Welcome

My name is Linda Raynes and these pages showcase the work completed for the Instructional Technology Masters program at Va. Tech. My friends call me Lina so please feel free to do so. I work in Richmond, Va. but I actually live on 33 acres in Caroline Co., which is about 30 minutes north of the city. I was born in the frigid state of Maine in a little town called Dexter (where Dexter shoes are made). I moved to Virginia as a child due to a change in my father's job, moved out west for awhile and managed an equine facility (yes I am one of those little girls who loved horses and never outgrew the passion), and then moved back to Virginia when my father became sick.

I am presently teaching at the high school level and have a technical professional endorsement in Computer Systems Technology. I try to teach junior and seniors the ins and outs of computers so that they can pass the A+, Networking+, and CIW certifications. I have also taught at the community college level and have been employed as a network administrator. I adore my animals, which include a horse, dogs, cats and chickens and I love the great outdoors. I always have a very large veggie garden in the summer.

The competencies presented in this portfolio were established by the Association for Educational Communications and Technology (ACET) and include Design, Development, Utilization, Management, and Evaluation. In addition four required ITMA areas are included, which are Research, Resources, Resume, and Reflections. Click the links to the left to access the pages where my work can be reviewed. Feel free to email me at ####################.
**Online course for Web Design class**

Project and Report final product that was produced mainly from Flash 8 with a little help from snag it, PowerPoint, and Dreamweaver. It includes animation, audio, and interaction. It was the culmination of many hours of work. I am very proud of it.

**Networking Basics**

Multimedia project produced mainly from HTML and Dreamweaver. There was a multitude of multimedia used in this product. I think it shows alot of growth on my part.

**Installing memory**

This short video shows how to install video and exhibits my competency in using video techniques. It was the first movie complete with editing that I had ever done. It was with this project that I really became interested in technology integration and instruction.

**A Little Bit About Sound**

This link takes you to the digital audio final project where I used narrations supported by text for a short lesson about sound theory. I really learned about the power of PowerPoint with this project. However, I have come to prefer flash slideshows. This takes a long time to load so please be patient.

**Research Paper**

This link takes you to an investigational educational research paper about virtual reality. It is only one example of the research that I did in this program and shows that I can incorporate the fundamentals of educational research into the teaching and learning process.
Design: "is the process of specifying conditions for learning." (Seels and Richey, 1994 p.30)

Through the ITMA program, I have grown immensely as an instructor especially in my design skills. I have learned that excellence in teaching requires an iterative process and it is a process of analysis that determines learning needs and goals from which a delivery system is developed to meet those needs. It is through design that I have become more proficient in the process of using a systematic approach when producing instruction for learning. This systematic approach has dramatically changed the way I look at teaching in general and instruction specifically.

The Design Standard includes four major areas: Instructional Systems Design, Message Design, Instructional Strategies, and Learner Characteristics. Artifacts that demonstrate my proficiency in each of these areas can be viewed through the links below.

**ITMA Showcase of Design Artifacts**

**Instructional Systems Design** is an organized procedure that emphasizes a process over a product. It incorporates analyzing, designing, development, implementing, and evaluating instructional materials. Both of the artifacts below show this comprehensive process through the use of Dick and Carey's instructional model.

- **Final Product for Instructional Design Class.** This is my first experience with the entire design procedure and covers all aspects of systems design. I was so used to coming up with a lesson plan of activities for my students I remember how frustrated I was while doing these lessons saying to myself that I would never be able to use this process in the real world. Since completing this project, I have started to utilize this as much of this process as I can with all of my instruction.
Networking Basics: Multimedia project produced mainly from HTML and Dreamweaver and completed for the Multimedia class. A product was produced for this design but the same processes were used to develop the instructional materials as was in the example above. This was an excellent experience in developing a piece of instruction from start to finish. I hope to do more of this kind of lesson development in the future. I have used this lesson several times since I finished it and it adds a whole new dimension to my instruction.

Message Design is planning for the manipulation of the physical form of the message.

