

Intellectual Resources

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Theme Group Name:

Intellectual Resources

Members

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Introduction

The Intellectual Resources Theme Group discussions have centered on gathering information about the following resources:

- Information Technology
- Center for the Study of the American West
- Education on Demand
- Cornette Library
- Panhandle Plain Historical Museum

In order to meet the research expectations for a doctoral granting institution, WTAMU must develop ways for faculty members to store and have access to their research data. An innovative approach that we propose is creating a Faculty Commons webpage maintained by Cornette Library staff members. This Faculty Commons initiative would involve resources for both teaching and research. In creating this virtual space, we could bring together resources to assist faculty in teaching (Teaching Excellence Center), in research (through providing data sets,

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grant writing assistance) and regular updates about innovative technology upgrades. Faculty Commons would also encourage faculty collaboration both within and between disciplines. We would also seek to increase the digital offerings available through our current arrangement with Texas Digital Library (<https://www.tdl.org/>)

Along with developing file sharing and online storage options to benefit WTAMU researchers, we also should expand access to research journals, particularly in the sciences. In our discussions we realized that not all faculty members are aware of the current system in place by Cornette Library staff who serve as liaisons to the various departments, schools and colleges and who on a 2-year rotation basis request feedback about current journal subscriptions that faculty are using.

Therefore, in an effort to share information we propose the appointment of a Council of Innovation that includes representatives from Information Technology, CSAW, EOD, Cornette Library and the Panhandle Plains Historical Museum. The Council of Innovation would share their goals and plans they are putting in place to avoid duplication of efforts in the development of Virtual Reality spaces and technology and other innovation.

WTAMU should continue to expand the number of smart classrooms and enhance the technological capabilities such as electronic pens and displays, video and lecture capture systems to support hybrid learning, mobile apps and incorporation of the Internet of Things to support classroom automation, attendance, data analytics and artificial intelligence capabilities. Please note one of the action items for this key point is that we recommend the creation of a digital archive of both PPHM materials and artifacts, as well as a digital archive of the works of art on campus. This project is partially underway through the efforts of library staff members and students of Art History professor Amy Von Lintel.

WTAMU should expand virtual learning spaces to serve the needs of both students and faculty.

WTAMU should focus on existing research areas already identified by the Graduate School that are unique to our area in creating new programs or outreach. Such programs include West Texas A&M Small Business Development, Dryland Agricultural Institute, Cooperative Research, Education and Extension Team (CREET), Center for the Study of the American West, Crossbar Ranch, and the Beef Carcass Research Center.

As committee member Mary Emeny notes, "We need to identify what is unique about the area in which we live and use that as the focus of the development of new programs."

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Innovation

As the Intellectual Resource Theme Group discussed the goals we had set previously and considered innovative ways to approach WT's mission for the next decade and beyond, our recommendations centered on developing existing technologies and creating spaces where new technologies (specifically Virtual Reality) could be used by both faculty and students. There are also innovative ways to approach the limited resources we might face such as sharing research facilities and utilizing current resources in creative ways, which includes creating Maker Spaces in Cornette Library, allowing us to prepare for a dynamic learning environment whether in traditional face to face classes or in content taught entirely in an online delivery. North Carolina State University's Library is an example we can follow in developing Maker Spaces. (See <https://www.lib.ncsu.edu/services/makerspace> for an example of both high and low tech Makers Spaces). Cornette Library staff members are already moving forward with creating a Maker Space using a portable cart that will have materials students can use for creating "things."

While beyond the scope of the Intellectual Resources group, we also envision the WTAMU of 2035 as a place that has a Learning Commons. The idea of grouping services for students is already present on campus with the way Student Advising and auxiliary services are located in a common space in the Classroom Center. A Learning Commons would bring together, not only student services that we currently have, but also create a common area for learning and research to take place. That could occur by expanding the footprint of the current Cornette Library or by adding an additional floor that would become the Learning Commons.

