

M.Ed. in Educational Technology Program Portfolio Guidelines

What is a Portfolio?

The purpose of the portfolio requirement is to provide you with a "capstone" experience, one that demonstrates the breadth and depth of what you have learned throughout your course of study and integrates them into a whole to represent the abilities you are taking with you to advance your career. Overall consider how to personalize your portfolio so that it reflects who you are and what you have developed throughout the program.

The portfolio is NOT supposed to be a mere record of the work you did in the Educational Technology program. DO NOT assemble your portfolio simply to document your course work or project work in the program. The portfolio is NOT a document produced to a standard specification. It must be unique to you and your professional goals -- one of the primary measures of success for your portfolio is the degree to which it supports your statement of professional goals.

What should go in the Portfolio?

- **Statement of Professional Goals**
Your goals statement should describe specifically the kind of position you expect to hold when you graduate and articulate your critical skills or competencies that are relevant to your career goals.
- **Artifacts/Samples of Work**
Artifacts are authentic products or by-products of your activities that serve as indicators of your skills and abilities presented in a manner that is attractive and easy to understand. These activities may have been conducted with a team or alone, inside or outside school. They do not necessarily have to be class projects, as long as they are activities that demonstrate skills relevant to your professional goals. **Overall consider how to personalize your portfolio so that it reflects who you are and how you have developed throughout the program.**
- **Tips for Artifacts**
 - ✓ Define the organization for your artifacts – if you use ADDIE or AECT, then be sure to define each area; as not all viewers might know what ADDIE is or how you might define each area. Also define or discuss what the ADDIE process is or who is AECT.
 - ✓ Compare and contrast (if you can)
For each area you can choose a project or assignment that might have been developed early in course vs. one in which you can demonstrate your improvement (i.e., early web page vs. a later web page; early flash project vs. later flash project).
 - ✓ Break up individual projects so if you have links to all your projects for 603, then break up which ones you want to use as individual artifacts.
 - ✓ Make sure it is clear to the evaluators that you have addressed all the skills and artifacts that are required.
 - ✓ If you use an artifact for more than one area then be sure to write a different performance indicator for that artifact so that it is tailored to the specific area.
- **Annotation**
Annotation is concise, accurate prose to provide a complete picture of where this artifact came from. It should be presented in a consistent format. Annotation for each artifact may include the following categories of information:
 - ✓ Context: Where and when was the work done? (e.g., class project, internship project, etc.)

- ✓ Conditions: What were some of the constraints and/or resources in completing the project? Also discuss the condition as it relates to AECT standards (e.g., access to equipment/personnel, schedule, budget, etc.)
- ✓ Scope: What is the current status of the project? (e.g., prototype, draft, proposal, a revision of existing material, a complete product currently used by 5 schools, etc.)
- ✓ Role: What were your major contributions to the project? (e.g., your designated roles in the project if it was completed as a group)
- ✓ Performance indicator: Which of the following performance indicators is this project qualified for – Analysis, Design, Development, Implementation, Evaluation, and/or Dissemination?

- **Reflection/Synthesis**

The portfolio should include a final statement synthesizing and reflecting on what was learned throughout the program. In addition you might want to consider a short reflection after each artifact.

Curriculum Vitae

Performance Indicators

Students should demonstrate the AECT Standards and can include reference to the ADDIE performance standards. AECT Standards at the end of this document.

- **Design.** Candidates demonstrate the knowledge, skills, and dispositions to design conditions for learning by applying principles of instructional systems design, message design, instructional strategies, and learner characteristics.
- **Development.** Candidates demonstrate the knowledge, skills, and dispositions to develop instructional materials and experiences using print, audiovisual, computer-based, and integrated technologies.
- **Utilization.** Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.
- **Management.** Candidates demonstrate knowledge, skills, and dispositions to plan, organize, coordinate, and supervise instructional technology by applying principles of project, resource, delivery system, and information management
- **Evaluation.** Candidates demonstrate knowledge, skills, and dispositions to evaluate the adequacy of instruction and learning by applying principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and long-range planning.

