

## IFWE challenge accepted: New and improved MAT-SE research courses/tools

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*Dancing on the Glass Ceiling*

Looking forward and reflecting backward  
throughout the journey...



*Riding the Waves of Change*

Practicing the 3 Cs (Communication,  
Collaboration, and Creativity) with peers

International Forum for Women in e-Learning



*Catching the Dream*

Accepting the UT Library Director's Award for  
Excellence in Library Resource Integration

### **Lifelong Learners ~ and Leaders...**

Accepting the IFWE challenge, first issued in the Fall of 2004, initiated a long-term relationship that guided the design and delivery of the 3-course research sequence in online Master of Arts in Teaching – Science Education (MAT-SE) degree offered by UT-Dallas (UTD) through the UT-TeleCampus (UTTC). The professional development and personal growth of three distance educators continues to be impacted by the IFWE ideas and ideals.

As part of a new program design, a course developer teamed with a support specialist and course instructor to embed critical library resources into online coursework. Our diverse team's challenge was to find ways to better support our common students.

Guided by focused literacy characteristics, ground-breaking techniques for using library resources stimulated student performance and motivated student achievement in an introductory research course. This new educational paradigm integrated valuable library resources into an existing course structure in an innovative and meaningful way. The conceptual framework offers a springboard for discovering creative ways to increase the relevance of library activities in other courses, regardless of the specific subject area(s).

Today, we celebrate the joys of accepting the IFWE challenge! A casual conversation in the ladies room at a conference spawned:

- development of an innovative research sequence recognized by UT-System,
- creation of a variety of faculty resources to support student learning online,
- awareness of best practices in teaching and learning that promote lifelong learners, and
- leadership opportunities in technology, higher, distance, science, and literacy education.

## Information (and Technology) Advances

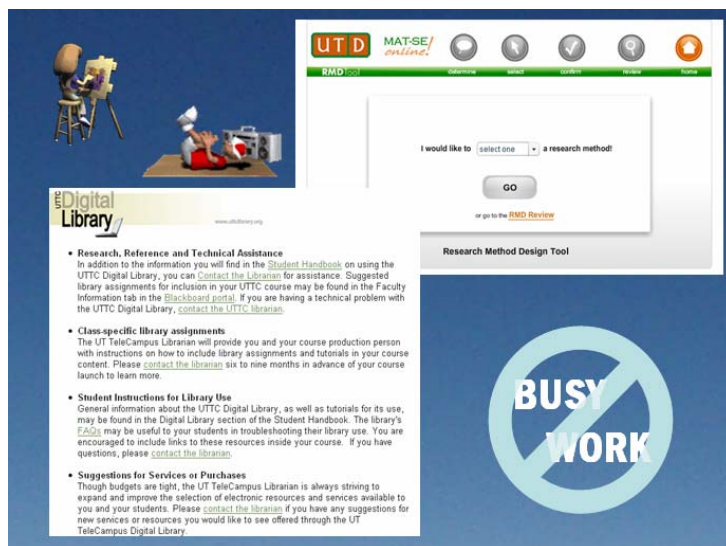
Today's digital immigrants and tomorrow's digital natives demand a new model for integrated library interaction(s). As we examined our perceptions of the perspectives that brought various stakeholders to the table in this endeavor, we recognized that we had one primary objective in common – taking a student centered approach. So while we each came from our own distinct areas with our own preconceived notions of what was necessary for our definition of success, by bearing this primary objective in mind, we were able to find a way to address our own concerns and meet course goals by always focusing on what the student needed at that moment to know, and how we could put the tools in front of him so that he could construct his own learning experience.

*And that was part of the beauty of our collaboration.*

This new way of thinking brought about a new mantra: “Make it relevant!” helped keep us focused on finding places within the course where students already had an information need, a place where they may have trouble or make a bad choice, or where an exercise using library resources could help guide them toward better performance in the larger task. This was the shift in thinking that fostered a new confidence for improving the quality of the learning experience, and ultimately, the quality of the work produced. As part of a longitudinal program evaluation to ensure that the MAT-SE Online! courses are meeting the needs of MAT-SE candidates, we're piloting a series of instruments (derived from pertinent standards or key competencies) that are intended to assess the target literacy level. This is measured in terms of individual student efficacy, attitude, and ability, along with their perceptions of the degree of constructivist pedagogy promoted in the learning environment of each course.