- **Principles of Graphics Design** produced in the Graphics design class is a good example of message design. This artifact demonstrates each of the 11 graphic design principles and includes Simplicity, Clarity, Balance, Harmony, Organization, Emphasis, Legibility, Unity, Perspective, Point of View and Framing. I learned from this activity how visual literacy is important when designing instruction and how using graphics is important when trying to convey a message. I used to think that graphics made things look pretty and that was it.

- **Storyboarding for Digital Audio** is another example of message design where I show word planning for attention and retention. Storyboards are an important part of the design process because storyboards express everything that can be seen or heard or experienced in an instructional program. I used my visual literacy skills and Gagne's Nine Events of Instruction to help incorporate the tasks and activities for this storyboard, which assisted in the development of this lesson. It was my first storyboard ever and I now understand their importance.

Instructional Strategies is the selection of instructional strategies and models that are appropriate for a variety of learner characteristics and learning situations. It involves specifications for selecting and sequencing events and activities within a lesson.

- **Instructional Design Strategy** produced for Principles of Instructional Design class which is based on sequencing of events and classroom activities. This is the stage where I thought about what I was going to teach and how. I really came to appreciate the meaning of Gagne's Events for instruction. After many iterations I finally got it right as shown here.

- **Project and Report** shows how I selected motivational strategies for a high school online course. The idea here was to make the course appealing to this age group. The environment is a complex interactive one and I used multiple instructional strategies in the design. I am still improving upon this product but I am very proud of what I present here. Click on design documents when the menu appears.
**Learner Characteristics** describe and/or document specific learner characteristics which influence the implementation and the selection of instructional strategies.

- **Developmental Theory and Observations** produced for Learning Theories for Instructional Design shows how important a learners experiential background is when designing instruction. This course was invaluable to me. I look at my students as complete individuals and direct my instruction to their needs more then I ever did before.

- **Characteristics of Distance Learners** produced for the Telecommunication class investigates how the characteristics of distance learners impact the instructional process. I have been a distance learner-prefer it actually- and appreciated the understanding that this artifact presented. I was able to articulate what I have felt personally about the distance experience and what I felt was needed to make that learning environment successful.
Development: "is the process of translating the design specifications into physical form." (Seels and Richey, 1994, p.35)

It was with the activities found in the Development Domain that I found pure enjoyment and where I really got a feeling for the meaning of Instructional Technology. Translating the design documentation into a physical form was challenging, used an incredible amount of time but taught me how the development of instructional materials and experiences are tied to the other areas such as design and evaluation. I have a better understanding of the principles, theories, and research related to technology so that I can integrate these technologies more effectively.

I have always been responsible for developing my own classroom materials and experiences and have done so since I took my current position. That has not changed since starting the ITMA program. I used print, audio and computer based training materials extensively. What has changed is my use of video and integrated technologies so that my classroom truly addresses the digital child that I teach. ITMA has wetted my appetite to learn more so that I can create more.

The Development Standard includes four major areas: Print Technologies, Audiovisual Technologies, Computer-based Technologies, and Integrated Technologies. Artifacts that demonstrate my proficiency in each of these areas can be viewed through the links below.

ITMA Showcase of Development Artifacts

Print Technologies: instructional materials are produced through the use of text, graphic, and photographic representation and reproduction.

- Course Brochure shows my ability to produce a brochure that combines words and images using Microsoft Publisher. I produced this document for a
class I took at ODU. I actually use this brochure to advertise my class. It isn't an instructional product but is indirectly connected and shows my proficiency in using the software for professional use.

- **How to Document** shows my ability to develop an instructional product using text for communicating information. I produced this artifact for a class I took at ODU. It is a mini lesson that was part of a team activity where everyone on the team was responsible for producing a part of a series of lessons on Microsoft Office. We later put the parts together and posted it for viewing and critique. Unfortunately, I don't have the final document but this artifact was my contribution. This was a great activity because we had to communicate online to each other and coordinate our design.

**Audiovisual Technologies:** instructional materials are produced using audio or visual means and are linear in nature, represent real and abstract ideas, and sometimes allow for learner interactivity.