ADDIE

- **Analysis:** collections and interpretations of data that will impact the design of instructional project/product
- **Design:** creations of design prototypes or “instructional blueprints” based on the results of analysis
- **Development:** productions of instructional materials and/or activities
- **Implementation:** utilizations of instructional materials and/or activities to facilitate student learning
- **Evaluation:** formative and summative evaluations of instructional materials and/or activities
- **Dissemination:** presentations and publications of instructional design/educational technology knowledge and skills

Criteria	Description of Criteria
Statement of Professional Goals	The goals statement provides a specific description of the professional position the candidate expects to hold and a clear articulation of competencies and critical skills relevant to career goals.

Criteria	Description of Criteria
Artifacts/ Samples of Work **	All artifacts and work samples are authentic products or by-products of your activities and are of high quality; they are clear and direct indications of your skills and abilities. Artifacts demonstrate your mastery of AECT Standards and ability to apply instructional design principles. **See list of required artifacts.
Annotation	Full annotation for each artifact is provided in a consistent format and concise, accurate prose. Each annotation MUST include information regarding the context, conditions, scope, role, and related performance indicator . Include a clear explanation of how the artifact demonstrates that specific performance indicator. Citations of both the ADDIE Model and AECT standard are required. Annotations illustrate the ability to critique one's own work.
Reflection/ Synthesis	The synthesis statement clearly conveys what was learned throughout the program with multiple examples of growth in knowledge, skills, and dispositions related to the AECT standards. Reflections clearly describe why artifacts in the portfolio demonstrate achievement of the program objectives.
Use of Multimedia	All of the graphics, sound, video and other multimedia enhance the portfolio presentation, create interest, and are appropriately used. Information is included concerning the size of most of the files when providing links to images, sounds, movies, or other files. Creativity and original ideas enhance the content of the portfolio in an innovative way. Ethical issues are addressed with regards to copyright, 508 accessibility standards, and usability.
Ease of Navigation	All of the portfolio navigation links and all sections connect back to the main table of contents. The portfolio navigation is highly intuitive. Any external links to connecting web sites link appropriately.
Layout and Text Elements	The portfolio is easy to read with CSS applied for the visual organization and presentation of color and style of information. The layout uses horizontal and vertical white space appropriately.

Artifacts

Overall portfolio demonstrates ability to discuss instructional systems design and apply one model. All artifacts align to ADDIE and AECT.	
	** Artifacts represent & demonstrate the following knowledge and skills **
	Application of learning theory, identify and write objectives and analyze tasks.
	Development of a unit or instructional plan for specific learners and accommodations for learners with special needs.
	Use of variety of assessment measures to determine the adequacy of learning – application of formative and summative measure.
	Selection of instructional and motivational strategies appropriate for a variety of learner characteristics and learning situations.
	Knowledge of how learner characteristics can influence the selection, design, and implementation of instructional strategies.

	Application of evaluation techniques for redesign and increased effectiveness of the product.
	Use of techniques of storyboarding for the development of a product.
	Development of materials for and issues involving distance delivery and distance delivery technologies.
	Indicates group work involving interpersonal skills and team building.
	Application of project management techniques in various learning and training contexts.
	Application of problem analysis skills in technology contexts (conduct needs assessments, identify and define problems, identify constraints, identify resources, define learner characteristics, define goals and objectives in instructional systems design)
	Development and application of criterion-referenced measures or formative and summative evaluation strategies or develop a long range strategic plan for a technology context.

Portfolio Hints and suggestions

- 1- Define the organization for your artifacts – if you use ADDIE or AECT, then be sure to define each area; as not all viewers might know what ADDIE is or how you might define each area. Also define or discuss what the ADDIE process is or who is AECT.
- 2- Compare and contrast (if you can)
For each area you can choose a project or assignment that might have been developed early in course vs. one in which you can demonstrate your improvement (i.e., early web page vs. a later web page; early flash project vs. later flash project).
- 3- Break up individual projects so if you have links to all your projects for 603, then break up which ones you want to use as individual artifacts.
- 4- Make sure it is clear to the evaluators that you have addressed all the skills and artifacts that are required.
- 5- If you use an artifact for more than one example then reference why it belongs in more than one area (for example, a project might include analysis and design then discuss why it should be included in both areas.)
- 6- Best Practice would be that you use each artifact only once, and that you make a choice about what artifacts you want to use for each indicator.

