Faculty, AECT new definition of instructional technology, K-12 Personnel, Higher Education Faculty, MIT Alumni
Solution	Current competencies are adequate but further research in all related fields except K-12 is needed.	Subject Matter Experts, Project Contact Individual, MIT Program Faculty

TNA Planner Techniques and Tools

TNA Planner Techniques and Tools		
Stage	Technique	Tools and Sources
1	Extant Data Analysis	Analyze current competencies of the MIT program; Analyze current learning domains: instructional design, instructional development, utilization, management, and evaluation
2	Subject Matter Analysis	Conduct a review of the relevant materials to familiarize the TNA team with information regarding the new AECT definition of instructional technology. Conduct an interview with

		Subject Matter Expert
3	Needs Assessment	Survey –MIT faculty, MIT Alumni, Higher Education faculty, and K-12 Personnel Survey contains questions that address: knowledge bases, skill sets, attitudes, and new trends

Data Collection

In order to identify the needs the needs and adjustments necessary to parallel the program with the new AECT definition, 3 phases of data collection were completed. Phase 1 of the data collection consisted of an Extant Data Analysis. The currently used learning domains: instructional design, instructional development, utilization, management, and evaluation were analyzed. Phase 2 of the data collection entailed a subject matter analysis. A review of the relevant materials was conducted in order to familiarize the TNA team with information regarding the new AECT definition of instructional technology. An interview was also conducted with the Subject matter expert from the MIT department, Dr. Chen.

After collecting and reviewing this information, the TNA team formulated questions and built a survey to be used to gather information in reference to job requirements and other relevant information within the MIT field. Phase 3 of the data collection included a survey sent via e-mail to 126 recipients including MIT Alumni and K-12 personnel. This survey was sent on March 23, 2009 and the response cutoff date was March 30, 2009.

After collecting all information from the survey, the results were analyzed into statistical findings and charts of the results were formulated.

Refer to the Gant Chart in the appendix for a specific timeline of data collection. See data collection tables for a synopsis of the data.

Data Analysis and Findings

<u>Description of Data Analysis Methods and Process</u>

Stage 1: Analysis of MIT program

The MIT program's website was used in the extant data analysis. The current competencies and current learning domains of the MIT program were examined to determine the context of the problem and the actual level in which the program is currently functioning. It was determined that the MIT program's goals and competencies are based on several sets of documents:

a. the core competencies for instructional/training development generated by the Task Force in Instructional Design Certification of the Association for Educational Communication and Technology (AECT) Division of Instructional Development in 1981;
   (b) competency lists generated in a study conducted at Florida State University concerning academic program requirements (1993);
   (c) competencies developed by the AECT Definition and Terminology Committee (1994), and
   (d) NCATE standards. (http://www.uncw.edu/ed/mit/competencies.html)

For the purpose of this needs assessment, the 1994 AECT definition was analyzed to compare to the MIT current competencies and learning domains. The five learning domains addressed in the MIT program are: instructional design, instructional development, utilization, management, and evaluation.
In stage one we also conducted an interview with Dr. Chen in order to gather insight and clarification about the MIT program based upon the information found on the program's website. During this interview Dr. Chen described the MIT program's desire to remain current and instructionally sound and also noted time, personnel, and budget as potential constraints in making changes to the program.

Stage 2: Subject Matter Analysis
The MIT program's competencies are heavily based on the 1994 AECT definition of instructional technology which focuses on five learning domains. The AECT knowledge base section of the website has synthesized the 1994 definition, which is as follows:

> Instructional Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning. ... The words Instructional Technology in the definition mean a discipline devoted to techniques or ways to make learning more efficient based on theory but theory in its broadest sense, not just scientific theory. ... Theory consists of concepts, constructs, principles, and propositions that serve as the body of knowledge. Practice is the application of that knowledge to solve problems. Practice can also contribute to the knowledge base through information gained from experience. ... Of design, development, utilization, management, and evaluation ... refer to both areas of the knowledge base and to functions performed by professionals in the field. ... Processes are a series of operations or activities directed towards a particular result. ... Resources are sources of support for learning, including support systems and instructional materials and environments. ... The purpose of instructional technology is to affect and effect learning (Seels & Richey, 1994, pp. 1-9).