## Tangible – and Practical - Results!

Key online and onsite value-adds include *RMD Tool* production and library integration. We generated a lot of custom resources. UTTC course development funding enabled us to contract production of a far-improved research method design tool. This complex flash module spans the research course sequence, supporting science education researchers beyond their thesis coursework.

The image shows a screenshot of the UT Digital Library website. On the left, there is a sidebar with a 'Digital Library' logo and a list of services: 'Research, Reference and Technical Assistance', 'Class-specific library assignments', 'Student Instructions for Library Use', and 'Suggestions for Services or Purchases'. The main content area displays the 'RMD Tool' interface, which includes a search bar with the text 'I would like to [select one] a research method!' and a 'GO' button. Below the search bar, there is a link to 'or go to the RMD Review'. In the bottom right corner of the screenshot, there is a large blue circle with a diagonal slash and the words 'BUSY WORK' written inside.

Online: [www.utd.edu/~rmix/RMD\\_Tool](http://www.utd.edu/~rmix/RMD_Tool)

Examination of our teaching practice and course design illuminated the urgency for information literacy. Just because you built it, you can't expect them to come.

A significant portion of our course development involved working closely with the UTD departmental liaison and UTTC digital librarian to integrate information resources into these courses. The library integration also spilled over into other areas; our library liaison reported working with the onsite students as heavily as the online students.

See *Meeting in the Middle*, Nix & Barksdale, IOL2007. Online: [www.uttc.org](http://www.uttc.org)  
& *Form following Function*, Nix & Ledbetter, IOL2007. Online: [www.uttc.org](http://www.uttc.org)

UTTC's *Learning Resources* organization provides an introduction to college-level learning, focusing on areas in which many students often need to build skills, such as study methods, time management, and communication. The modules are available in the student portal tab for every student currently enrolled in a UTTC course.

*Look for more soon!*



## Implementation examples from the course

SCE 5305-011 (FA06) > ANNOUNCEMENTS

VIEW TODAY VIEW LAST 7 DAYS VIEW LAST 30 DAYS VIEW ALL

**All Announcements**

- Wed, Aug 30, 2006 -- Lesson 3: A note from Stephanie!**  
Look the tutorial on scholarly vs. popular sources. I give some hints on finding your articles faster and further tips on identifying scholarly articles.
- Wed, Aug 23, 2006 -- Lesson 2: A note from Stephanie!**  
Check out the tutorials about using the UTD library Catalog. This tutorial will give you a good foundation for searching the materials available at UTD. Also, poke around the library's website ([www.utdallas.edu/library](http://www.utdallas.edu/library).) You will be pleased at all the information you have access to. When you are ready to search for your articles, check out the tutorial for searching ERIC. ERIC is the mothership for education articles and other research. I can also recommend other databases, depending on your topic. Have any questions? Let's talk!
- Mon, Aug 21, 2006 -- Opening in new windows...**  
FYI, we have just re-set the course modules (lessons and project descriptions) to open in new windows (as they did before the upgrade). Hopefully this will make your online lives easier!

## Timed Announcements

Our departmental library liaison was listed as a course consultant on the instructor page, providing ready details on how to contact her via email or telephone along with a direct link to her staff website. Strategically timed announcements tied to lessons helped to inform students of the library services available to them, i.e. tutorials and databases, hints on finding articles faster, tips on identifying scholarly articles, ways to get to the assignment articles, and ideas for keeping up with the current research.

## WorkGroup Interactions

Conversations were catalyzed by forcing initial interaction through project workgroups.

For example, project task #4 focused on setting research goals. Students generated a list of 5 keywords that they might search on to address a particular aspect of their top 3 teaching concerns (posted earlier in a different discussion). After running several searches individually, small teams synthesized a list of identifiers of primary research. A brief summary of how the exercise helped improve research techniques within each group was shared in the librarian's discussion forum for class review.

This 'practice' communication developed skills, increased comfort, and helped to start new habits to ask for help and to provide feedback in appropriate ways.

SCE 5305-011 (FA06) (SCE5305\_FA06) > PROJECTS

**Projects**

**Workgroup Interactions...**

As you get started with your research, it's often helpful to bounce ideas around or brainstorm options with your peers. Sharing comments and questions will help 'ground' your work in practical ways. We've set up these teams to give you a chance to interact, just as if you met at a worktable in the library to continue discussions after class! When you do have a question, don't hesitate to add it to the Science Education Reference discussion board so we learn from each other's experiences.

