

# Creative Partnerships to Advance Graduate Research in the Digital Age

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## ABSTRACT

Providing adequate support for graduate students to conduct and complete their research relies upon successfully creating strategically collaborative relationships between graduate schools, university libraries and information technology services. This presentation will review graduate student needs and offer pathways towards providing more effective support services, outreach and promotion of graduate research at your institution through your electronic thesis and dissertation program.

Learning how to conduct independent research and how to write a thesis or dissertation are part of a graduate student's capstone experience. As research and publication technologies become more complex, graduate students increasingly need special assistance with aspects of their research as well as distillation of their findings into a thesis or dissertation document that may be beyond the expertise of faculty mentors in their department. Universities need to create better infrastructures to plan, implement, promote and sustain graduate research support services.

Today's graduate students need to work with electronic research methods, including the acquisition of new information literacy skills, automated citation and referencing techniques as well as incorporating multimedia into the electronic thesis or dissertation. These quickly evolving technologies require students to develop new technical skills and have access to the latest computing resources. Even on campuses where adequate resources exist, students may be unaware of the services available to them. As students create new types of information products, involving not only text but also data sets, images, video, audio, and other digital objects, they need to better understand issues related to standards, preservation, and intellectual property.

Libraries, graduate schools and information technology sectors need to work more closely together to provide the kinds of services that will assist students in working with and developing new types of digital information and objects. Additionally, colleges and universities can better leverage their intellectual property products via their ETD collections to more effectively promote their graduate programs and research output to support recruiting and retention missions as well as to facilitate and maintain research funding opportunities.

This presentation will summarize graduate student support service needs; review several studies related to graduate retention, and provide collaborative strategies to work with key players involved in the process to create new services; demonstrate how to create effective promotional outreach and communications to graduate faculty, students and the general public as well as provide examples of services, programs and marketing techniques that are assisting graduate students with scholarly communications in the digital era.

## Keywords

Graduate School, Libraries, Information Technology, Graduate Support Services, Electronic Theses and Dissertations, ETD.

## INTRODUCTION

The foundation for this paper is based on the work initially presented by Joan Lippincott, in her presentation "ETDs and Services for Graduate Students," at the ETD 2010 Symposium, University of Texas at Austin<sup>1</sup>. In this paper, the author has provided additional case studies and information to supplement the Lippincott's work.

Graduate student retention and degree completion rates can be an important indicator of the level and types of support services provided by institutions of higher learning. To put services for graduate students into context, Lee S. Schulman, President Emeritus of the Carnegie Foundation for the Advancement of Teaching said in a Chronicle of Higher Education article series,

*“Doctoral preparation remains a striking example of faith-based education...Our practices in doctoral education are a combination of longstanding traditions, replications of how we ourselves were trained, administrative convenience, and profound inertia”.*<sup>2</sup>

Historically, library, graduate school and information technology services for graduate students have tended to be traditionally based and generic in topical coverage. Typical services have included: reference service - in-depth consultation, brief presentations to graduate seminars in early phase of proposal development, with an emphasis on literature review, citation management software workshops, graduate student carrels, information technology help desk services and workshops on software products.

It is important to recognize that thesis and dissertation writers are an important sub-group of graduate students. Generally few or no services targeted specifically to students at this point in their program. As this stage is a major impediment to completion of the graduate program, many students could benefit from increased support, contact with appropriate experts, and communication. So we need to ask the question “What roles can the library, graduate school and information technology sectors play in improving support services for our future scholars?”

### **NEW APPROACHES**

To understand the nature of the problem, a needs assessment was conducted and reports were presented by the University of Washington, New York University and the University of Minnesota at Association of Research Libraries/Coalition for Networked Information Forum. The studies used a variety of approaches, both quantitative and qualitative, eliciting views from diverse departments.

### **ETD Award Winner Interviews**

One of the areas of inquiry included interviews with NDLTLD sponsored Innovative ETD Award winners. Questions to award winners included the following.

- How did you learn what library and IT resources and services were available to you that might assist in your dissertation process?
- Do you believe you received adequate information about IP issues - incorporating others’ materials into your work and how you might want to share and/or protect your own work?
- Do you know about Creative Commons licensing and if so, how did you learn about it?
- Do you have concerns about using standard formats for materials in your dissertation in order that the digital version could be read or viewed in future years as platforms change?