The article titled "Reflections on the 2008 AECT Definitions of the Field" was analyzed to determine the new definition and professional perspectives of it.
The new definition is:

> Educational Technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources.(AECT)

The most obvious observation comparing the new AECT definition with the old one is the fact that the 2008 definition is simplified and condensed while taking a more general approach. Based on the new definition, the five learning domains previously outlined in the 1994 definition are eliminated. It has been interpreted based on the new definition that themes from the five learning domains are incorporated into the new definition. The new definition also incorporates the concept of continually studying and practicing best practices of facilitating learning and performance through creation and management of technological processes.

Stage 3: Electronic Survey of MIT Alumni and K-12 personnel

The purpose was to gather information concerning:

1. MIT Alumni views and perceptions of the skills and knowledge required by their jobs as opposed to the competencies covered in the MIT program.
2. K-12 administrators' views and perceptions of skills and knowledge required for instructional technologists in the public school setting.
3. K-12 personnel's views and perceptions of skills and knowledge required for their instructional technology related position.

Results of the Analysis

Due to the number of independent variables included in the survey, it is necessary to present the most important findings for each variable. The most notable statistical findings were found from cross-tabulations. The cross-tabulations were used to determine interdependent relationships between the independent variables (MIT alumni, people that work in the IT field, people that work in the K-12 education field, and people who make hiring decisions) and the core competencies of the MIT program at UNCW. The following are the significant findings:

MIT Alumni

- For the ethics competencies the majority of MIT alumni found that two of the ethics competencies were very important and all three were required for their positions (Ethics I1 – 86%, Ethics I3 – 71%, Ethics R1 – 95%, Ethics R2 – 62%, Ethics R3 - 100%).
- Ethics I2 was the only ethics competency where the majority of the MIT alumni found that the competency was either important or very important (76%).
- For the analysis and design competencies the majority of MIT alumni found that all seven of the competencies were very important (Anal_Design I1 – 74%, Anal_Design I2 – 74%, Anal_Design I3 – 74%, Anal_Design I4 – 84%, Anal_Design I5 – 74%, Anal_Design I6 - 84%, Anal_Design I7 – 89%).
- For the analysis and design competencies the majority of the MIT alumni found that all the competencies were required by their positions (Anal_Design R1 – 95%, Anal_Design R2 – 79%, Anal_Design R3 – 89%, Anal_Design R4 – 95%, Anal_Design R5 – 84%, Anal_Design R6 - 95%, Anal_Design R7 – 95%).
- For the development competencies the majority of MIT alumni found that five of the competencies were very important, while there was an even split between important and very important for one competency. The design and produce podcasts (Develop I7) competency was identified as somewhat important (Develop I1 – 56%, Develop I2 – 67%, Develop I3- 50%, 50%, Develop I4 – 56%, Develop I5 – 39%, Develop I6 - 39%, Develop I7 – 44%).
- For the development competencies the majority of the MIT alumni found that five of the competencies were required by their positions (Develop R1 – 94%, Develop R2 –100%, Develop R3 – 94%, Develop R4 – 83%, Develop R7- 78%). For two competencies there was a marginal difference for which MIT alumni are required or not required for their positions (Develop R5 – 50%- 50%, Develop R6 – 56%).
- For the management competencies the majority of MIT alumni found that all competencies were very important and all were required for their positions (Manage I1 – 78%, Manage I2 – 50%, Manage I3 – 67%, Manage I4 – 56%, Manage I5 – 89%, Manage I6 - 83%, Manage R1 – 83%, Manage R3 – 61%, Manage R4 – 56%, Manage R5 – 100%, Manage R6 - 94%).

- Manage R2 was the only management competency where the majority of the MIT alumni found that the competency was not required by their positions (56%).
- For the utilization competencies the majority of MIT alumni found that all competencies were very important and all were required for their positions (Utilize I1 – 72%, Utilize I2 – 56%, Utilize I3 – 67%, Utilize R1 – 89%, Utilize R2 – 72%, Utilize R3 - 83%).
- For the evaluation competencies the majority of K-12 personnel found that all competencies were between important and very important and all were required for their positions (Eval I1 – 71%, Eval I2 – 59%, Eval R1 – 88%, Eval R2 – 65%).
- For the research competencies the majority of MIT alumni found that all competencies were between important and very important and only one (Research R2 – 59%) was required for their positions (Research I1 – 53%, Research I2 – 71%, Research I3 – 71%).
- Research R1 (71%) and Research R3 (53%) were not required by the majority of MIT alumni.