Good practice overall:

- 1- Document the use of css templates and any images
- 2- Add links to applications if needed for pdf, flash, mov files.
- 3- Do not have links open in NEW tabs or Windows, if you do then program that information into the link information not as separate text after the link. Follow accessibility recommendations: WebAim http://www.webaim.org/techniques/hypertext/hypertext_links.php#new_window
http://diveintoaccessibility.org/day_16_not_opening_new_windows.html
WebNauts <http://www.webnauts.net/new-window.html>
Webcredible –includes code for adding info to the link <http://www.webcredible.co.uk/user-friendly-resources/web-usability/new-browser-windows.shtml>
- 4- Include Skip navigation buttons see WebAim: <http://www.webaim.org/techniques/skipnav/>

- 5- For any download add the information on type and size of document:
Checklist-(PDF 30 KB) Help students organize and manage project subtasks
- 6- Make sure that your pages have correct web headers and that they are consistent with the actual page
- 7- Make sure that main page does not use index.html-- so go to ../ this forces it to go back to the index. (. means same directory and the main page)
<http://edtech.usca.edu/student/gsenn/senn703personal/sennresume.html>

<p>For the link below, I put a single period as the link. This will look for the default file (index.html in this case) that is found in the same folder as this current document. </p>
 <p>Visit my main page - Link = .

- 8- Make sure all your links WORK and open the correct page
- 9- Spell check all documents and double check grammar
- 10- Be consistent with headers, parallelism
- 11- Include links at top and bottom of long pages.
- 12- Consider creating icons or screen shots or use color coding for links to projects as a way to distinguish them from the other text.



Example of artifact description with each aspect highlighted and separate

AECT Standard 5.1.1: (Identify and apply problem analysis skills in educational technology contexts ((e.g., conduct needs assessments, identify and define problems, identify constraints, identify resources, define learner characteristics, define goals and objectives in instructional systems design, media development and utilization, program management, and evaluation)). In order to successfully complete this staff development project, we conducted a needs analysis of our learners; identified constraints, resources and objectives; developed a website and evaluated our work.

Context: AEET/EDET 746 - Management of Technology Resources, Fall 2006. This was an online course with one meeting on the Aiken campus.

Conditions: This was a group project created by two students from the Aiken campus and two students from the Columbia campus. While it was not possible to meet, we kept in contact almost daily via email. The work ethic of this group was a definite strength. Each of us portrayed leadership skills, organization and determination to complete this assignment successfully and on time.

Be sure to write what your learned from this project and conditions you were able to overcome.

Scope: The website created for this staff development session is now posted online. We presented this site, along with an instructional session on how to use the digital cameras, download the pictures to the computer and print them. Our faculty members were very receptive and appreciative of all the lesson plans created and correlated with SC curriculum standards.

Role: This was a great group to work with. We all worked closely to complete each phase of the assignment. I was responsible for writing the design document for this project. I also assisted with the research of digital camera lesson plans and the implementation of the staff development session.

Performance Indicator: Before beginning this project, we analyzed the needs of our faculty. Being that our school had just been awarded a grant providing each grade level with a digital camera, we created a survey for teachers to complete. The results of the survey verified that teachers were interested in learning how to use the cameras and would be more likely to do so if they had lesson plan ideas to implement. We use all of this information to design and develop a staff development session and website beneficial for all. Once the site was complete, we led a staff development session for the teachers sharing our findings and teaching them how to use the cameras. At the close of the session we provided teachers with an evaluation form. Their feedback was positive and suggestions will be taken into consideration for future use.

If you use an artifact for more than one area then be sure to write a different performance indicator for that artifact so that it is tailored to that area. When you cite a standard or ADDIE principle, discuss the context. Also list the standards separately instead of in paragraph format.

- Development -

2.0.1 Select, use and apply appropriate media using design principles to produce effective learning environments, instructional and professional products. *(These lessons needed to be more interactive than basic Web pages, easily distributed throughout the state, and in a format that could be easily opened by most computers)*

2.1.4 Produce instructional and professional products using various aspects of integrated application programs. *(Creating these modules required the use of Captivate, Photoshop, Illustrator, Flash and Dreamweaver)*

Performance Indicators: *1.1.2.a Create a plan for a topic of a content to demonstrate application of the principles of macro-level design.* Our group picked the topic of data analysis and used the SC Math standards for fifth grade data analysis as a basis for our instructional plan.

AECT Standards

Standard 1: DESIGN

Candidates demonstrate the knowledge, skills, and dispositions to design conditions for learning by applying principles of instructional systems design, message design, instructional strategies, and learner characteristics.

