ETDs in Lock-Down: Trends, Analyses and Faculty Perspectives on ETD Embargoes

Terry M. Owen, Timothy Hackman and Thomas Harrod
University of Maryland Libraries
towen@umd.edu, thackman@umd.edu, tharrod@umd.edu

Since September 2006, graduate students at the University of Maryland have had the option of restricting access to their ETD in the university's digital repository (DRUM) for either a one- or six-year period. Embargo requests must be approved by the student's faculty advisor and submitted to the Graduate School prior to uploading the ETD. Since the beginning of the program, an average of 32% of the ETDs that have been submitted each semester have been embargoed. While Engineering has the largest number of embargoes (150), Chemical and Life Sciences has the greatest percentage (54%), followed closely by Agriculture and Natural Resources (51%) and Business (47%). The College of Arts and Humanities, specifically the English Department, has the largest number of six-year embargoes (75).

Faculty advisors who had approved at least one embargo request since 2006 were surveyed to gain insight into their perspectives on publicly available ETDs and ascertain their reasons for approving embargo requests. In general, faculty advisors indicated that they approve ETDs without attempting to change the students' choice of embargo period, indicating that the student plays a major role in deciding whether or not to embargo their ETD. In addition, faculty stated that the primary reason for approving embargoes was to protect opportunities for future publication.

While the percentage of embargoes has remained relatively constant each semester, our goal is to decrease the number of embargoes by educating faculty and students on the benefits of making their research widely available. We are working with the Graduate School and library faculty to develop a scholarly communications program that not only educates faculty and graduate students about the consequences of embargoes, but also makes them more aware of open access issues in general.

Background and Research Questions

The electronic theses and dissertations (ETD) program has been in place at the University of Maryland since fall of 2003 and students are now required to submit their thesis or dissertation electronically. Along with mandatory submission, all ETDs are automatically included in the Digital Repository at the University of Maryland (DRUM), available at http://lib.umd.edu/drum. In early 2006, a few members of the Graduate Council were concerned with the wide availability of graduate research on the Internet. Concerns ranged from publishers not accepting articles for publication to the possibility of someone stealing the student's research or ideas. To alleviate some of these fears, the library implemented a process that allows graduate students to restrict ("embargo") access to their ETD in the university's digital repository for either a one- or six-year period. One-year embargoes are appropriate for instances where a student wants to publish a journal article or protect a pending patent application. If a student plans to publish a book based on their ETD, then a six-year embargo would allow him or her enough time to write and publish the book. The six-year time frame also corresponds to the amount of time required for faculty to reach tenure. All embargo requests must be approved by the student's faculty advisor and submitted to the Graduate School prior to uploading the ETD at the end of each semester[1]. In rare cases a student may request an indefinite embargo of his or her work. This option requires the approval of the Dean of the Graduate School, however, and only two dissertations have been permanently embargoed since the option became available in 2006.

The purpose of this paper is two-fold: first, to track trends among academic departments requesting ETD embargoes at the University of Maryland; second, to gain insight into faculty perspectives on publicly available ETDs and ascertain their reasons for approving embargo requests. Specifically, we are interested in answering the following research questions:

1. Who is the primary decision-maker on embargoes in most cases - the student or the advisor? Or do the two make decisions together about whether and for how long to embargo their work?
2. How often do advisors question students on their choice of an embargo? Or do they simply sign the form, no questions asked?
3. Are advisors in the habit of recommending embargoes to their students? If so, what are their reasons for doing so?
4. How closely do advisors pay attention to the embargo options? Do they know what the choices are and the ramifications of those choices?
5. What are advisors' primary reasons for approving embargoes for their advisees?

Both embargo data and faculty survey responses will be used to identify strategies for educating faculty about embargoes and the benefits of publicly available ETDs.