Raquel Gutierrez, a PhD in Leadership and Change Studies from Antioch University and an Innovative ETD Award Winner in 2009 responded as follows:

- The librarian I worked with “is extremely well informed, motivating, and authentically interested.”
- “I do not feel like I have adequate, if any, information about intellectual property issues about how I share my own work...Creative Commons is something I would like to learn more about and how to use/apply...”<sup>3</sup>

Lara Fackrell, a Master of Landscape Architecture from Kansas State University and also an Innovative ETD Award winner in 2009 in responded,

- “Consulting my committee and representatives at the library were key.”
- “Many of the information technology resources that I used in the process were brought to the table by me to begin with...Some assistance for future students might be helpful. Something like a how-to and/or best practices...”
- “I don’t know about Creative Commons licensing”<sup>4</sup>.

### **SUPPORT SERVICES**

What was revealed is that we need to improve support services for graduate students in the areas of data handling and electronic research, intellectual property guidance, writing assistance and multimedia resources. We’ll cite some brief examples along the way to illustrate.

### **Data and Electronic Research**

In the area of support services for data and e-research, students need access to large data sets; they are dealing with the creation of large data sets appropriate metadata and need access to best practices, documentation of workflows and access to equipment, software and facilities. Some examples are the Data repositories, an Oregon State University pilot with PhD<sup>5</sup> programs and the GIS Workstation at the North Carolina State University Learning Commons.<sup>6</sup>

### **Intellectual Property**

In the area of providing guidance services for intellectual property issues, students need information on use of others' works, information on licensing one's own work, education about Open Access, information about the impact of Open Access on the future publication of their dissertation as journal articles or a book.

Students also need to know about other options and alternatives to formal copyright, which protect their intellectual property yet allow for more liberal sharing of their work, such as Creative Commons. Creative Commons is a nonprofit organization that develops, supports, and stewards legal and technical infrastructure that maximizes digital creativity, sharing, and innovation".<sup>7</sup> Creative Commons offers a variety of free and legal licenses to suit the typical needs of authors. One popular CC license in education is the "Attribution-Non-Commercial" option which lets others remix, tweak, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms. Entire scholarly and professional communities have evolved and flourished such as the Open Educational Resources movement, Public Library of Science and digital cultural communities in the arts.

### **Writing**

In the area of writing support services, some University Libraries are partnering with Writing Center on workshops, providing space for Writing Center assistance; they are hosting and encouraging dissertation writing groups, both in-person and virtual including chapter-sharing events. One example is the Group meeting room in the Marriott Library at the University of Utah.<sup>8</sup>

In the area of providing multimedia support services, students need access to equipment loans, software and hardware to facilitate scanning and poster creation. Students would also benefit from tutorials and workshops on multimedia development as well as having access to studios and promotion of graduate research through conference exhibits. Students also need information on intellectual property issues related to fair use of multimedia materials and copyright clearance resources. One example of integrated multimedia support is the Weigle Information Commons at the University of Pennsylvania.<sup>9</sup>

## **COMPREHENSIVE SUPPORT SERVICE SOLUTIONS**

Next we will explore some examples of current trends towards comprehensive support service solutions for graduate students to assist with data handling and electronic research, intellectual property guidance, writing assistance and provision of multimedia resources.

### **Ohio University**

The Learning Commons at the Ohio University Libraries<sup>10</sup> includes multiple components to serve a variety of graduate student's needs. The Student Writing Center assists Ohio University undergraduate and graduate students in meeting the requirements of college writing. Marketing efforts include catchy promotions such as:

*"Working on a thesis or dissertation final draft? Need assistance with editing and proofreading? FREE one-on-one tutoring; Work alongside students to help them identify and understand ways of strengthening a draft. Our philosophy: "Writing is a process".<sup>11</sup>*

The Student Writing Center also produced a clever video available on YouTube which provides an entertaining way to catch student's attention and promote services offered.<sup>12</sup>

The J. Leslie Rollins Room for Student Leadership<sup>13</sup> is a specially-equipped room designed to re-create the corporate boardroom experience. This room seats as many as twenty people and has more technology than the group study rooms, including a Smartboard.

The Multimedia Center has 13 Macintosh computers equipped with an array of software from Adobe, Apple, Microsoft, and

other sources. All of the multimedia workstations have scanners.

Ohio University hosts an annual Student Research and Creativity Expo to promote undergraduate, graduate and professional research projects.<sup>14</sup>

The Faculty Commons combines a number of faculty support services in one spot: the Center for Academic Technology, the Center for Teaching and Learning, the Office of Nationally Competitive Awards (ONCA), Fulbright Scholar Program, and Library Collection Development.