Finally, we propose "new" ways of conducting the curriculum process. While there is a "Library Consultation" form listed with the various curriculum forms, no one is currently using that form as a way of informing library staff about the resources needed in new programs or new courses. Culturally, many curriculum committee members have avoided indicating what library needs they might have and have simply written "none" on the form to assure that the new program/course meets with committee approval. One change we could easily make is add a version of the current Library Consultation form to the new program/course proposal digital form so that library staff members are made aware of needed materials for that program/course.

Additionally, such innovative initiatives will also need library staff trained in data management and in using data sets to assist faculty research efforts and instructional designers who understand and come from multiple disciplines to create new approaches to teaching and

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learning.

Key Idea (1)

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In order to meet the research expectations for a doctoral granting institution, WTAMU must develop ways for faculty members to store and have access to their research data online. Currently through the Texas A&M University System, system members now have unlimited storage through Syncplicity, which is encrypted at rest and in transit, and allows the sharing of information to external sources and research data. Second, the University has also provided faculty, staff and students with a 1 Terabyte cloud drive with Microsoft and that is currently being extended to unlimited storage according to Microsoft. This is something that we already have access to today, what will this look like in 2035? Storage is getting cheaper and more expansive each year. By the time 2035 rolls around we're going to be dealing in exponential amounts of data storage that is ubiquitous, cheap, cloud-based, and baked in encryption all the way through.

Cornette Library has begun to provide faculty access to data repositories for the storage and sharing of data sets. Making data sets publicly accessible is often a requirement of government grants. The library has purchased a membership with the Inter-university Consortium for Political and Social Research (ICPSR), which will provide faculty with access to the archive of social science data at the University of Michigan. Access to ICPSR was a request of faculty and the Graduate School. Cornette Library also has a membership with the Texas Digital Library (TDL), which is headquartered at the University of Texas at Austin. Through TDL the library has created a digital repository for the WTAMU campus. Currently over 100 WTAMU theses and dissertations reside in our digital archive and are openly accessible to researchers when searching the Internet. The library is looking at purchasing a higher level TDL membership, which would provide access to TDL's Texas Data Repository (<https://www.tdl.org/texas-data-repository/>). Through the Texas Data Repository faculty from member institutions in Texas may deposit data sets, which are viewed and shared through open source software developed at Harvard University.

We should explore alternatives, including open educational resources for student instruction to reduce the cost of textbooks. The Library is interested in partnering with faculty in seeking OER alternatives.

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Goal 1:

To accomplish this goal, we need to determine research needs from each of the colleges/schools at WTAMU, as well as their awareness of file storage currently available. Then we need to predict the future needs for online storage and data storage to aid in the research/teaching function of WTAMU.

Action 1.1:

We should survey the Deans of each of the colleges to determine what research data storage and file sharing is needed.

Measurable Outcome 1.1.1:

From the data collected from the Deans about current file storage and the anticipated need for future file storage, we can determine what benchmark we want to set.

Goal 2:

We must have financial resources to expand our online data storage and file sharing systems. We must provide training to faculty that helps them understand how to access and use the online storage system.

Action 2.1:

We need to assess the training needs of faculty members and work with Instructional Technology Services, Cornette Library, and the Teaching Excellence Center to provide training.

Measurable Outcome 2.1.1:

By establishing the current level of training needs through a survey by Instructional Technology Services (and include questions from IT, the Library and the Teaching Excellence Center, we will establish a baseline and then compare survey results from successive years to determine if training needs are being met.

Key Idea (2)

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Key Idea (2)

Along with developing file sharing and online storage options to benefit WTAMU researchers, we also should expand access to research journals, particularly in the sciences. Additional library resources, especially online databases with full-text journal access, may also be needed to support new doctoral programs.

Goal 1:

Working with Shawna Kennedy Witthar of the Cornette Library, we need to gather information from WTAMU faculty about academic journals they are not currently able to access.