People that work in the IT Field

- For the ethics competencies the majority of IT professionals found that two of the ethics competencies were very important and all three were required for their positions (Ethics I1 – 84%, Ethics I3 – 73%, Ethics R1 – 96%, Ethics R2 – 67%, Ethics R3 - 100%).
- Ethics I2 was the only ethics competency where the majority of the IT professionals found that the competency was either important or very important (75%).
- For the analysis and design competencies the majority of IT professionals found that all but one of the competencies were very important and all were required for their positions (Anal_Design I1 – 63%, Anal_Design I2 – 55%, Anal_Design I3 – 58%, Anal_Design I4 – 68%, Anal_Design I6 - 61%, Anal_Design I7 – 82%, Anal_Design R1 – 79%, Anal_Design R2 – 84%, Anal_Design R3 – 76%, Anal_Design R4 – 84%, Anal_Design R5 – 71%, Anal_Design R6 - 79%, Anal_Design R7 – 95%).
- Anal_Design I5 was the only analysis and design competency where the majority of the IT professionals found that the competency was either important or very important (82%).
- For the development competencies the majority of IT professionals found that all of the competencies were either important or very important (Develop I1 – 86%, Develop I2 – 89%, Develop I3 – 95%, Develop I4 – 84%, Develop I5 – 62%, Develop I6 - 59%, Develop I7 – 51%).
- For the development competencies the majority of the IT professionals found that four of the competencies were required by their positions (Develop R1 – 84%, Develop R2 – 84%, Develop R3 – 89%, Develop R4 – 73%). But the following three competencies were not required by IT professionals (Develop R5 – 57%, Develop R6 - 57%, Develop R7 – 65%).
- For the management competencies the majority of IT professionals found that all competencies were either important or very important and all were required for their positions except one competency (Manage I1 – 69%, Manage I2 – 83%, Manage I3 – 81%, Manage I4 – 81%, Manage I5 – 100%, Manage I6 - 100%, Manage R1 – 78%, Manage R3 – 58%, Manage R4 – 53%, Manage R5 – 100%, Manage R6 - 97%).

- Manage R2 was the only management competency where there was no majority and it was found that only 50% of IT professionals are required to meet this specific competency.
- For the utilization competencies the majority of IT professionals found that all competencies were very important and all were required for their positions (Utilize I1 – 69%, Utilize I2 – 53%, Utilize I3 – 69%, Utilize R1 – 78%, Utilize R2 – 67%, Utilize R3 - 81%).
- For the evaluation competencies the majority of IT professionals found that all competencies were either important and very important and all were required for their positions (Eval I1 – 88%, Eval I2 – 85%, Eval R1 – 79%, Eval R2 – 68%).
- For the research competencies the majority of IT professionals found that all competencies were between important and very important and two (Research R2 – 62%, Research R3 – 53%) were required for their positions (Research I1 – 56%, Research I2 – 74%, Research I3 – 68%).
- Research R1 (68%) was not required by the majority of IT professionals.

