

Using Google Apps to Collect and Organize My Tenure Portfolio

Dr. Rebecca Marie Reck, Kettering University

Rebecca M. Reck is an Assistant Professor of Mechanical Engineering at Kettering University in Flint, Michigan. She completed her Ph.D. in systems engineering at the University of Illinois at Urbana-Champaign and her master's degree in electrical engineering at Iowa State University during her eight years at Rockwell Collins and her bachelor's degree in electrical engineering with a mathematics minor, from Rose-Hulman Institute of Technology in 2005. Her research interests include controls, signal processing, and engineering education. Specific areas of controls and signal processing research include the design and modeling of intelligent controls, Kalman filters, and automation. Engineering education research includes curriculum and laboratory development for these concepts.

Using Google Apps to Collect and Organize My Tenure Portfolio

Introduction

At most universities, promotion and tenure decisions are made based on performance in three categories: teaching, research, and service. However, the emphasis on each category varies between universities depending on their institutional priorities. One thing is consistent; a candidate for promotion needs to submit evidence of work in these areas. During the review, the candidate presents a portfolio with evidence of their work, intended to tell the professional story of the candidate while on the tenure track. While each candidate tailors his or her portfolio to the institutional emphases across the performance categories, there are some common artifacts¹:

- Teaching
 - Preliminary narrative
 - Summary of teaching responsibilities
 - Samples of syllabi
 - Student evaluations
 - Peer evaluation of teaching
 - Examples of graded student work
 - Examples of experimentation and improvement in the classroom
- Research/Scholarship
 - A complete list of journal publications
 - A list of submitted/accepted work
 - A list of conference presentations
 - A description of works in progress
 - A list of grants submitted and funded
 - A selection of full-text versions of your best papers
 - Letters from colleagues at other institutions discussing your scholarship
- Service
 - Internal institutional service
 - Professional service (professional and scholarly organizations)
 - Community outreach (unpaid consulting, teaching, etc.)
- Student advising (often combined with one of the above categories)
 - Summary of students advised
 - Correspondence with students or notes utilized in advisee consultations

Since this list varies, many resources emphasize to candidates the importance of identifying written and unwritten expectations for tenure at their institutions as soon as possible.¹⁻⁴ Once a candidate has identified the criteria, Wankat and Oreovicz³ suggest creating a schedule for technical research and publishing over their entire probationary period. Candidates are also advised to keep a record of activities to ensure nothing is missed in their portfolios.³

Purpose

During graduate school, I attended workshops for future faculty and compiled a reading list for new faculty. When I started my tenure-track position, I had a little bit of time to look at a few pages of the book on my reading list. I also consulted mentors about advice on how to get off to a good start. One piece of advice was consistent: Start collecting artifacts and data for tenure from day one. However, it was not as clear how to collect, store, and organize the data. So, I searched for resources and ideas on how to store my artifacts. This paper presents tips and tricks on how to use Google Apps and other technology to collect and organize artifacts for a tenure portfolio.

Methods

During my first year on the tenure track, I consulted books, mentors, and peers about how to collect data. I also conducted a survey of other tenure track faculty to get a broader perspective from beyond my own institution. The survey was sent out via ASEE New Engineering Educator and Engineering Research and Methods email newsletters. It was also publicized on my social media accounts. After completing the survey, participants were offered the opportunity to enter a drawing for a \$10 Amazon gift card. The complete survey is included in the Appendix of this paper. I used Google Forms to collect the responses to the survey questions. Participants were not required to complete any question of the survey before proceeding.

Results and Discussion

From the resources I have found and the survey data, there is not a consensus on how to collect and organize artifacts for promotion and tenure. However, there is still useful information from these resources. First, I analyzed the demographics of the participants. Then, I summarized useful information about collecting artifacts for teaching, research, and service. Finally, I compiled other tips for using technology and staying organized.

Demographics

First, I analyzed the demographics of the survey participants. Thirty-six faculty responded to the survey. Of the participants, 21 were in tenure-track positions, three already had tenure, and 12 were in non-tenure-track positions. The titles of the participants are shown in Figure 1. The 21 assistant professors did not directly correlate with the 21 participants on the tenure-track. Two of the assistant professors were not in tenure-track positions and two of the associate professors were on the tenure track. The tenure-track participants have varied lengths of time until they can apply for tenure; see Figure 3. Participants represented all types of institutions, as shown in Figure 2. Of the participants that reported the name of their institution, only two universities had more than one participant. All participants are in STEM fields.