- **Digital Video Final Project** is a video project that also incorporates sound as the background and an intro flash movie. It is linear in nature and represents real ideas. This was my first experience in producing a video and I really had fun doing it. I didn't even mind the editing. I use the concepts that I learned here as projects for my classes.

- **Digital Audio Final Project** is an audio project where I taught a lesson about sound using PowerPoint that incorporated a narrative by me. It was also linear in nature and represented real ideas. I have used this lesson many times in my class. My students get particular enjoyment in realizing it is my voice they are hearing. Someday, I would like to do a supplementary CD similar to this lesson that covers all of the computer parts.

**Computer-based Technologies** are ways to produce and deliver materials using digitally stored data. Include computer-based instruction, computer-assisted instruction, computer-managed instruction, telecommunications, electronic communications, and global resource/reference access.

- **Network Interface Card** produced for Graphics Design class is a PowerPoint showing my competency with developing materials using digital data. I think I did a good job on this PowerPoint but it is very dry as is. I would be more inclined to add audio and/or embedded video for interest if asked to do a project like this in the future.

- **Webquest** was completed for a transfer class I took at ODU and shows the use of computer assisted instruction. I believe it fits here because it is an activity where some or all of the information that the learners interact with comes from resources on the internet and is a inquiry based web activity. The students access this material from the web also.
**Integrated Technologies** are ways to produce and deliver materials which use hypermedia under the control of a computer and allow for: (a) various levels of learner control, (b) high levels of interactivity, and (c) the creation of integrated audio, video, and graphic environments.

- **Networking Basics** produced for Multimedia Design shows how I used integrated audio, video, and graphics environments as well as high levels of interactivity by the learner. It was with this activity that I show the first real evidence of improvement in my technology skills. I had to put forth a lot of effort and put aside many frustrations. I started to think of myself as an instructional technologist after I handed in this project. I felt so good when the grader said it looked very professionally done.
Utilization: "is the act of using processes and resources for learning." (Seels and Richey, 1994, p.49)

Within this domain I learned to use processes and resources for learning that are grounded in principles and theories of media utilization, diffusion, implementation, and policy-making mainly through the projects that involved the entire design process. I have used some of these projects in my classroom with good success and I continue to work on my online course which I hope will be implemented in the near future. ITMA has taught me to not think just technology. I look at the potential use of a technology from both an instructional and a technological perspective. I am able to make better choices of what to use and I am more willing to invest the time and energy in learning new things. In particular, I have learned from the ITMA program to identify a need and measurable outcomes and to select an appropriate technology based solution so that the learning outcomes are effective.

The Utilization Standard includes four major areas: Media Utilization, Diffusion of Innovations, Implementation and Institutionalization, Policies and Regulations. Artifacts that demonstrate my proficiency in each of these areas can be viewed through the links below.

ITMA Showcase of Utilization Artifacts

Media Utilization is the use of resources for learning based on instructional design specifications.

- Digital Video Projects completed for Digital Video shows the process of using video for instruction and demonstration. Click on any of the links on the page that appears and it will show how knowledge about video techniques will and can affect the final product. I learned a lot in this class and it was one of the most enjoyable in the ITMA program for me.
Multimedia Final Project completed for the Multimedia course is but one example of the design process that shows how the implementation of technology is based on instructional design specifications. I learned to identify key factors in media selection through the use of the design process. This project fundamentally changed my viewpoint on the use and selection of technology for the classroom. This project emphasized that the implementation of instructional resources are instrumental for learning.

**Diffusion of Innovations** has the ultimate goal of bringing about change through awareness, interest, trial, and adoption.

- Both the Papert Book Review and the Reigeluth Article made me analyze and think about new concepts with the idea of bringing about change. I personally have not had the opportunity to bring about a major change in the learning community. The closest I have come to this would be the new online class that I am designing. Hopefully, this will be a permanent addition to our district in the future. The awareness is there and so is the interest but we have not put it to trial so that adoption can occur at this point in time.