For those caffeine and food urges while researching in the library available day and night, Ohio University Libraries offers Café BibioTech.

### **West Virginia University**

The West Virginia University (WVU) Libraries, Office of Graduate Education, Office of Information Technology and various Research Centers provide centralized and distributed support services for graduate students available to researchers campus-wide. WVU's traditional student-centered approach enables formative scholars to easily obtain the services they need to complete their research objectives. Recent strategic planning developments include 100 new faculty research lines by 2012, greatly increased research grant funding, Association of American Universities membership, Association of Research Libraries membership for the WVU Libraries, receipt of a 10 million dollar endowment for graduate studies and an anticipated increase in graduate student enrollment. The 2020 vision sets up WVU to be in the top tier of Carnegie research-extensive universities in the United States.

Data and electronic research support is provided by various departmental collaborations. The Department of Geology and Geography host the GeoVirtual Lab, a 3-D virtual cave environment and the GISTech Data Mine,<sup>15</sup> a complex database of geology related data sets and maps. The Department of English hosts the Center for Literary Computing<sup>16</sup>; the Department of Computer Science and Electrical Engineering hosts the Virtual Environments Lab – together in a collaborative project they joined forces to produce human motion capture data mashed up with computer animations which were exhibited in a jointly sponsored Electronic Poetry Symposium.

Additionally the University Libraries develop and host mobile applications such as search and reference services as well as provide access to OA scholarly resources. Popular mobile applications include online database and catalog searching, book/periodical holds, iPhone barcodes “scan-and-reserve” laptops and study rooms, library hours, computer station availability, PRT monorail service availability, campus and library maps as well as mobile reference chat and texting services.

The University Libraries<sup>17</sup> provide information about intellectual property issues through a variety of platforms. On the topic of fair use, one popular resource is the electronic and print editions of the Duke Law Center's “Bound by Law” comic book. The Libraries also developed and host an online plagiarism tutorial presented as a clever animation, which allows students to take a quiz at the end and for instructors to track results; some colleges at WVU have made the tutorial mandatory for all their students. The Libraries have recently created an intellectual property expert position, currently held by the Head of the Access Services Department, as well as having hired a new Scholarly Communications and Digital Initiatives Librarian. For graduate students and faculty, ETD Seminar topics include IP issues. The Libraries also regularly host promotions on Open Access scholarly communications and actively support OA publication and repository development. Additionally the Libraries promote information literacy through programs such as “embedded librarians” and IL curriculum development faculty grant opportunities.

The University Libraries and the Department of English have teamed up to provide writing services to teach students skills to become better writers. The Libraries host regular Term Paper Clinics for undergraduates with a Librarian expert who is adjunct faculty with the Department of English. For graduate students and more extensive support, the Department of English hosts the Center for Writing Excellence.

Additionally, the Office of Graduate Education regularly hosts professional development opportunities through the Graduate Academy<sup>18</sup>, including a variety of topics such as professional CV development, publishing tips, job search guidance, business etiquette, etc.

Multimedia support is provided by the University Libraries and the Office of Information Technology. The Libraries host a variety of equipment and services including multimedia computers, scanners, group viewing rooms, and library IT support. The Office of Information Technology hosts ETD technical support, including workshops, assistance by appointment, computer labs as well as design & specialized assistance through the Instructional Technology Resource Center.

This year WVU held its inaugural Science and Technology Symposium<sup>19</sup>. The event attracted undergraduate and graduate students as well as faculty and citizens to engage themselves as scientists. An awards ceremony and poster session allowed students and leaders to be recognized and to demonstrate their research efforts.

### **University of Central Florida**

The University of Central Florida features a number of prominent programs in the arts – multimedia ETDs are required in many programs. Theater students include DVD recordings of their performances as part of their thesis. Music students include performance files and scores in their thesis or dissertation. Film and Digital Media students submit interactive DVD games as part of their thesis.

The University of Central Florida makes student support a high priority by offering a variety of integrated services for graduate students hosted through a number of central offices and programs.

*“A requirement for making these processes work for the benefit of faculty and students is the integration and teamwork of the University Writing Center, the University of Central Florida Library, the Florida Center for Library Automation, the Office of Instructional Resources, and the Office of Graduate Studies”.*<sup>20</sup>

### **University of Minnesota Libraries**

The University of Minnesota hosts a variety of support service for graduate students through a collaborative effort of the University Libraries. Most notable is a “Dissertation Calculator” which facilitates graduate research and writing planning phases and charts a time line.<sup>21</sup> The resource was developed with the UM University Libraries, the Center for Teaching and Learning, the Center for Writing and the Center for Research on Developmental Education and Urban Literacy.