**02 Application Tutorial(s)**  
You'll utilize the UTD Digital Library resources extensively in this course - and throughout your thesis work. So, this week, take a **virtual tour** of the McDermott library! Use the convenient link in the course menu to get started...*Be sure to meet the Science Education Reference Librarian (who may very well become your 'new best friend')!*

Check out the online 'help' files and various tutorials to be sure that you know how to access the databases and other resources available to you. *We'll go over the nitty-gritty details in the Lessons, but make sure that you are comfortable with the general interface(s) at this point.* To complete this exercise, within your group, discuss the differences that you noticed between the UTD Digital Library and the Internet in general. Someone needs to post a brief summary of your team's observations to the appropriate **Reference Desk Discussion**.

**03 Literature Search**  
By now you have an idea of how to evaluate a research report or paper. This week, as a team,

- Decide** on a search strategy to find a good research article that contrasts the lecture mode of teaching with hands-on teaching and student achievement.
- Try** your strategy in at least 3 different search engines, like
  - Google Scholar online at <http://scholar.google.com/>
  - JSTOR in the UTTC Digital Library
  - Education POWERSEARCH in the UTD Digital Library, or
  - Academic Search Premier in the UTTC and UTD Digital Libraries!
- Compare** your results and brainstorm ways that your team could improve the search strategy to return additional - or better - results.

Finally, a member who hasn't posted for your group yet needs to share your team's new insights in the appropriate **Reference Desk Discussion** thread!

**04 Theoretical Goals**  
Lesson 04 focused on setting research goals. Think about how learning theory might inform the research goals you'll set based on a topic that you might choose to investigate. For this project task...

- Take a look at **your individual top 3 teaching concerns** that are posted in the Café 05 'Seat Yourself' forum.
- Generate a list of 5 keywords** that you might search for to address a particular aspect of your concerns. *Ask your Librarian help refine your terms if needed.*
- Run several searches individually, then discuss the **identifiers of primary research** that you noticed within your group members' results.

Any teammate who hasn't posted to the **Reference Desk Discussion** needs to add a brief summary of how this exercise helped your group improve their research techniques!

**05 Tentative Topic and Reference Section Draft**  
At this point, you've probably discovered an area of research that interests you. For this task, in a Microsoft Word document:

- share your **tentative topic choice** for your literature review with your workgroup peers;

The United States Distance Learning Association's International Forum for Women in E-Learning (IFWE)  
November 28–30, 2007

SCE 5305-011 (FA06) > DISCUSSION BOARD

Discussion Board

Forum	Total Posts
<a href="#">Cafe'05</a>	68

**Come in for a break or some advice!** This is a *seat yourself* forum with helpful *daily specials*, a tempting *lunch counter*, and even a 'customer' *comment form*. *Enjoy ~*

In this forum you may make anonymous posts, modify your own messages, and attach files for **Lessons 01-02, 15**, and whenever else you feel the need. Even though this is a casual setting, keep it professional!

[UTD Library: Science Education Reference](#) 49

This is the place to ask your questions of the **Science Education Library Liaison**. You can make anonymous posts, add file attachments, start new threads, and modify your own messages after posting in this forum. *Remember to use this area to support your workgroup agenda*. You will learn a lot from each other ~ as will the instructors!

Teaching Reflections	Thread	Author	Status	Unread Posts	Total Posts
This is the place to address in the Res Find the prompts in appropriate lead three Research Practice This is where we'll re: add your questions or research items address Lessons 13-14. You /	<a href="#">DIGITAL LIBRARY vs THE INTERNET</a>	Anonymous	Published	0	6
	<a href="#">EVOLVING KEYWORD TACTICS</a>	Anonymous	Published	0	4
	<a href="#">GENERAL RESEARCH COMMENTS</a>	Anonymous	Published	0	1
	<a href="#">IDENTIFYING PRIMARY RESEARCH</a>	Anonymous	Published	0	5
	<a href="#">IMPROVING SEARCH STRATEGIES</a>	Anonymous	Published	0	13
	<a href="#">Introducing your new Librarian friend</a>	Stephanie Isham (Librarian)	Published	0	2
	<a href="#">Who is your UTD Librarian Liaison?</a>	Anonymous	Published	0	18