1.1 Instructional Systems Design (ISD)

1.1.1 Analyzing: process of defining what is to be learned and the context in which it is to be learned.

1.1.2 Designing: process of specifying how it is to be learned.

1.1.3 Developing: process of authoring and producing the instructional materials.

1.1.4 Implementing: actually using the materials and strategies in context.

1.1.5 Evaluating: process of determining the adequacy of the instruction.

1.2 Message Design

“Message design involves planning for the manipulation of the physical form of the message”

1.3 Instructional Strategies

“Instructional strategies are specifications for selecting and sequencing events and activities within a lesson” (Seels & Richey, 1994, p. 31). In practice, instructional strategies interact with learning situations. The results of these interactions are often described by instructional models. The appropriate selection of instructional strategies and instructional models depends upon the learning situation (including learner characteristics), the nature of the content, and the type of learner objective.

1.4 Learner Characteristics

“Learner characteristics are those facets of the learner’s experiential background that impact the effectiveness of a learning process” (Seels & Richey, 1994, p. 32). Learner characteristics impact specific components of instruction during the selection and implementation of instructional strategies. For example, motivation research influences the selection and implementation of instructional strategies based upon identified learner characteristics. Learner characteristics interact with instructional strategies, the learning situation, and the nature of the content.

- ***Performances Indicative of the Design Standard***

Select candidate performances which are applicable to your program. The following indicators are examples of performances related to the design standard. You may wish to identify additional performance indicators related to your program.

1.1 Instructional Systems Design

1.1.a Utilize and implement design principles which specify optimal conditions for learning.

1.1.b Identify a variety of instructional systems design models and apply at least one model.

1.1.c Identify learning theories from which each model is derived and the consequent implications.

1.1.1 Analyzing

1.1.1.a Write appropriate objectives for specific content and outcome levels.

1.1.1.b Analyze instructional tasks, content, and context.

1.1.1.c Categorize objectives using an appropriate schema or taxonomy.

1.1.1.d Compare and contrast curriculum objectives for their area(s) of preparation with federal, state, and/or professional content standards.

1.1.2 Designing

1.1.2.a Create a plan for a topic of a content area (e.g., a thematic unit, a text chapter, an interdisciplinary unit) to demonstrate application of the principles of macro-level design.

1.1.2.b Create instructional plans (micro-level design) that address the needs of all learners, including appropriate accommodations for learners with special needs.

1.1.3 Developing

1.1.3.a Produce instructional materials which require the use of multiple media (e.g., computers, video, projection).

1.1.3.b Demonstrate personal skill development with at least one: computer authoring application, video tool, or electronic communication application.

1.1.4 Implementing

1.1.4.a Use instructional plans and materials which they have produced in contextualized instructional settings (e.g., practica, field experiences, training) that address the needs of all learners, including appropriate accommodations for learners with special needs.

1.1.5 Evaluating

1.1.5.a Utilize a variety of assessment measures to determine the adequacy of learning and instruction.

1.1.5.b Demonstrate the use of formative and summative evaluation within practice and contextualized field experiences.

1.1.5.c Demonstrate congruency among goals/objectives, instructional strategies, and assessment measures.

1.2 Message Design

1.2.a Apply principles of educational psychology, communications theory, and visual literacy to the selection of media for macro- and micro-level design of instruction.

1.2.b Apply principles of educational psychology, communications theory, and visual literacy to the development of instructional messages specific to the learning task.

1.2.c Understand, recognize and apply basic principles of message design in the development of a variety of communications with their learners.

1.3 Instructional Strategies

1.3.a Select instructional strategies appropriate for a variety of learner characteristics and learning situations.

1.3.b Identify at least one instructional model and demonstrate appropriate contextualized application within practice and field experiences.

1.3.c Analyze their selection of instructional strategies and/or models as influenced by the learning situation, nature of the specific content, and type of learner objective.

1.3.d Select motivational strategies appropriate for the target learners, task, and learning situation.

1.4 Learner Characteristics

1.4.a Identify a broad range of observed and hypothetical learner characteristics for their particular area(s) of preparation.

1.4.b Describe and/or document specific learner characteristics which influence the selection of instructional strategies.

1.4.c Describe and/or document specific learner characteristics which influence the implementation of instructional strategies.