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[1] The Thesis and Dissertation Electronic Publication Form is available at:
    http://www.gradschool.umd.edu/gss/forms/Publishing_Your_ETD.pdf

Review of the Literature

There is only a small amount of existing literature on faculty perceptions of ETDs, and even less on faculty perceptions and practices related to ETD access restrictions. Gail McMillan's 2002 OCLC White Paper on "ETDs and Libraries," for example, includes the Library, systems personnel, the Graduate School and graduate student authors as "Players" in the life cycle of the ETD, but does not address the part that faculty play in the process. McMillan (2001) does cite 1998 and 1999 surveys which found that "the majority of graduate student authors at Virginia Tech reported through a survey administered at the end of the ETD submission process that the decision to limit access to their ETDs was based on advice from their faculty advisors." This result would suggest that Virginia Tech faculty were aware of the embargo options at their institution and were actively recommending access restrictions to their students.

Susan Hall (2002) reports on graduate student concerns about ETDs, but also mentions the concerns of graduate faculty, who may "hold the view that publishers may consider the ETD a prior publication," or "who may counsel students...that releasing the dissertation for web publication could undermine long term goals for reworking the dissertation as a book contract" (54). A survey of journal editors conducted by Nancy H. Seamans (2003), however, seems to indicate that such fears are largely unfounded. Similarly, the 1998 and 1999 surveys cited by McMillan (2001) "found that 100% of those who had successfully published had not had any problems getting published because their theses or dissertations were online and readily available on the Internet."

Most germane to our study is Ursula Goldsmith's 2002 dissertation, "Perceptions of Active Graduate Faculty at a Research Extensive University Regarding Electronic Submission of Theses and Dissertations (ETDs)." Goldsmith's survey of faculty members at Louisiana State University (LSU) found that they were "generally supportive" of ETDs, believing that they would provide improved access to important research and that their advantages would outweigh their disadvantages (121). A closer look at Goldsmith's data, however, reveals a faculty fairly divided on the issue of open access to ETDs. While a slight majority of respondents (55.2%) believed that students should be able to grant "world-wide, unrestricted access" to their ETDs, roughly 47% also believed that authors should be able to specify the level of access, allowing authors a choice to restrict access indefinitely. The apparent inconsistency here is due to the survey construction. The questions asked if such options should be "established as part of the access policy," that is, available to authors, but did not ask faculty which option they preferred. Forty-four percent, for example, felt that authors should have the option to grant unrestricted access to their ETD after one year. Encouragingly, a mere 21% believed the option should exist to restrict access to users on the LSU campus only (70), a result that points to the perceived importance of making research widely available online. Interestingly, Goldsmith's study reveals that most faculty surveyed had little direct knowledge of ETDs, suggesting that they support open access to research in theory, even though they do not find it personally valuable. Only 20% of respondents had ever seen an ETD; of those, only 41% had actually downloaded one, 36% had used the reference section, and just 22% (4.5% of the total sample) had searched an ETD library.

Methodology

ETDs are loaded in the University of Maryland digital repository, DRUM, three times per year, approximately six weeks after the end of each semester. Information gathered from the

repository for each embargo request includes author, title, faculty advisor, academic department and embargo end date. In the first part of this study, statistics were analyzed for each academic department to identify trends in embargo requests over time.

In the second part of this study, faculty advisors were surveyed to determine the role they played in their student's decision to embargo, as well as their reasons for approving embargo requests. The authors created an eleven-question survey online using SurveyMonkey and sent email invitations to every faculty member who had approved at least one embargo since 2006, for a total of 367 individuals (see Appendices A and B for the email invitation and the survey sent to faculty). In addition to their reasons for approving embargo requests, faculty were asked about specific behaviors with regards to approving embargo requests, such as whether they had ever encouraged a student not to embargo their work or recommended a longer or shorter embargo period than originally requested by the student. Surveys were anonymous and did not contain any information that could positively identify the respondent. The survey was open for a period of three weeks, during which time there were 131 responses, for a response rate of 35.7%. The researchers used the statistical features of SurveyMonkey to analyze multiple-choice responses and summarized and categorized open-ended responses to allow for analysis.