People that work in the K-12 Education Field

- For the ethics competencies the majority of K-12 personnel found that two of the ethics competencies were very important and all three were required for their positions (Ethics I1 – 88%, Ethics I3 – 80%, Ethics R1 – 98%, Ethics R2 – 68%, Ethics R3 - 98%).
- Ethics I2 was the only ethics competency where the majority of the K-12 personnel found that the competency was either important or very important (81%).
- For the analysis and design competencies the majority of K-12 personnel found that all seven of the competencies were either important or very important (Anal_Design I1 – 91%, Anal_Design I2 – 94%, Anal_Design I3 – 91%, Anal_Design I4 – 91%, Anal_Design I5 – 77%, Anal_Design I6 - 86%, Anal_Design I7 – 100%).
- For the analysis and design competencies the majority of the K-12 personnel found that all the competencies were required by their positions (Anal_Design R1 – 77%, Anal_Design R2 – 87%, Anal_Design R3 – 66%, Anal_Design R4 – 80%, Anal_Design R5 – 57%, Anal_Design R6 - 63%, Anal_Design R7 – 94%).
- For the development competencies the majority of K-12 personnel found that six of the competencies were either important or very important and the design and produce podcasts (Develop I7) competency was between somewhat important or important (Develop I1 – 83%, Develop I2 – 80%, Develop I3 – 86%, Develop I4 – 83%, Develop I5 – 60%, Develop I6 - 57%, Develop I7 – 74%).
- For the development competencies the majority of the K-12 personnel found that four of the competencies were required by their positions (Develop R1 – 69%, Develop R2 – 63%, Develop R3 – 74%, Develop R4 – 57%). But the following three competencies were not required by K-12 personnel (Develop R5 – 71%, Develop R6 - 77%, Develop R7 – 69%).
- For the management competencies the majority of K-12 personnel found that all competencies were between important and very important and all were required for their positions except one competency (Manage I1 – 88%, Manage I2 – 67%, Manage I3 – 73%, Manage I4 – 79%, Manage I5 – 100%, Manage I6 - 100%, Manage R1 – 73%, Manage R2 – 64%, Manage R3 – 63%, Manage R5 – 100%, Manage R6 - 100%).

- Manage R4 was the only management competency where the majority of the K-12 personnel found that the competency was not required by their positions (56%).
- For the utilization competencies the majority of K-12 personnel found that all competencies were between important and very important and all were required for their positions (Utilize I1 – 100%, Utilize I2 – 88%, Utilize I3 – 100%, Utilize R1 – 70%, Utilize R2 – 52%, Utilize R3 - 79%).
- For the evaluation competencies the majority of K-12 personnel found that all competencies were between important and very important and all were required for their positions (Eval I1 – 87%, Eval I2 – 87%, Eval R1 – 81%, Eval R2 – 84%).
- For the research competencies the majority of K-12 personnel found that all competencies were between important and very important and only one (Research R2 – 65%) was required for their positions (Research I1 – 52%, Research I2 – 77%, Research I3 – 65%).
- Research R1 (58%) and Research R3 (52%) were not required by the majority of K-12 personnel.

People who make Hiring Decisions

- For the ethics competencies the majority of people that make hiring decisions found that all of the ethics competencies were very important and all three were required for their positions (Ethics I1 – 87%, Ethics I2 - 61%, Ethics I3 – 83%, Ethics R1 – 100%, Ethics R2 – 83%, Ethics R3 - 96%).
- For the analysis and design competencies the majority of people that make hiring decisions found that all competencies were either important or very important and all were required for their positions (Anal_Design I1 – 100%, Anal_Design I2 – 100%, Anal_Design I3 – 100%, Anal_Design I4 – 100%, Anal_Design I5 – 89%, Anal_Design I6 - 94%, Anal_Design I7 – 100%, Anal_Design R1 – 94%, Anal_Design R2 – 94%, Anal_Design R3 – 67%, Anal_Design R4 – 84%, Anal_Design R5 – 61%, Anal_Design R6 - 61%, Anal_Design R7 – 94%).
- For the development competencies the majority of people that make hiring decisions found that all of the competencies were either important or very important except Develop I7 which had no majority (Develop I1 – 94%, Develop I2 – 78%, Develop I3 – 78%, Develop I4 – 89%, Develop I5 – 67%, Develop I6 - 67%).
- For the development competencies the majority of the people that make hiring decisions found that four of the competencies were required by their positions (Develop R1 – 72%, Develop R2 –61%, Develop R3 – 67%, Develop R4 – 56%). But the following two competencies were not required by people that make hiring decisions (Develop R6 – 61%, Develop R7 – 67%). Develop R5 was split with no majority to determine whether or not it was required (50%).
- For the management competencies the majority of people that make hiring decisions found that all competencies were either important or very important and all were required for their positions (Manage I1 – 83%, Manage I2 – 83%, Manage I3 – 83%, Manage I4 – 83%, Manage I5 – 100%, Manage I6 - 100%, Manage R1 – 67%, Manage R2 – 78%, Manage R3 – 72%, Manage R4 – 62%, Manage R5 – 100%, Manage R6 - 94%).
- For the utilization competencies the majority of people that make hiring decisions found that all competencies were either important or very important and all were required for

their positions (Utilize I1 – 100%, Utilize I2 – 89%, Utilize I3 – 100%, Utilize R1 – 78%, Utilize R2 – 56%, Utilize R3 - 78%).