Action 1.1:

We need to determine the most cost effective way to provide access to the new journals that are added (availability considerations: print subscription, individual online subscription, online database subscription, open access, interlibrary loan).

Measurable Outcome(s) 1.1.1:

Measure existing subscriptions and determine what additional academic journals need to be purchased. Library reviews existing journals subscriptions every two years and through library liaisons seeks faculty feedback Make sure that all departments, schools, and colleges work with their library liaisons to request needed materials. Materials can also be requested through the following library form: <https://apps.wtamu.edu/forms/CLsuggestpurchase.php>. Cornette Library could also survey faculty regarding their journal needs

Goal 2:

Working with Shawna Kennedy-Witthar, we need to identify if additional library resources, especially online databases, will be needed in support of any new doctoral programs

Action 2.1:

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When contacted about new doctoral program proposals, library staff will evaluate library resources and share resource needs with the Department Heads and Deans preparing the proposals

Measurable Outcome(s) 2.1.1:

Library liaisons will work closely with faculty teaching classes in doctoral programs to make sure resources are adequately meeting students' needs. Librarian charged with working with graduate students will survey doctoral students regarding the adequacy of library resources and services. Cornette Library will administer its biennial LibQual Survey.

Action 3.1:

Determine how funds can be allocated to make these purchases.

Key Idea (3)

Key Idea (3)

Continue to expand the number of smart classrooms and enhance the technological capabilities such as electronic pens and displays, video and lecture capture systems to support hybrid learning, mobile apps, and incorporation of the Internet of Things (IoT) to support classroom automation, attendance, data analytics, and artificial intelligence capabilities.

Goal 1:

Working with academics and the division of Information Technology we need to add additional smart classrooms to the existing inventory, enhance and modernize the technology components of these learning spaces.

Action 1.1:

Maintain existing financial allocations to support the ongoing plans to add and/or enhance 10 new smart classrooms each year and determine the needs for each college and the Amarillo Center.

Measurable Outcomes:

Determine the number of connected devices at WTAMU; determine

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the number of Smart Classrooms currently in use; Determine the ratio of Help Desk requests to number of Help Desk Staffers.

Innovation:

Increase the number of instructional designers who could come from multi-discipline backgrounds who can serve multiple disciplines in creating innovative teaching approaches, including the use of Virtual Reality.

Key Idea (4)

Key Idea (4)

Using the resources that are already provided by Information Technology and the Cornette Library, we need to create a digital archive for materials currently housed in the Panhandle Plains Historical Museum and a Virtual Learning space.

Goal 1:

We should identify key faculty and staff members who oversee the PPHM archives and campus leaders who are custodians for campus artwork. (the University art collections are part of the University Archives at the Cornette Library).

Action 1.1:

A task force should be appointed to collect information about the archives and campus artwork, and should investigate creating a VR space at the PPHM and then formulate a plan for digitizing, storing this information and making it available for public use. Through Cornette Library's membership in the Texas Digital Library, our campus has a digital archive where these digital collections may be stored and will be accessible to the public.

Measurable Outcome:

Compare the current use of the PPHM with the level of use that occurs after these innovations have been completed, particularly noting the use of the VR Space by faculty and students. Statistics on the use of digital collections can be obtained and will be monitored.

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Key Idea (5)

Key Idea (5)

WTAMU should expand virtual learning spaces to serve the needs of both students and faculty. Virtual reality, augmented reality and virtual learning spaces needs to be a part of academic programs and campus buildings, including classrooms and distance learning programs. The key idea here is that this will create blended learning environments and was a key research theme by the Educause Center for Applied Research in the IT whitepaper. That will incorporate a large degree of video and Internet video.

Goal 1:

Using current faculty and staff experts, working alongside the division of information technology, we should seek information about the changes in virtual learning spaces and determine which of those best serve the needs of faculty and students.