Findings: Embargo Trends

Since the beginning of the program in 2006, an average of 32% of the ETDs submitted to the digital repository have been embargoed, and more than two-thirds of these were only for one year. The number of embargoes for each semester is presented in Table 1. While the School of Engineering has the largest number of embargoes (150), the College of Chemical and Life Sciences has the greatest percentage (54%), followed closely by the College of Agriculture and Natural Resources (51%) and the School of Business (47%) (see Table 2). The College of Arts & Humanities, specifically the English Department, has the largest number of six-year embargoes (75). This is not unusual given that authors in this discipline often want to publish a book based on their ETD and a six-year embargo provides them with ample time to do so. The College of Architecture had the smallest number of embargoes, with just 7% of their dissertations restricted since the option first became available. There were no discernible trends in the percentages of embargoes over time or from one semester to the next; the percentage of ETDs embargoed since fall 2006 has hovered within six percentage points of the overall average of 32%.

Table 1: Number of embargoes by semester at the University of Maryland since 2006.

Semester	Degrees Awarded	1-year Embargoes	6-year Embargoes	Total Embargoes	Percent Embargoed
Fall 2006	266	47	25	72	27%
Spring 2007	398	78	48	126	32%
Summer 2007	293	54	27	81	28%
Fall 2007	300	77	27	104	35%
Spring 2008	266	51	44	95	36%
Summer 2008	262	51	20	71	27%
Fall 2008	265	74	27	101	38%
TOTALS	**2050**	**432**	**218**	**650**	**32%**

Table 2: Number of embargoes by discipline at the University of Maryland since 2006.

College/School	Degrees Awarded	1-year Embargoes	6-year Embargoes	Total Embargoes	Percent Embargoed
Agriculture & Natural Resources	92	32	15	47	51%
Architecture	61	1	3	4	7%
Arts & Humanities	266	35	75	110	41%
Behavioral & Social Sciences	253	39	24	63	25%
Business	32	10	5	15	47%
Chemical & Life Sciences	226	95	26	121	54%
Computer, Math & Physical Sci	273	54	8	62	23%
Education	209	40	17	57	27%
Engineering	526	116	34	150	29%
Journalism	17	1	2	3	18%
Public Health	73	7	8	15	21%
Public Policy	16	2	1	3	19%

Findings: Faculty Perceptions of ETD Embargoes

Overall, 33.1% of faculty respondents indicated that they "always" review the embargo options with their graduate student advisees, while 19.1% said they "never" review these options. The middle 47.9% review the options "sometimes." Interestingly, while the advisors who "never" review the options were split relatively evenly between disciplines (20% in Arts and Humanities, 20.6% in Social Sciences, and 17.7% in Sciences[2]), faculty in the Social Sciences (20.6%) were only half as likely as their colleagues in Arts and Humanities (40%) and Sciences (37.1%) to say they "always" review the options with their students.

In general, faculty advisors indicated that they approve ETDs without attempting to change the students' choice of embargo period. In cases where advisors did recommend changes, it was slightly more common for them to recommend additional or longer restrictions to their students: only ten respondents (8.3%) had ever tried to persuade a student not to embargo a thesis or dissertation, while twenty-nine respondents (24%) had recommended an embargo to a student who had not initially chosen one. Likewise, only ten respondents (8.3%) had ever recommended a shorter embargo period than the one originally chosen by the student, while double that amount (twenty respondents, 16.5%) had recommended a longer embargo period. There were some interesting differences between disciplines: 32.3% of respondents from the Sciences had recommended an embargo to a student who had not initially chosen one, while only 24% of respondents from the Arts and Humanities and 8.8% from the Social Sciences had done so.

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[2] For the purposes of this study, "Sciences" includes all of the Physical and Life Sciences and the various Engineering subdivisions (Civil and Environmental, Electrical and Computer, Mechanical), as well as Mathematics and Computer Science. "Social Sciences" includes not only the Behavioral and Social Sciences (as they are classified at the University of Maryland) but also "Allied Professions" such as Business, Education, and Journalism. "Arts and Humanities" includes both the Visual and Performing Arts.