- For the evaluation competencies the majority of people that make hiring decisions found that all competencies were either important or very important and all were required for their positions (Eval I1 – 100%, Eval I2 – 94%, Eval R1 – 94%, Eval R2 – 83%).
- For the research competencies the majority of people that make hiring decisions found that all competencies were between important and very important and one (Research R2 – 61%) was required for their positions (Research I1 – 56%, Research I2 – 78%, Research I3 – 67%).
- Research R1 (67%) and Research R3 (56%) were not required by the majority of people that make hiring decisions.

Recommendations

Interpretation of the Findings

The problem that this needs assessment addresses is whether or not current MIT program competencies prepare graduates for the work force after graduation. Also, in 2008 the AECT changed its definition of Instructional Technology and the MIT program wants to make sure that current competencies are still aligned with the new definition. The MIT program expressed concern that due to the dynamic work force the current competencies are not progressive enough to keep up with the ever-changing job market demands. From our data, we discovered two major findings:

1. All current competencies offered by the MIT program at UNCW are regarded as important or very important by MIT alumni and K-12 personnel.
2. Although all competencies were important, not all competencies are regarded, by the MIT alumni and K-12 personnel, as requirements in the work place.

Prioritization of the Findings

Recommendation	Advantages	Disadvantages
Based on our data, the current competencies are important but not necessarily required in the work place. So, use our data to determine which competencies to focus on and which ones are not functional in the workplace.	Shows MIT program that all competencies are being taught but not utilized in the work force.	The data is skewed to K-12 personnel. So, more research will need to be used to determine if the competencies are in fact required in other job fields.
Conduct a job analysis that reflects the attitudes, skill sets, and knowledge of people that are in fields other than K-12 education.	Find out the most current competencies used in fields other than K-12 education because the job market is dynamic.	Budget constraints, difficulty finding a significant number of survey respondents for each job field

Conduct informal interviews with K-12 personnel that responded to the survey.	Determine true reflections of responses given on the survey. Establish a connection using interpersonal skills and get an accurate reading on a respondents attitude about current competencies.	Budget and time constraints, conflict with getting participants, scheduling conflicts.
Conduct informal interviews with MIT alumni that responded to the survey.	Determine true reflections of responses given on the survey. Establish a connection using interpersonal skills and get an accurate reading on a respondent's attitude about current competencies.	Budget and time constraints, conflict with getting participants, scheduling conflicts.
Use data from the job analysis, the K-12 interviews, the MIT alumni interviews and our research findings to analyze the current competencies of the MIT program in more detail.	MIT program can plan to be more progressive and broaden the scope of courses to encompass current competencies that are important and required in the work force.	Time constraints, MIT personnel constraints

Utilizing the data found in the needs assessment, conducting a job analysis, and a synthesis of all data from the job analysis, this needs assessment, and informal interviews are all top priority. This information and data is already available for the MIT program to use to determine the importance and relevance of current MIT program competencies in the K-12 education field. By conducting the job analysis it can be determined which competencies are important and required in other job fields. A synthesis of all the data will then provide the MIT program with a solid understanding of whether or not the current competencies are in fact preparing graduates for the work force.

K-12 personnel and MIT alumni informal interviews are seen as the mid-level priorities. They will be beneficial for determining detailed information about attitudes, skills sets, and knowledge in regards to the current competencies utilized in the work force. These interviews will take more time because there are budget and time constraints and possible scheduling conflicts that would delay the process.

Recommendations

All job fields that require instructional technology should be surveyed, with the exception of the MIT Alumni and K-12 personnel in order to get a comprehensive evaluation of current knowledge, skills, and requirements in the job market. A sample population from each job field should be chosen based on the total number of responses received back to the MIT program. Using this method would randomize the selection process and provide valid data.

A job analysis would support survey findings and provide insight on types of skills and knowledge that are required in the current job market. Upon completion the job analysis should be compared to the current MIT program competencies, as well as the survey responses. Time

and personnel are a constraint, therefore it is recommended that the job analysis be performed electronically, quantified, and analyzed using a statistics program.