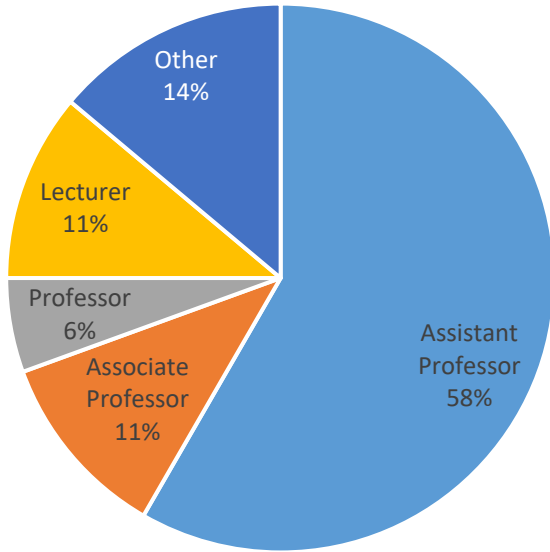


Figure 1 - Current title of survey participants (n=36)

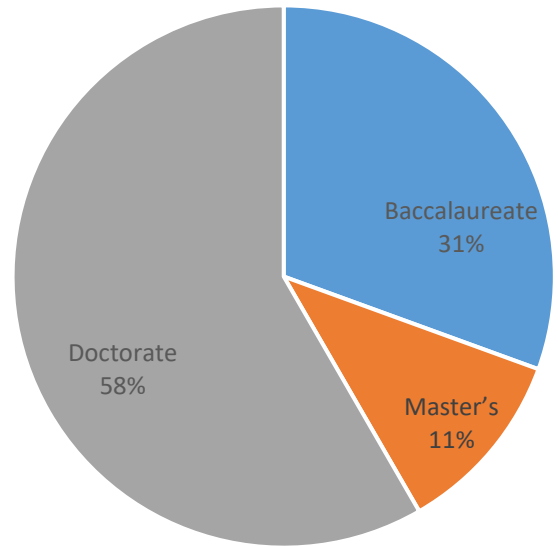


Figure 2 - Classification of institutions (n=36)