In answer to our first research question, then, it is apparent from the respondents' multiple choice answers and comments that the students themselves play an important role in deciding whether or not to embargo their ETDs. Asked to comment on their rationale for approving embargoes, 18.5% (seventeen of ninety-one who answered the question) of faculty wrote some variation of "the student requested it" as their primary reason for doing so. "I think this is the [student's] decision since they, in essence, own their dissertation," is a typical comment from a faculty advisor. Several faculty members also commented that they approved embargoes at their students' request even though they were personally opposed to restrictions on access to scholarly research.

To the question of how closely faculty advisors review the options before approving the embargo request, the results were largely encouraging. Most of the respondents seemed to understand the embargo decision, although there was a small group of faculty (seven respondents of ninety-one who answered this question) who admitted that they did not remember approving any embargoes. As one commenter wrote, "Frankly, I did not know I had approved any embargo. This question, and the message you sent me, is surprising. I oppose embargoes."

As mentioned, the majority of faculty advisors did not seem to be in the habit of recommending embargoes to students who had not requested them. More important than their habits, though, were their motivations. To this end, faculty who indicated that they had encouraged a student not to embargo his or her ETD were asked a follow-up question to determine their reasons for doing so. Although the response rate for this question was low (just thirteen respondents answered), their answers were enlightening. Roughly half cited "free exchange of information" as their primary motivator. "I believe knowledge is to be shared," wrote one respondent, and another commented, "In my view, [the students] owe it to their subjects, to us, and to society to make their work public." This seems to indicate that there is at least a small cohort of faculty members who are sympathetic to the cause of open access in scholarly publishing, with whom librarians and the repository manager could collaborate to advance the cause of Open Access. The other half of respondents to this question indicated that they saw "no reason" to embargo the student's work, as the dissertation did not contain proprietary data, had already been published, or just did not warrant an embargo. Wrote one commenter: "I can see no reason to embargo *any* of the research that my students do."

Survey participants were also asked to state their reasons for approving embargo requests. Although some simply named "student request" as the primary reason for approving embargoes, others gave a variety of reasons for doing so (see Table 3).

Table 3: All responses to Question 10: **"**For the embargoes that you have approved, what was your primary reason for doing so?"

	Total / Percent	Arts & Humanities	Sciences & Engineering	Social Sciences
Future Publication	34 (37.4%)	7	22	5
Protect Data/Work	20 (21.9%)	6	8	6
Student Request	17 (18.7%)	2	6	9
Proprietary Data	8 (8.8%)	0	7	1
Don't Remember	7 (7.7%)	1	2	4
Patent Application	5 (5.5%)	0	5	0

The largest group (thirty-four of ninety-one respondents to this question, 37%) identified "protecting the student's chances for future publication" as their primary reason for approving the embargo. One respondent commented, "Looking ahead to future publication as a book, [I] worry that a publisher will consider an on-line [dissertation] as publication, which will preclude publication as a book." Another added that publication in "the thesis archive [i.e., DRUM] is good, but is of lesser importance" than "publication in national and international journals." Faculty from the Arts and Humanities and the Sciences were equally likely (both 44%) to choose this option, while faculty from the Social Sciences were less than half as likely to say they worried about their students' chances for publication.

Other faculty members wished to protect their students' work for future publication, but for different reasons: twenty of ninety-one respondents (22%) commented that they wished to protect the work or data from competitors. This comment is typical: "I feel that the student ought to be able to control access to his/her research and interpretation for a reasonable time so that he/she can publish the results [without] worrying that someone else will appropriate them." Another respondent was even clearer about the perceived dangers of making ETDs freely available, stating, "Original work is in my experience plagiarized. I strongly advise students to protect their intellectual property." Not surprisingly, this response was most common from faculty in the Arts and Humanities, where collaboration is less frequent because the product is an idea rather than data, and the risk of "intellectual theft" is therefore greater.