At the local level, I often do staff training. The idea is to introduce to our very stubborn staff that technology can be used in the classroom successfully. My objective is to bring about awareness and interest in using innovative techniques to make learning more effective. I often do this collaboratively with the media specialist and we rotate the staff through several sessions on the same day. I have enclosed a certificate that recognizes my role in a workshop where I taught the use of Photostory.

**Implementation and Institutionalization** is using instructional materials or strategies in a real setting. The goal of institutionalization is to integrate the innovation within the structure and behaviour of the organization.

- **Project and Report** is a complete design with implementation in mind. The proposal document clearly states the specifications for adoption and shows that I can identify and apply techniques for integrating ECIT innovations in a learning context. The ultimate goal of this project is to use the instructional materials developed by me in a real setting.

**Policies and Regulations** covers areas which supports the effective and ethical utilization of instructional technology products and processes.

- **Ten Steps to a Virtual Classroom** produced for the Telecommunication course shows how to create policies and regulations for an online course. This PowerPoint is an analysis what policies would be most effective for a distance learning process such as cost, communication, and assessment. I learned that the effective use of instructional technology should always be considered before it is implemented.
This site will require Flash player, a working sound system, Windows Media Player player, and is best viewed with Internet Explorer 6 or better or Firefox.
Management: "involves controlling Instructional Technology through planning, organizing, coordinating, and supervising." (Seels and Richey, 1994, p.49)

This component of the ITMA portfolio involves the planning, organizing, coordination, and supervision of Instructional Technology through the application of the principles of project, resource, delivery system, and information management. I do considerable staff training in both of my jobs, which gives me the opportunity to plan, organize, coordinate, and supervise instruction and I have always been above average with classroom management. However, I think it is through the design and development of the major projects completed for the ITMA program that I enhanced my skills in all aspects of management as listed above. I do not use trial and error anymore. I tend to have a better understanding of what it takes to manage a project from start to finish and this has improved my confidence level. I would feel very comfortable in taking on any major project because of these experiences. My goal is to eventually take a position as Instructional Technology coordinator which would expand my proficiency in this area.

The Management Standard includes four major areas: Project Management, Resource Management, Delivery System Management, and Information Management. Artifacts that demonstrate my proficiency in each of these areas can be viewed through the links below.

ITMA Showcase of Management Artifacts

**Project Management** includes planning, monitoring, and controlling instructional projects, which includes evaluating progress and improvement.

- **Project and Report** demonstrates my ability to manage a project from start to finish. It actually includes all of the subcomponents of management in that it involves managing resources, delivery and information. Along with the multimedia project, I feel that this project is where I show the most growth. When this project gets off the ground, I will be responsible for...
managing and maintaining it thus evaluating its progress and improvement.

- **Portfolio Proposal** is a proposal for a portfolio and shows how I would set-up a portfolio that meets NET-S standards. It shows my ability to plan a project. I hope to use this idea sometime in the near future. I find portfolios an exciting way to evaluate a student even as I am struggling with mine.

**Resource Management** involves planning, monitoring, and controlling of resource support documentation and services.

- **Job Analysis** shows my responsibilities in the two jobs that I currently hold. This analysis shows that I wear several hats and that in the positions of cluster leader, systems administrator, web master, and marketing committee I apply resource management in various learning and training contexts. This is one of the areas I want to grow more. This will come by taking on more responsibility and I hope I will be given this opportunity in the near future.

**Delivery System Management** involves planning, monitoring, and controlling the methods of distribution of instructional materials, which includes hardware/software requirements, technical support, and process issues.

- **Project Proposal** part of the Project and Report assignment where materials and methods were specified and planned for. This project as I have mentioned previously is in the planning stages. Once implemented into the real environment, the delivery system management as dealing with instructional materials will be my responsibility. I realize this will be a challenging undertaking but I am looking forward to it.

- **Lesson in Audio** completed for Digital Audio where I designed and developed a final piece of instruction that incorporated audio. I had to be concerned with hardware and software requirements with this design, which required using research on the role of dual channel exposure to make decisions. The activities in this course brought out the engineer in me.

**Information Management** involves planning, monitoring, and controlling the storage, transfer, or processing of information because information is available in many formats and candidates must be able to access and utilize a variety of information sources.