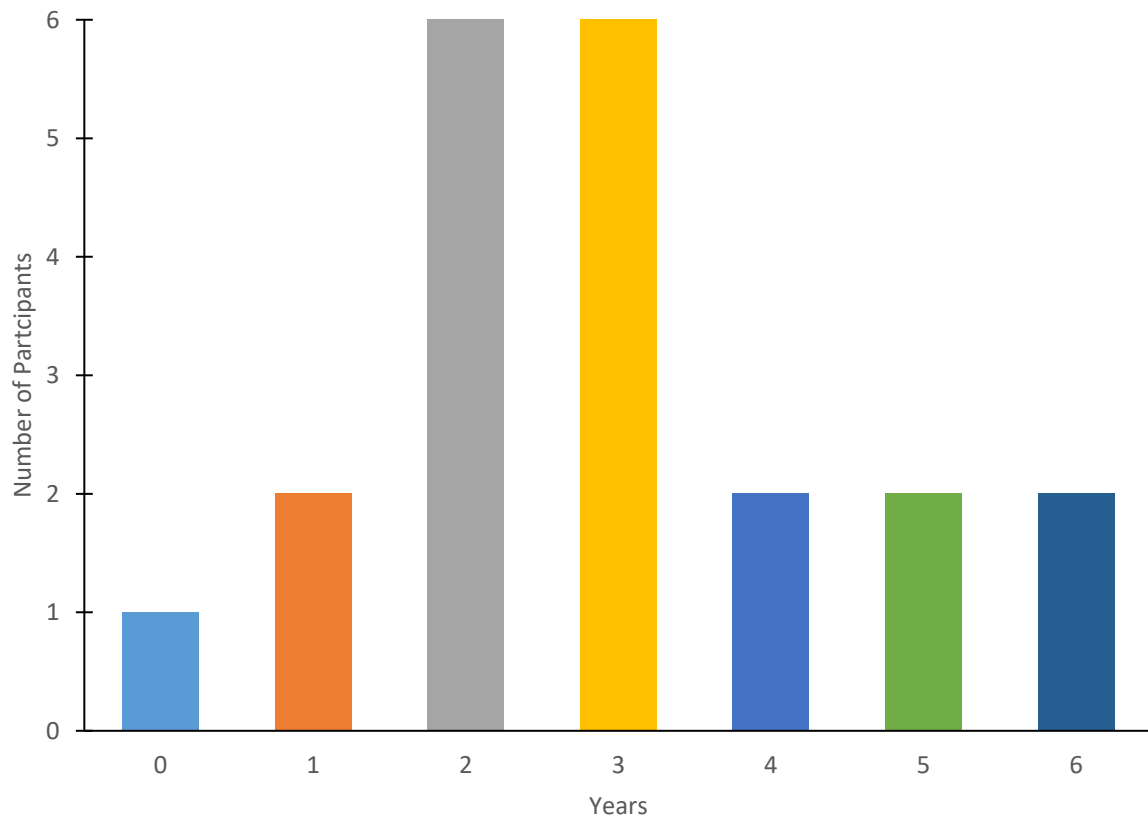


Figure 3 - Number of years until tenure-track participants can apply for tenure (n=21)

Teaching

A teaching portfolio has many elements in common with the teaching section of a tenure portfolio, and in many cases, they are the same. At my university, the teaching section does resemble a teaching portfolio. As such, all new faculty are provided a copy of *The Teaching Portfolio* by Peter Seldin, J. Elizabeth Miller, and Clement A. Seldin.⁵ The authors⁵ provide the following steps for creating a teaching portfolio:

1. Planning, identify the purpose and audience
2. Summarize teaching responsibilities
3. Describe your approach to teaching
4. Select items for the portfolio
5. Prepare statements on each item
6. Order the items
7. Compile supporting data
8. Present the portfolio
9. Incorporate the portfolio into the CV

They suggest a physical format of 7-12 pages of narrative that references appendices of supporting data.⁵ While the primary format suggested is a hard copy in a binder, they also mention an alternative e-portfolio format with examples.⁵

Of the 36 participants, 21 indicated that they have a teaching portfolio; see Figure 4. The participants were also asked where they stored their teaching portfolio; see Figure 5. While Seldin, Miller, and Seldin suggest paper portfolios⁵, the vast majority of participants are electronically storing the contents of their teaching portfolio. Seldin, Miller, and Seldin⁵ make a distinction in the format between paper portfolios and e-portfolios. They suggest an e-portfolio should be more than scanned files of a paper portfolio.⁵ From this survey, it is not clear the exact format of the artifacts collected by the participants. Therefore, it is difficult to determine if their portfolios are just electronic versions of what would exist on paper or a more extensive e-portfolio.

Currently, my teaching portfolio is in a folder on my Google Drive. It resembles the paper format proposed by Seldin, Miller, and Seldin⁵. I have a Google Doc that contains the draft narrative of my teaching portfolio. Supporting this, I have additional folders that contain the data for the appendices and the raw data that I used to create the appendices. At the end of each term, I add copies of my syllabi, grade book, and evaluations to the raw data folder. It is advised that candidates download a local copy of any grade books stored in learning management systems (e.g. Blackboard, Canvas), as the data may become unavailable without warning. I was happy that I followed this advice since students on my campus are removed from Blackboard when they graduate and consequently their rows in the grade book disappears. I also make some rough notes about course improvements and how they worked. Then, about once a year, I update the analysis and the narrative with the new data I have collected. Seldin, Miller, and Seldin⁵ recommend spending about 12-15 hours to plan and start your teaching portfolio, and then update it annually.

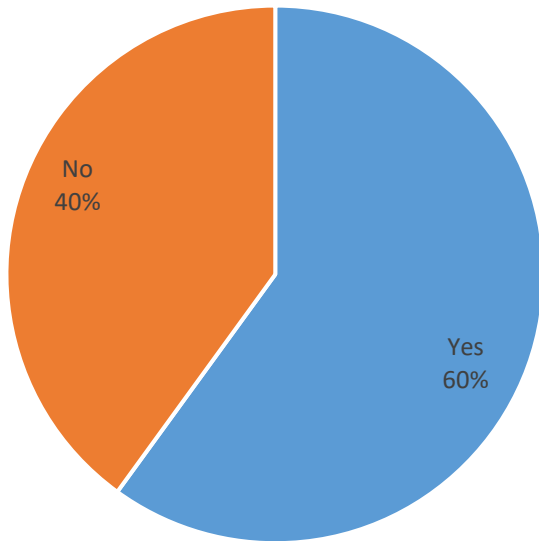


Figure 4 - Participants with a teaching portfolio (n=35)