*Dedicated Discussions*

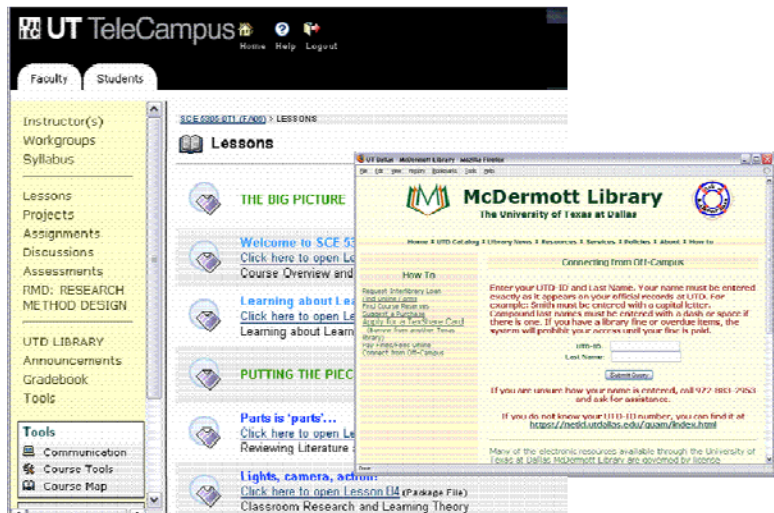
To assist students with their project development, structured threads in a dedicated discussion forum were moderated by the library liaison.

The faculty advanced their own professional development as new resources, tools, and techniques were explained!

*Course Navigation*

An external link to the UTD Library homepage was added to the course menu to allow for easy access and to serve as an ever-present hint to go there. Separate sections in our program guide detailed available resources and login procedures.

Specific project and assignment tasks to check library access and basic skills were listed in the course schedule and throughout the lesson pages also.



SCE 5305-011 (FA06) > STAFF INFORMATION

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 Notes: Course Designer and Co-Author



*Course Roles*

Our science education reference librarian remained actively engaged in the course delivery. With a 'student' role designation, she experienced the course with the same view as the students that she supported – without the burden of additional technical or privacy concerns.

She regularly communicated with students via email and the discussion board – and also maintained open communications with the instructors.

## No Significant Difference

Valid and reliable instruments were selected to quantify student outcomes and attitudes. Comprehensive statistical analysis indicated that there was no significant difference on any measure between the onsite and online sections.

### *Student Differences*

- Learning Style
- Teaching Style
- Personality Profile

### *Student Achievement*

- Textbook Reading Quizzes
- Midterm Project Summary
- Final Course Grade

### *Student Performance*

- Literature Review Paper
- Persuasive Presentation
- Research Study Proposal

### *Student Perceptions*

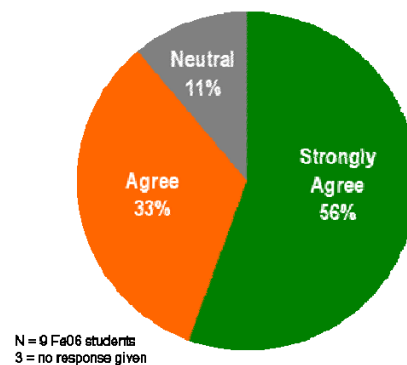
- Resource Literacy Efficacy
- Resource Literacy Attitude
- Resource Literacy Skills
- Learning Environment

Longitudinal and qualitative data suggest that the course was improved in terms of content and context. Dr. Cynthia Ledbetter, Fa06/Sp07 instructor who has taught sequence since 1987, stated:

*“I have seen a broader and more legitimate set of references in the research paper than in previous classes.”*

## End-of-Course Comments

The standard university End-of-Course Evaluation was administered by a departmental representative as a pencil-and-paper questionnaire to the onsite section at the last class meeting. A similar electronic survey was created for the online section to collect anonymous responses on those same items – and additional items specific to the library integration.



**The REFERENCE LIBRARIAN provided timely and accurate information in support of my coursework.**

## Student Perspectives

Find out what it's like to learn online through the UT-TeleCampus! Read the UTTC Stories, including some from MAT-SE students, shared online at [uttc.org](http://uttc.org).

## Overall Benefits

Our design, delivery, and evaluation experience benefited students, faculty, and staff by:

- using instructional and research design to support rigorous coursework and evaluation
- sharing personal and professional insights to broaden faculty/staff perspectives
- implementing best practices in distance education for course delivery
- creating examples of how strategic course design can support constructivist learning
- disseminating qualitative and quantitative results regarding onsite and online sections
- reporting on student outcomes and faculty/staff satisfaction to promote institutional growth

*We practiced the 3 Cs – Communication, Collaboration, Creativity – and they worked!*

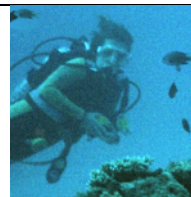
Equally important, we celebrate the positive changes realized through this collaboration with our answers to the IFWE challenge:



Rebekah K. Nix



Terry A. Barksdale



Cynthia E. Ledbetter

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**If we share ideas and combine our experiences, what advancements can we fuel?**

We can make a good idea great – and probably live to see it happen! There are so many possibilities that there's no way to succeed as an 'island' today.