- **Graphic File Formats** done for Graphics Design showing my proficiency in understanding and using different graphic formats. I was fairly adept at accessing and utilizing information sources before ITMA. However, this exercise made me think in a more organized informed fashion which will be helpful in making management decisions.
Evaluation: "is the process of determining the adequacy of instruction and learning." (Seels and Richey, 1994, p.49)

Through the ITMA program I really learned to evaluate at a more thoughtful level. I have learned to apply principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and long range planning to the evaluation of products and processes of learning.

I have always evaluated my own curriculum and the products used within that curriculum. However, I now look at evaluation as I do design, as a systematic process, in this case for determining the adequacy of instruction. In other words, there is a step-by-step process to be followed; the objectives or functions of the objectives are stated, information about the adequacy of its function is gathered in a systematic way and finally, a decision is made.

To tell the truth I never really even thought about summative or formative evaluations before I started the ITMA program. I knew that I needed to assess my students to determine if they were meeting the standards of my program and to give them a grade. This was summative. I have subsequently learned that this was different from the formative process, which is part of the instructional process. When used in the classroom, it provides information so that adjustments can be made to the teaching practice and to the learning process. As a result of my increased understanding of formative evaluation and its relationship to the design process, I think that I have grown as a teacher and trainer.

Included below are examples that show my growth in the Evaluation Standard.

ITMA Showcase of Evaluation Artifacts
Distance Course Analysis completed for Telecommunications course where I described and analyzed in detail a distance-delivered course offered at Virginia Tech. I had never analyzed and interpreted someone else work before this assignment. I found this to be an excellent way to improve my ability to analyze and interpret information.

Software Evaluation Report completed for Software Evaluation is another example where I described, evaluated, and analyzed tutorials from Kidzonline a website produced by students. I don’t think I would ever have the time to do an analysis of this magnitude but the analysis skills that I gleaned from this activity will definitely be used from now on.

Criterion-Referenced Measurement involves utilizing criterion-referenced indicators for assessments.

Instrument Validity completed for Educational Research where I show my understanding of what valid measurement of a learning objective is. In general, a valid assessment measures what it says it measures and is not subjective. I think it fits here because a criterion referenced measurement by definition is to determine whether each student has achieved specific skills or concepts. Therefore, the assessment must be a valid one in order to adequately determine a student's performance. I have started to use this in my practice.

Assessment, Teacher as Researcher completed for Learning Theories and I show my ability to create and administer reliable and valid tests and to interpret testing results. Assessment may affect decisions about grades, advancement, placement, instructional needs, and curriculum. Therefore, teachers must be informed on what methods will be reliable and valid for a particular group of students so that we teach for student learning. I believe criterion referenced where a student is tested for achievement is a better method of assessment then norm referenced assessment. This artifact shows that viewpoint and why.

Formative and Summative Evaluations involves integrating formative and summative evaluation strategies and analysis in order to develop and modify instruction.

Development and Formative Evaluation completed for Principles of Instructional Design is where I first got a feeling for the differences between summative and formative evaluations. The evaluations were not actually carried out here but I had to articulate what I would do for a formative evaluation. A formative evaluation occurs while an piece of instruction is in the developmental stages before it reaches the target audience. The emphasis is on revision. I think formative valuation is the key to instructional success because it is tried before it is "published." It is too bad that there is often not enough time to complete all the steps to making instruction a success.

Multimedia Peer Review completed for the multimedia class is another example of formative evaluation. We were given the opportunity to go through a peer review process where
I conducted evaluations of several other students' multimedia programs and at the same time, they were evaluating mine. These reviewers were not the target audience so this was an example of formative evaluation. The feedback given could be used to initiate revisions of the instruction. I use this instructional program for my CST class and have made revisions based on this feedback.