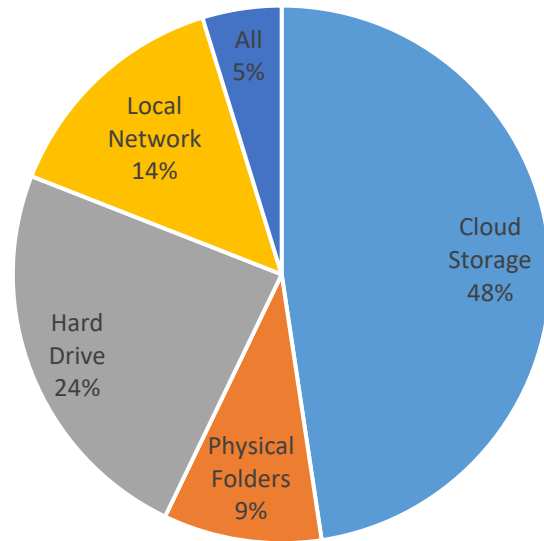


Figure 5 - Storage location for teaching portfolio (n=21)

Three survey participants also suggested that tenure-track faculty have lectures recorded, but for different reasons. One specifically suggested using video recording for the candidates' own improvement in the classroom, one for students to reference, and the third did not indicate a specific use. Hahn and Migotsky⁶ indicate that video-recorded lectures as part of teaching observations are useful to the first-year faculty. Additionally, Lucas and Murry¹ suggest adding a video of a lecture to the tenure portfolio. While I was a graduate student, I had the opportunity to have a six-minute lesson video recorded. Then, I watched the playback with an experienced teaching and learning center professional who provided feedback. While I was very nervous during the actual recording of the lesson, I found it very helpful to be able to step back and observe myself and reflect on it. As there are many positive benefits, candidates should consider video recording their lectures.

Research

The primary artifacts for research are publications and funding³. The key to accomplishing both of these is staying organized. Staying organized was also the most common tip from participants. Specific suggestions included consistent file names, sharing strategies, and planning directory structures. The other common tip was ensuring files are backed up, either through the cloud or manually. All but one participant indicated using cloud storage; Figure 6 shows the cloud storage used the most often by each participant. Another participant stressed the use of software to manage literature. Most participants indicated that they were using reference management software; Figure 7 shows which software they use the most.

In addition to staying organized, Furtak⁷ suggests maintaining a publication pipeline. Her pipeline includes the following categories: conceiving new ideas, draft proposals, proposals under review, data collection, data analysis, manuscripts in draft form, almost ready for submission, manuscripts under review, in revisions, revisions under review, and in press/published. She suggests that candidates regularly check where projects are in this pipeline

to prevent stagnation and holdups. She also suggests keeping projects distributed along the pipeline.

I personally use Google Drive for storing data and papers. I use EndNote for reference management. I selected both of these because they are provided by my university. Google Drive also happens to be available to my collaborators. On the wall in my office, I also have a paper pipeline with Post-Its as described by Furtak⁷. In addition to this organization while I am conducting research, I update my publications on my CV and website at least once every three months.

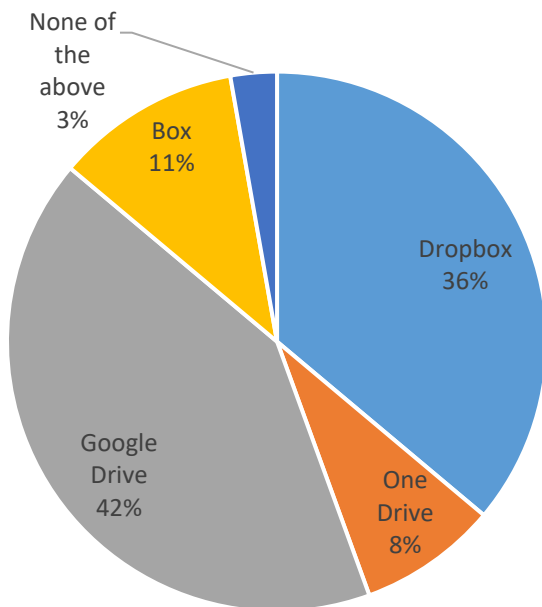


Figure 6 - Cloud storage used the most (n=36)