Standard 2: DEVELOPMENT

Candidates demonstrate the knowledge, skills, and dispositions to develop instructional materials and experiences using print, audiovisual, computer-based, and integrated technologies.

“Development is the process of translating the design specifications into physical form” (Seels & Richey, 1994, p. 35). The domain of development includes four sub-domains : Print Technologies, Audiovisual Technologies, Computer-Based Technologies, and Integrated Technologies. Development is tied to other areas of theory, research, design, evaluation, utilization, and management.

2.1 Print Technologies

“Print technologies are ways to produce or deliver materials, such as books and static visual materials, primarily through mechanical or photographic printing processes” (Seels & Richey, 1994, p. 37). Print technologies include verbal text materials and visual materials; namely, text, graphic and photographic representation and reproduction. Print and visual materials provide a foundation for the development and utilization of the majority of other instructional materials.

2.2 Audiovisual Technologies

“Audiovisual technologies are ways to produce or deliver materials by using mechanical devices or electronic machines to present auditory and visual messages” (Seels & Richey, 1994, p. 38). Audiovisual technologies are generally linear in nature, represent real and abstract ideas, and allow for learner interactivity dependent on teacher application.

2.3 Computer-Based Technologies

“Computer-based technologies are ways to produce or deliver materials using microprocessor-based resources” (Seels & Richey, 1994, p. 39). Computer-based technologies represent electronically stored information in the form of digital data. Examples include computer-based instruction(CBI), computer-assisted instruction (CAI), computer-managed instruction (CMI), telecommunications, electronic communications, and global resource/reference access.

2.4 Integrated Technologies

“Integrated technologies are ways to produce and deliver materials which encompass several forms of media under the control of a computer” (Seels & Richey, 1994, p. 40). Integrated technologies are typically hypermedia environments which allow for: (a) various levels of learner control, (b) high levels of interactivity, and (c) the creation of integrated audio, video, and graphic environments. Examples include hypermedia authoring and telecommunications tools such as electronic mail and the World Wide Web.

- ***Performances Indicative of the Development Standard***

Select candidate performances which are applicable to your program. The following indicators are examples of performances related to the development standard. You may wish to identify additional performance indicators related to your program.

2.0.1 Select appropriate media to produce effective learning environments using technology resources.

2.0.2 Use appropriate analog and digital productivity tools to develop instructional and professional products.

2.0.3 Apply instructional design principles to select appropriate technological tools for the development of instructional and professional products.

2.0.4 Apply appropriate learning and psychological theories to the selection of appropriate technological tools and to the development of instructional and professional products.

2.0.5 Apply appropriate evaluation strategies and techniques for assessing effectiveness of instructional and professional products.

2.0.6 Use the results of evaluation methods and techniques to revise and update instructional and professional products.

2.0.7 Contribute to a professional portfolio by developing and selecting a variety of productions for inclusion in the portfolio.

2.1 Print Technologies

2.1.1 Develop instructional and professional products using a variety of technological tools to produce text for communicating information.

2.1.2 Produce print communications (e.g., flyers, posters, brochures, newsletters) combining words and images/graphics using desktop publishing software.

2.1.3 Use presentation application software to produce presentations and supplementary materials for instructional and professional purposes.

2.1.4 Produce instructional and professional products using various aspects of integrated application programs.

2.2 Audiovisual Technologies

2.2.1 Apply principles of visual and media literacy for the development and production of instructional and professional materials and products.

2.2.2 Apply development techniques such as storyboarding and or scriptwriting to plan for the development of audio/video technologies.

2.2.3 Use appropriate video equipment (e.g., camcorders, video editing) to prepare effective instructional and professional products.

2.2.4 Use a variety of projection devices with appropriate technology tools to facilitate presentations and instruction.

2.3 Computer-Based Technologies

2.3.1 Design and produce audio/video instructional materials which use computer-based technologies.

2.3.2 Design, produce, and use digital information with computer-based technologies.

2.3.3 Use imaging devices (e.g., digital cameras, video cameras, scanners) to produce computer-based instructional materials.

2.4 Integrated Technologies

2.4.1 Use authoring tools to create effective hypermedia/multimedia instructional materials or products.

2.4.2 Develop and prepare instructional materials and products for various distance education delivery technologies.

2.4.3 Combine electronic and non-electronic media to produce instructional materials, presentations, and products.

2.4.4 Use telecommunications tools such as electronic mail and browsing tools for the World Wide Web to develop instructional and professional products.