Other responses to this question included allowing the student time to file for a patent (five of ninety-one respondents (5.4%), of which all but one were from Engineering programs), and the presence of proprietary data in the ETD (eight respondents, 8.7%). The latter was most common in circumstances where the student was working with an outside agency which may have had a stake in controlling the research data. As one respondent explained, "The thesis research was part of a sponsored research project and relied upon proprietary information provided to us by the research sponsor. The sponsor requested a finite amount of lead-time to protect such information before it was released into the public domain." It is no surprise that almost all of these responses (seven of eight) came from faculty in the Sciences.

Finally, the survey allowed space for respondent comments, which yielded some enlightening information about faculty perceptions of ETDs. Thirty-nine respondents chose to provide some additional feedback on their perceptions or experiences with ETDs and embargoes. The largest group of respondents (ten responses, 20%) expressed the view that free access to research (much of it publicly funded) was the most important principle, but they were split on whether or not embargoes should be available. Wrote one respondent, "I do not believe that students should embargo their theses and dissertations...this goes against all notions of research, which is to provide fully transparent descriptions of research findings...good or bad...in order to advance knowledge." By contrast, another thought that while a "one- to three-year embargo is acceptable," longer or nearly limitless embargo periods, such as those "put forth by departments like Art History…are unjustifiable concepts." Still another respondent wrote that "Online thesis access is very good in the long run, but for the first few years an embargo is very useful until all results have been published." Contradictorily, this same person added that "The option to embargo a thesis indefinitely should also be simpler, i.e. without a need for Dean's approval." In other words, he or she is, in general, in favor of making all theses available online eventually, but also wants more students to be able to restrict access to their research forever.

The next largest group of commenters (nine responses, 18%) expressed general satisfaction with the university's digital repository and with the available embargo options. A few of these explicitly stated that they approved of embargoes so that students' research was not

stolen and/or their chances at future publication were not harmed. Likewise another, smaller, group (four out of fifty, 8%) expressed a desire for more or longer embargo options, generally due to concerns about online research being plagiarized or precluding future publication. One respondent suggested that only university-affiliated patrons be able to download ETDs, "just like if they wanted to check a book out of our library."

The remaining responses addressed a variety of issues. Five out of fifty (10%) took the opportunity to reiterate the opinion that the decision whether or not to embargo should be up to the graduate student. A few others were not familiar with the embargo process or did not remember approving any embargoes, and two asked specifically for more education on the "pros and cons" of ETD embargoes. A few more used the space to express specific complaints about their experience with the digital repository and ETDs or with the way the survey was constructed. Among the respondents who provided comments, then (and sometimes even within the mind of a single respondent), there was quite a diversity of opinion on publicly available ETDs.

Discussion and Conclusions

To our knowledge, this paper represents the most complete examination to date of the attitudes and opinions which inform faculty members in regards to their involvement in the ETD embargo process. While much of what we found agrees with other published reports, we have also uncovered several noteworthy trends.

One noted result was the level of involvement of graduate students in the decision making process in restricting access to their ETDs. This is evident from the seemingly low percentage of faculty who have either tried to persuade a student to embargo his or her ETD when the student had initially chosen otherwise or, alternately, tried to persuade a student not to embargo his or her ETD (24% and 8.3% respectively). In addition, when asked for their *primary* reason for approving an embargo, seventeen out of ninety-two advisors mentioned that it was the student's choice.

This finding would seem to contradict the 2001 McMillan paper in which graduate students reported that their chief reason for placing an embargo on their ETD was from advisor input. However, this discrepancy can likely be explained by the differences between the two surveys. The surveys cited by McMillan offered respondents "advice of faculty" as one of the choices, while in our survey faculty input may have been implicit in many of the answers that we received, even if it was not explicitly stated (e.g., in many cases, the idea of embargoing an ETD in order to avoid jeopardizing a future publication may have originated with the faculty member). Therefore, it is difficult to directly compare the two results.

As mentioned above, and consistent with Hall's 2002 paper, we found that the possibility of jeopardizing future publications was a significant concern for faculty when advising their students. However, McMillan's 2001 paper reported that allowing public access to an ETD prevented no one from subsequently publishing an article. In addition, Seaman's 2003 article polled journal editors and found that such fears are largely unwarranted.