- **Software Evaluation Report** completed for Software Evaluation where I evaluated how well a piece of software supported an instructional objective. This is an example of summative evaluation because the evaluation is used to discover strengths and weaknesses in instruction in order to decide whether to maintain it or to adopt it. Thus no revisions are made to the instruction. I found this task time consuming and arduous but well worth the effort. I don't believe that I would ever have the time to do a complete evaluation but will certainly use what I learned from this activity.
Research

Research is an integral part of my job because my field of endeavour is always changing. The ITMA program improved my research skills by developing my awareness of approaches and issues in qualitative and quantitative methods as pertaining to Instructional Technology. In particular, I learned a deeper understanding of the research process and how to use the prevailing literature to formulate an idea as well as how to understand the research of others.

I had never taken a research class before the Research Methods course. Writing isn't my favourite thing to do but I enjoyed the data analysis and interpretation. I found the concepts learned through this course invaluable.

Below are some of the examples of research and research activities that I have done that show my ability to read and make sense of research that I have encountered. I hope you enjoy reading them.

Showcase of My Research Competency

- **Education Research Report**
- **Final Digital Video Project**
- **Research in Audio part one**
- **Research in Audio part two**
- **Developing Presentations Based on Research**
Research Designs and Questions

Instrument Validity

Writing a Conclusion based on Statistical information

Journal Article Critique

Graphic Format Article Critique

This site will require Flash player, a working sound system, windows media player player, and is best viewed with Internet Explorer 6 or better or Firefox.
Resources

Good resources are a must. They help in assisting with my job. There just isn't enough hours in the day to try to figure out everything by myself. The Internet is a wonderful resource for collaborative effort. Presented here are some relevant resources found on the Internet and used by me that are appropriate to use for Instructional Technology as I see it. The professional organizations are well known and the others originate from credible websites. Also included are links to a variety of software and hardware resources that I have experimented with. I only wish there was more time to explore.

Professional Organizations
Virginia Society for Technology in Education
International Society for Technology in Education
Association for Educational Communications and Technology
Virginia Department of Education
Educause
Virginia Education Association

IT Employment
Higher Ed IT
ISTE's career page

Research and Articles
Copyright and fair use law article
Center for Applied Research in Educational Technology
Center for Children and Technology
Open source software and other free stuff

This is free software that you can download

Audacity—Record-edit sound

Google SketchUp—3D modeling software

HotPotatoes—create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching exercises

IrfanView (PC)—edit, view, and convert images from one format to another

NVu—web authoring

Open Office—productivity suite-like Microsoft Office

PDFCreator—creates pdf files

Photoshop Express—free version of Photoshop

Scribus—desktop publishing

Productivity and Classroom Development

W3 Schools—web building

Teachnology—lesson plans, rubrics

Web tools

4teachers—technology integration

Mobile technology

1000's of videos audio files

Atomic Learning

Bloom's Taxonomy

Managing Students with Computers

Project Learn
Teaching

Project-Based Learning: A Primer

Magazine articles on technology in education

This site will require Flash player, a working sound system, windows media player player, and is best viewed with Internet Explorer 6 or better or Firefox.
Reflections

As I reread these reflections, I have come to realize that I have really grown as an instructor since I started this program. I have learned new skills that I take back to the classroom everyday. I pay more attention to what I am doing and how I am doing it. These are not empty words. As I stated in my Project and Report, I have always been a lifelong learner and when I take a course it is to learn something new. I initially started taking ITMA courses for that reason. I had no intention of matriculating for a degree. With each semester I kept coming back for more because the material taught helped so much with my teaching skills. I know that I am a more complete teacher then I was four years ago and I attribute that to the ITMA program. I believe I can now call myself an Instructional Technologist because I have the skills, knowledge, and attitudes that are needed to be a successful Instructional Technologist.

This component of the ITMA portfolio includes a variety of reflections documenting my growth in becoming an Instructional Technologist. I am constantly trying to figure out how to become better in my professional life. I derived a great deal from the reflection process because it made me think about what I have done and the value of what I have done. In general, that is difficult for me. Nevertheless, these narratives communicate reflections on all aspects of the my portfolio development process.

ITMA Showcase of Introspective Documents

- Digital Audio Reflection Paper
- Preliminary Views of Instructional Technology
- Reiser and Dempsey Review