2.4.5 Develop effective Web pages with appropriate links using various technological tools (e.g., print technologies, imaging technologies, and video).

2.4.6 Use writable CD-ROMs to record productions using various technological tools.

2.4.7 Use appropriate software for capturing Web pages, audio wave files, and video files for developing off-line presentations.

Standard 3: UTILIZATION

Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.

- **Supporting Explanations**

“Utilization is the act of using processes and resources for learning” (Seels & Richey, 1994, p. 46). This domain involves matching learners with specific materials and activities, preparing learners for interacting with those materials, providing guidance during engagement, providing assessment of the results, and incorporating this usage into the continuing procedures of the organization.

3.1 Media Utilization

“Media utilization is the systematic use of resources for learning” (Seels & Richey, 1994, p. 46). Utilization is the decision-making process of implementation based on instructional design specifications.

3.2 Diffusion of Innovations

“Diffusion of innovations is the process of communicating through planned strategies for the purpose of gaining adoption” (Seels & Richey, 1994, p. 46). With an ultimate goal of bringing about change, the process includes stages such as awareness, interest, trial, and adoption.

3.3 Implementation and Institutionalization

“Implementation is using instructional materials or strategies in real (not simulated) settings. Institutionalization is the continuing, routine use of the instructional innovation in the structure and culture of an organization” (Seels & Richey, 1994, p. 47). The purpose of implementation is to facilitate appropriate use of the innovation by individuals in the organization. The goal of institutionalization is to integrate the innovation within the structure and behavior of the organization.

3.4 Policies and Regulations

“Policies and regulations are the rules and actions of society (or its surrogates) that affect the diffusion and use of Instructional Technology” (Seels & Richey, 1994, p. 47). This includes such areas as web-based instruction, instructional and community television, copyright law, standards for equipment and programs, use policies, and the creation of a system which supports the effective and ethical utilization of instructional technology products and processes.

- ***Performances Indicative of the Utilization Standard***

Select candidate performances which are applicable to your program. The following indicators are examples of performances related to the utilization standard. You may wish to identify additional performance indicators related to your program.

3.1 Media Utilization

3.1.1 Identify key factors in selecting and using technologies appropriate for learning situations specified in the instructional design process.

3.1.2 Use educational communications and instructional technology (SMETS) resources in a variety of learning contexts.

3.2 Diffusion of Innovations

3.2.1 Identify strategies for the diffusion, adoption, and dissemination of innovations in learning communities.

3.3 Implementation and Institutionalization

3.3.1 Use appropriate instructional materials and strategies in various learning contexts.

3.3.2 Identify and apply techniques for integrating SMETS innovations in various learning contexts.

3.3.3 Identify strategies to maintain use after initial adoption.

3.4 Policies and Regulations

3.4.1 Identify and apply standards for the use of instructional technology.

3.4.2 Identify and apply policies which incorporate professional ethics within practice.

3.4.3 Identify and apply copyright and fair use guidelines within practice.

3.4.4 Identify and implement effective policies related to the utilization, application, and integration of instructional technologies.

3.4.5 Identify policies and regulations which apply to the utilization, application, and integration of distance delivery technologies.

Standard 4: MANAGEMENT

Candidates demonstrate knowledge, skills, and dispositions to plan, organize, coordinate, and supervise instructional technology by applying principles of project, resource, delivery system, and information management.

- ***Supporting Explanations:***

“Management involves controlling Instructional Technology through planning, organizing, coordinating, and supervising” (Seels & Richey, 1994, p. 49). The domain of management includes four sub-domains of theory and practice: Project Management, Resource Management, Delivery System Management, and Information Management. Within each of these sub-domains there is a common set of tasks to be accomplished: organization must be assured, personnel hired and supervised, funds planned and accounted for, facilities developed and maintained, and short- and long-term goals established. A manager is a leader who motivates, directs, coaches, supports, monitors performance, delegates, and communicates.

4.1 Project Management

“Project management involves planning, monitoring, and controlling instructional design and development projects” (Seels & Richey, 1994, p. 50). Project managers negotiate, budget, install information monitoring systems, and evaluate progress.