Action 1.1:

To achieve this goal, WTAMU should support faculty and staff attendance at technology conferences and provide financial support for implementing new software or new teaching approaches, while maintaining compliance with accessibility. To this end, currently there is a pilot program in the HELC that is using VR technology. Cornette Library is adding a VR station to the library this spring. We should plan to purchase VR headsets which can be sent to students enrolled in distance education classes. We can also expand the use of VR to WT Athletics coverage and to add 360 videos to our classes.

Measurable Outcome:

Count the number of semester credit hours tied to VR technology.
Count the number of students and faculty using VR in other campus locations

Action 1: 2

We should pursue the creation of a Faculty Commons website, to be

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created by Cornette Library staff in collaboration with Instructional Technology Services (<http://faculty.wtamu.edu>) that brings together resources needed for teaching and research and also create Maker Spaces for students to create both high and low tech projects. Faculty Commons would bring together resources provided by the ITS, IoT and the Cornette Library.

Measurable Outcome:

Count the number of faculty members and students who use Faculty Commons and Maker Spaces.

Key Idea (6)

Key Idea (6)

WTAMU should focus on existing research areas already identified by the Graduate School that are unique to our area in creating new programs or outreach. Such programs include West Texas A&M Small Business Development, Dryland Agricultural Institute, Cooperative Research, Education, and Extension Team (CREET), Center for the Study of the American West, Crossbar Ranch and the Beef Carcass Research Center.

Goal 1:

As individual departments explore the expansion of existing programs to reach to become a nationally recognized doctoral granting university, the focus should be on what makes our university offerings unique.

Action 1.1:

We need to build awareness of these existing programs among both university and external stakeholders by hosting an information session that highlights each of these programs. Adding publications and data sets generated by these programs to our digital repository would assist in building awareness of these programs (the information could be publicly accessible on the Internet). Items that need to be secured and not available to the public can be stored in a dark archives within the digital depository.

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Measurable Outcome:

Track the number of research presentations/publications and community impact attributed to these programs, particularly the use of drone research by CREET. Also track the number of public programs offered by CSAW and other entities and the number of people attending. Track the use of the publications and data sets in the digital repository.

Action 2:1 (Innovation):

Establish a Makers Area within the Cornette Library which can serve both high tech and low tech needs where students can create projects.

Measurable Outcome:

Track the usage of the Makers Space and conduct focus groups with student participants to discover how the Makers Space connects with their learning.

Action 2:2:

Where possible, we need to encourage shared research space and equipment so that we can maximize the use of equipment by faculty members. We need to determine research facilities and equipment needs and plan to house equipment in a space open to multiple faculty members.

Measureable Outcome:

Track how faculty and students are currently using research and library facilities. Also note how the Library serves as a resource for community needs (i.e. International Baccalaureate program.)

Action 2:3:

Create a Council of Innovation which includes representatives from Information Technology, IoT, CSAW, EOD, Cornette Library, and the Panhandle Plains Historical Museum. (The Council of Innovation could be expanded to include other entities. Our Theme Group was focused mainly on the resources over which we had been asked to report.)

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Measurable Outcome:

The Council of Innovation will combine efforts to share resources and technological innovation with an annual report about shared projects they are undertaking. The report will detail the collaboration that is currently underway and collaborative efforts that have been completed.

Appendices and Additional Facts and Analysis

For examples of Maker Spaces, see <https://www.lib.ncsu.edu/services/makerspace> and <https://www.lib.utexas.edu/study-spaces-technology/foundry>

For examples of Faculty Research Commons, and Scholarly Communications websites, see <http://www.lib.ncsu.edu/services/researcher-support>
<https://legacy.lib.utexas.edu/services/scholarly-publishing>
<https://www.gvsu.edu/library/sc/>

"Research Data Repositories: The What, When, Why, and How,"
<http://www.infotoday.com/cilmag/apr16/Uzwyshyn--Research-Data-Repositories.shtml>

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For an account of Immersive Journalism in Virtual Reality, see this article by Sarah Jones <http://www.tandfonline.com/doi/pdf/10.1080/14682753.2017.1374677>

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