There was also a definite contrast among faculty members in different disciplines in terms of their attitudes about ETD embargoes, and the results fit the observed embargo preferences for each department. For instance, of the twenty-nine professors who had recommended an embargo to a student who had not initially chosen one, twenty were from the Sciences (32.3% of respondents from the Sciences). This finding fits well with the fact that several science

departments (e.g., Chemical and Life Sciences and Agriculture and Natural Resources) have a high percentage of embargoes.

It is important to be aware of the limitations of this study. Since our survey sampled only those faculty who have approved at least one embargo request since 2006, the results may not be representative of the attitudes of *all* university faculty regarding ETD access.

While the percentage of embargoes has remained relatively constant each semester, our goal is to decrease the number of embargoes by educating faculty and students on the benefits of making their research widely available. Organizing ETD workshops for graduate students presents an opportunity to introduce them to open access issues while they are transitioning from an academic to a professional career. Faculty members, in turn, must be educated on the evolving trends in scholarly publishing, specifically on how to retain rights to their research as authors. Given the disparities which exist between faculty and graduate student perceptions of the possible harmful aspects of making ETDs available online and the current scholarly information environment in which publishers have become accepting of online access prior to publication, we feel there is a great opportunity to alter the attitudes and behaviors of faculty and graduate students through such educational efforts. To that end, we are working with the Graduate School, department chairs, library liaisons, and library staff to develop a scholarly communications program that not only educates faculty and graduate students about the consequences of embargoes, but also makes them more aware of open access issues in general.

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Appendices

Appendix A: Email Invitation to Faculty Survey Participants

Since the Fall 2006 semester, graduate students at the University of Maryland have had the option of embargoing or restricting access to their electronic thesis or dissertation in DRUM (Digital Repository at the University of Maryland) for a specified period of time. To request an embargo, all students must indicate their preference on the Thesis and Dissertation Electronic Publication Form available at http://www.gradschool.umd.edu/gss/forms/Publishing_Your_ETD.pdf. Before a student submits the form to the Graduate School, it must also be approved and signed by the student's faculty advisor.

We are inviting you to participate in a research project to gain an understanding of faculty perspectives on placing embargoes or restricting access to electronic theses and dissertations. As a faculty member who has approved embargo requests for one or more of your graduate students, we would appreciate it if you would complete the survey available at [survey URL]. The survey will take less than 10 minutes to complete and will remain open for three weeks.

We appreciate your participation in this study and please let me know if you have any questions.

Appendix B: Faculty Survey

Restricting Access to Electronic Theses and Dissertations
Your responses to the questions below will assist us in determining faculty perspectives on embargoes, specifically the reasons for approving embargoes for students at the University of Maryland. This survey should take no more than 10 minutes.

1) To which University of Maryland academic department do you belong?

2) Are you a faculty member with tenure?
❑ Yes
❑ No

3) How long have you worked in academe?
❑ Less than 2 years
❑ 2-5 years
❑ 6-10 years
❑ Over 10 years

4) Do your graduate students review the embargo options outlined in the Thesis and Dissertation Electronic Publication Form with you?
❑ Always
❑ Sometimes
❑ Never

5a) Have you ever tried to persuade a student NOT to embargo their thesis or dissertation?
❑ Yes
❑ No

6) If yes, what have been your reasons for recommending that a student NOT embargo their thesis or dissertation?

7) Have you ever recommended an embargo to a student who had not initially chosen one?
❑ Yes
❑ No

8) Have you ever recommended a SHORTER embargo period than the one initially chosen by the student?
❑ Yes
❑ No

9) Have you ever recommended a LONGER embargo period than the one initially chosen by the student?
❑ Yes
❑ No

10) For the embargoes that you have approved, what was your primary reason for doing so?

11) Do you have any additional comments you would like to share with us regarding publicly available electronic theses and dissertations?

Thank you for your input.