4.2 Resource Management

“Resource management involves planning, monitoring, and controlling resource support systems and services” (Seels & Richey, 1994, p. 51). This includes documentation of cost effectiveness and justification of effectiveness or efficiency for learning as well as the resources of personnel, budget, supplies, time, facilities, and instructional resources.

4.3 Delivery System Management

“Delivery system management involves planning, monitoring and controlling ‘the method by which distribution of instructional materials is organized’ . . . [It is] a combination of medium and method of usage that is employed to present instructional information to a learner” (Seels & Richey, 1994, p. 51). This includes attention to hardware and software requirements, technical support for the users and developers, and process issues such as guidelines for designers, instructors, and SMETS support personnel.

4.4 Information Management

“Information management involves planning, monitoring, and controlling the storage, transfer, or processing of information in order to provide resources for learning” (Seels & Richey, 1994, p. 51). Information is available in many formats and candidates must be able to access and utilize a variety of information sources for their professional benefit and the benefit of their future learners.

- ***Performances Indicative of the Management Standard***

Select candidate performances which are applicable to your program. The following indicators are examples of performances related to the management standard. You may wish to identify additional performance indicators related to your program.

4.0.1 Demonstrate leadership attributes with individuals and groups (e.g., interpersonal skills, group dynamics, team building).

4.1 Project Management

4.1.1 Apply project management techniques in various learning and training contexts.

4.2 Resource Management

4.2.1 Apply resource management techniques in various learning and training contexts.

4.3 *Delivery System Management*

4.3.1 Apply delivery system management techniques in various learning and training contexts.

4.4 *Information Management*

4.4.1 Apply information management techniques in various learning and training contexts.

Standard 5: EVALUATION

Candidates demonstrate knowledge, skills, and dispositions to evaluate the adequacy of instruction and learning by applying principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and long-range planning.

“Evaluation is the process of determining the adequacy of instruction and learning” (Seels & Richey, 1994, p. 54). SMETS candidates demonstrate their understanding of the domain of evaluation through a variety of activities including problem analysis, criterion-referenced measurement, formative evaluation, and summative evaluation.

5.1 Problem Analysis

“Problem analysis involves determining the nature and parameters of the problem by using information-gathering and decision-making strategies” (Seels & Richey, 1994, p. 56). SMETS candidates exhibit technology competencies defined in the knowledge base. Candidates collect, analyze, and interpret data to modify and improve instruction and SMETS projects.

5.2 Criterion-Referenced Measurement

“Criterion-referenced measurement involves techniques for determining learner mastery of pre-specified content” (Seels & Richey, 1994, p. 56). SMETS candidates utilize criterion-referenced performance indicators in the assessment of instruction and SMETS projects.

5.3 Formative and Summative Evaluation

“Formative evaluation involves gathering information on adequacy and using this information as a basis for further development. Summative evaluation involves gathering information on adequacy and using this information to make decisions about utilization” (Seels & Richey, 1994, p. 57). SMETS candidates integrate formative and summative evaluation strategies and analyses into the development and modification of instruction, SMETS projects, and SMETS programs.

5.4 Long-Range Planning

Long-range planning that focuses on the organization as a whole is strategic planning....Long-range is usually defined as a future period of about three to five years or longer. During strategic planning, managers are trying to decide in the present what must be done to ensure organizational success in the future.” (Certo et al., 1990, p. 168). SMETS candidates demonstrate formal efforts to address the future of this highly dynamic field including the systematic review and implementation of current SMET developments and innovations.

- ***Performances Indicative of the Evaluation Standard***

Select candidate performances which are applicable to your program. The following indicators are examples of performances related to the evaluation standard. You may wish to identify additional performance indicators related to your program.

5.1 *Problem Analysis*

5.1.1 Identify and apply problem analysis skills in appropriate school media and educational technology (SMET) contexts (e.g., conduct needs assessments, identify and define problems, identify constraints, identify

resources, define learner characteristics, define goals and objectives in instructional systems design, media development and utilization, program management, and evaluation).

5.2 Criterion-Referenced Measurement

5.2.1 Develop and apply criterion-referenced measures in a variety of SMET contexts.

5.3 Formative and Summative Evaluation

5.3.1 Develop and apply formative and summative evaluation strategies in a variety of SMET contexts.

5.4 Long-Range Planning

5.4.1 Develop a long-range strategic plan related to any of the domains or sub-domains.