### **University of Virginia Libraries**

The University of Virginia Libraries developed and hosts “Scholars’ Lab” which supports digital research and scholarly analysis in humanities and social sciences. They provide equipment, space, software and expert assistance as well as schedule talks and events. Additionally they sponsor graduate fellowships in digital humanities.<sup>22</sup>

### **COUNCIL OF GRADUATE SCHOOLS COMPLETION PROJECT**

The Council of Graduate Schools (CGS), the only national organization in the United States solely dedicated to graduate education and research, recently completed a major study of doctoral students at 29 U.S. and Canadian universities, which reports that only 57 percent of PhD candidates complete their programs within a decade, according to the Council of Graduate Schools (CGS) organization.<sup>23</sup>

Among the most promising practices, Sowell said “Schools are employing writing assistants for doctoral students to eliminate the trepidation that comes with starting a major writing assignment such as the dissertation. In some cases, senior PhDs train newer students early on to prepare them for the dissertation process”.<sup>24</sup>

The study focused on producing data on attrition from doctoral study and completion of PhD programs and identifying promising practices. Recommendations included revamping the program environment with informal social activities, interdisciplinary interactions (academic and social) and establishing networks of support and outreach. Additionally curricular processes were identified as key to success such as writing assistance programs, dissertation retreat/boot camps and collaborative doctoral student writing rooms. CGS recently published the 4<sup>th</sup> in a series of monographs on PhD completion “Ph.D. Completion and Attrition: Policies and Practices to Promote Student Success”.<sup>25</sup>

### **UNIVERSITY SECTORS NEED TO PLAY TOGETHER**

We need to get Graduate Schools, Libraries, Information Technology units and departmental / research centers on the same page and to work together. We all have the same goal to support graduate education and research, so it would be completely rational that these groups work in concert to provide the best support services possible, which will in time, provide return investment based on the post-graduation success of your graduate alumni. Too often in large bureaucracies we tend to work in isolated silos, often wasting precious resources and overlooking potential collaborative opportunities to bring in team players.

First steps could include having a champion such as your Provost can help to provide the overall cohesiveness and vision. You can then create an upper level committee or task force within your infrastructure which would include the Provost’s Office, the Library Dean, a Scholarly Communications Librarian, an Intellectual Property Librarian, Reference Librarians,

ETD staff, Library Systems staff, the Graduate School Dean and administrative staff, the Information Technology Director, IT training staff, developers and programmers.

In organizing your planning group, try to utilize existing areas of strength from which to build new support services. Often finding the right mix of resources, direction and staffing among various units can help spread the workload and involve key offices in your central processes. Diverse membership within your planning group will ensure a variety of ideas, perspectives and resources will be examined, and will ensure personal stakes of units and their staff in collaborative projects.

### **Libraries, Graduate Schools, IT Units, Departments and Research Centers Can Be Part of the Solution**

By offering collaborative academic and social environments, colleges and universities can improve the graduate education and research experience. Further, we can provide specific support for the dissertation process to improve overall graduation success rates as well as improve research output contributions. Serving an enterprise-wide vision successfully most often requires that individual departments and their key staff be included as part of the solution.

### **Marketing**

As you develop service, don't forget to market them. Tips for marketing success include asking about communication mechanisms in your Needs Assessment. What are the most effective ways to communicate with your students? Are there new technologies which could enable you to do more with less effort?

You need to push messages to graduate student groups as well as asking students to help you market via popular social networking options such as YouTube videos, Facebook, Twitter, 4Square and mobile Applications. Be sure to include marketing through your faculty advisors and utilize campus media outlets. For wide exposure, plan and host or participate in a campus conference or event which promotes exhibits of completed work or work in progress and advertise widely.

### **CONCLUSION**

In this presentation we have summarized graduate student support service needs; reviewed several studies related to graduate retention; provided collaborative strategies to work with key players involved in the process to create new services; demonstrated how to create effective promotional outreach and communications to graduate faculty, students and the general public as well as offer examples of promising practices to provide services, programs and marketing techniques that are assisting graduate students with scholarly communications in the digital era. With the implementation of best practices for providing graduate student support, institutions of higher learning can better capitalize on their investment in graduate education and research. Successful graduation completion rates will increasingly serve a measure of the institution's research capabilities and output.

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