Follow up interviews with MIT Alumni should be completed based on those who completed the electronic survey. In order to conduct interviews with a limited budget, time, and personnel, we believe using online collaboration tools that utilize Voice over IP address (for example web conferencing tools that utilize a headset with microphone) or using a telephone. Either of these tools will be simple, cost-effective, and efficient considering the current budget limitations and dim economy.

Finally, it is believed that time, budget, and personnel constraints can be alleviated by re-examining, analyzing, and comparing the data that the MIT program already has based on this research. Through this research it has been found that all of the competencies in the MIT program are valued as important or very important, but they are not all required in the work force. Therefore, in conjunction with information from other job fields through surveys and analysis, the curriculum should be adjusted to reflect new or additional skills and knowledge that are deemed important.

Appendices

Gantt Chart

TNA Planner

TNA Stage Planner Stage One

1. Subject of TNA: Determine the competencies that should be addressed at UNCW so that students in the MIT program acquire knowledge and skills that are aligned with the new AECT definition of instructional technology and become competitive in today's job market.
2. Stage #: 1
3. Summary of what you know about the subject:
    - Currently, the MIT program competencies are not aligned with AECT's new definition of instructional technology. The desired optimal goal is that the MIT program at UNCW will incorporate competencies that are aligned with the new definition and prepare students for employment after graduation.
    - Following the preliminary interview, the organizational structure, budget, and mission have been identified.
4. Summary of information being sought:
    - Analyze current competencies of the MIT program
    - Analyze current learning domains: instructional design, instructional development, utilization, management, and evaluation
    - Analyze job analysis from Subject Matter Expert
5. TNA Tools:
    - Extant Data
6. Questions/Agenda
    - Gain a sense of the problem
    - Understand the current competencies
    - Understand the old definition of instructional technology according to the MIT program at UNCW
    - Understand current research on the instructional technology job market – job requirements, skill sets requirements, and knowledge base requirements

TNA Stage Planner Stage Two

1. Subject of TNA: Determine the competencies that should be addressed at UNCW so that students in the MIT program acquire knowledge and skills that are aligned with the new AECT definition of instructional technology and become competitive in today's job market.
2. Stage #: 2
3. Summary of what you know about the subject:
    - Currently, the MIT program competencies are not aligned with AECT's new definition of instructional technology. The desired optimal goal is that the MIT program at UNCW will incorporate competencies that are aligned with the new definition and prepare students for employment after graduation.

- At this stage, we have the information about the current courses, current competencies, and the current domains of the MIT program that are aligned with an out-dated definition of instructional design.

4. Summary of information being sought:
    - Conduct a review of the relevant materials and talk to a Subject Matter Expert to familiarize the TNA team with information regarding the new AECT definition of instructional technology and job requirements.
5. TNA Tools:
    - Review of materials
6. Questions/Agenda
    - Understand the new definition of instructional technology according to AECT
    - Understand the new job requirements of instructional technology professionals

TNA Stage Planner Stage Three

1. Subject of TNA: Determine the competencies that should be addressed at UNCW so that students in the MIT program acquire knowledge and skills that are aligned with the new AECT definition of instructional technology and become competitive in today's job market.
2. Stage #: 3
3. Summary of what you know about the subject:
    - Currently, the MIT program competencies are not aligned with AECT's new definition of instructional technology. The desired optimal goal is that the MIT program at UNCW will incorporate competencies that are aligned with the new definition and prepare students for employment after graduation.
    - At this stage, the TNA team has an understanding of the current courses, competencies, and domains used by the MIT program at UNCW. The team also knows the new definition. Both optimal levels and actual levels are therefore known at this stage.
4. Summary of information being sought:
    - Survey –MIT faculty, MIT Alumni, Higher Education faculty, and K-12 Personnel
    - Survey contains questions that address: knowledge bases, skill sets, attitudes, and new trends
5. TNA Tools:
    - Surveys
6. Questions/Agenda
    - Determine levels of knowledge
    - Determine levels of skill
    - Determine the needs of the program
    - Determine the attitudes and opinions of alumni, faculty, and K-12 personnel

Data Collection Instrument Cover Letter

Data Collection Instrument

SPSS Data

SPSS Data Output

References

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