By getting past our institutional and departmental silos, we ventured into a realm where we could (and did) share openly, without fear, expecting only mutual support and respect. Our experience led us to innovations within the team and inspired those involved tangentially to take bold steps in exciting directions that will continue to propel their growth as well as ours.

First, there are lots of materials, services, tools that librarians have and/or know about that we are blissfully ignorant of that could make our lives and those of our students much easier. Second, if we don't let the students know what materials, services and tools are available, they won't even know to ask for help. Finally, our students, if they have a positive experience with research aided by librarians, they may be more likely to continue using research and will, hopefully encourage their students and their colleagues to do the same.

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**If we focus on distance learning, what directions can we set?**

We can move closer to self-directed goals... Our students have good ideas that can make an almost immediate difference in their worlds with our support.

Distance learning is becoming the new standard, is breaking barriers and generating innovations at a startling pace. By immersing ourselves in these new technologies, and embracing the ever-changing tools, we can set a path toward improving all of higher education, creating richer learning environments for a new generation.

There is a much higher likelihood that I will use the library, and that my students will use the library if they can access it at 2:00AM and from a distance. This increases literacy ~ both library literacy and content literacy. If we want more literate constituents, then we must give them the tools to become literate AND those tools must be available at student need rather than when we are ready to let pearls of wisdom drop from our lips.

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**If we dare to be creative, what freedom can we find?**

We can know that we are doing the best we can with what we have at the time. That relieves the stress of trying to be 'perfect' and removes the fear of just being our unique selves.

We find the freedom of inspired thought.

Surrounding yourself with creative folks helps you to be more creative yourself. Creativity is the freedom to produce things that are different from the 'norm' and allows you to show your thinking in a different way. It allows you to 'come out of the box' and in showing your students that, allows them the freedom to do the same in an environment in which it is safe to be different.

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**If we draw upon a woman's way of knowing, what difference will it make?**

We can contribute in ways that men cannot simply due to our different natures. That will create new opportunities within a more balanced realm that will naturally be more rewarding for more members of our society.

It will make the difference of leading with a gentle hand, of allowing someone to grow and learn without feeling taught or that they were less than before they knew it.

This world is not a 'veil of tears' but a hopeful, delightful place. All we have to do is embrace the positive rather than the negative and quit worrying. Worrying kills creativity. Bullying kills creativity. Pushing kills creativity. Nay saying kills creativity. Joyful gathering brings together minds that are free to experience different ways of knowing and to share those ways of knowing with others who are open to other ideas, world views, and intellectual diversity.

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**If we collaborate, what issues can we promote?**

We can promote the issues that matter to us. Just trying to solve a problem sometimes solves it! Every little action starts a chain reaction that might just end in total satisfaction.

We can promote the benefits of collaboration, of shared knowledge, of the sum being greater than the parts, of the whole learning experience, of how to apply knowledge and the ways of learning to our whole lives, instead of just to a particular subject.

Positive interdependence! We're all in this together. We can build together or tear down together ~ or do both as needed.

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**If we reach out, how inclusive can we be?**

We can ride our dreams 'to the moon and beyond' – and experience the gamut of life in between. Together, I think we can find a way to reach every single soul that's close enough to touch.

If we reach out, we should reach in every direction, looking for a hand up from the leaders who preceded us, reaching out to our contemporaries to strengthen our footing, reaching back to the next generation of librarians, faculty and course developers both to help them learn from where we've been, and to feed the inspiration that will keep us going.

Inclusiveness means that we embrace each other's differences and accept differences as normal. There are a zillion good ideas in the world, why shouldn't we have access to them all? Why shouldn't everyone have access to our good ideas?

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**If we don't try something, how will we ever know?**

We can not fight every battle that needs to be fought; but, we can choose our battles wisely enough to win more than we might expect. Finding out what doesn't work can be as important as figuring out what does work!

Exactly!

Trying and failing isn't scary. It's failing because we didn't try that's scary. 'Feel the fear and do it anyway!'

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