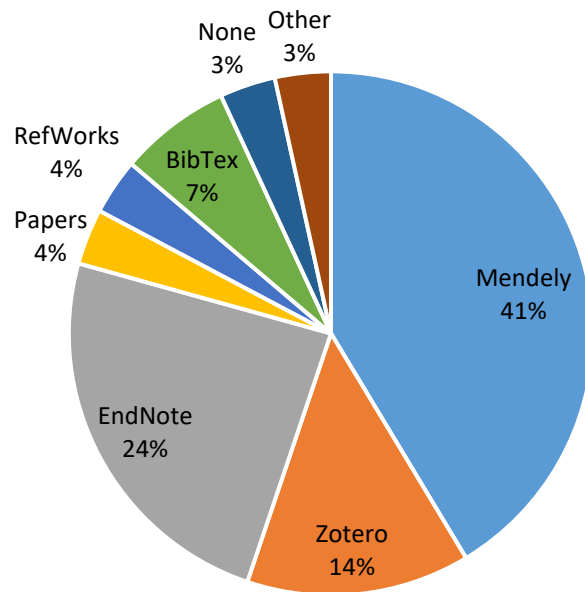


Figure 7 - Reference management systems (n=29)

In addition to artifacts of research, some universities require letters about each candidate's research from colleagues at other institutions.^{1, 2, 4} Prior to requesting letters, candidates should manage their professional images^{2, 4} and build networks within their disciplines.⁸ With the prevalence of social media, one's professional image includes online profiles as well as in-person interactions at conferences and within professional organizations. Research networking sites (e.g. ResearchGate, Google Scholar) can increase the visibility of publications and potential for citations. These sites also help candidates track the number of citations of their work. The purpose of sites like Orcid is to provide researchers, especially those with common names, with a unique identifier that can be used to track publications and funding accurately. I have profiles at ResearchGate, Google Scholar, Academia.edu, Orcid, IEEE Collaboratec, Chronicle Vitae, and LinkedIn. I also have my CV and current projects highlighted on my personal website. While maintaining these are sometimes a pain, I try to keep an up-to-date online presence of my research. In-person networking also requires a system of organization. Candidates should

develop their own systems to track business cards they collect at conferences. Multiple mentors have also told me to create a plan before each conference that includes who I plan to meet as well as when I plan to meet or how I could be introduced.

Service

Most advice about service is in the form of how to say no.^{1, 8} Along the same lines, one participant stated, "I was told by a provost - nobody ever gets denied tenure due to a lack of service." Since service is usually the least important, efficiency is key. Additionally, Reis² and Wankat and Oreovicz³ suggest seeking service opportunities that leverage or reinforce your research. Along with other areas of the portfolio, Reis² recommends collecting letters requesting reviews of journal articles and books, service commendations, and other records as they happen.

In my case, I maintain a log of committee work (both internal and external) in a Google Doc. I have email folders to organize emails related to committees. I also have a folder for each committee and organization on my Google Drive. I use Evernote and my calendar to track action items and upcoming meetings. Additionally, about two or three times a year, I summarize my service into main points and update my CV.

Other Technology

Reis²; Boice⁸; Lucas and Murry¹; and Wankat and Oreowicz³ all emphasize the importance of time management and efficiency for tenure-track faculty. While time management and efficiency are not directly related collection of tenure artifacts, effective time management means that you will produce artifacts worth filing and can plan time to keep documentation up-to-date. In the survey, participants responded with the tool(s) they used to organize their time; see Figure 8. In addition to the choices provided in the survey, participants also used Google Inbox, Todoist, and a local calendar application on their computer.

In addition to managing time specific activities, tasks and deadlines are also important to track. The participants also responded with the tool(s) they used to organize their tasks and reminders; see Figure 9. The survey included OneNote, Evernote, calendar, Post-it notes, and a phone app (e.g. Wunderlist, Todoist). Participants also added paper, Trello, Google Inbox, Bullet Journal, Cortana, Emacs Orgmode, email, KanbanFlow, Outlook, and Swipes.

For time management, I primarily use Google Calendar. I have also started using the goal feature of the Google Calendar app to include daily reminders for writing. This is how I have implemented the advice from Boice⁸ and others to write every day. For reminders, I use both Google Calendar reminders and Evernote, because both will pop-up alerts on my computers and phone. For to-do lists, I also use Evernote because it is accessible from all of my devices. Within Evernote, I have a to-do list for each week of the term and I create separate notes with reminders for bigger deadlines like papers and grants.

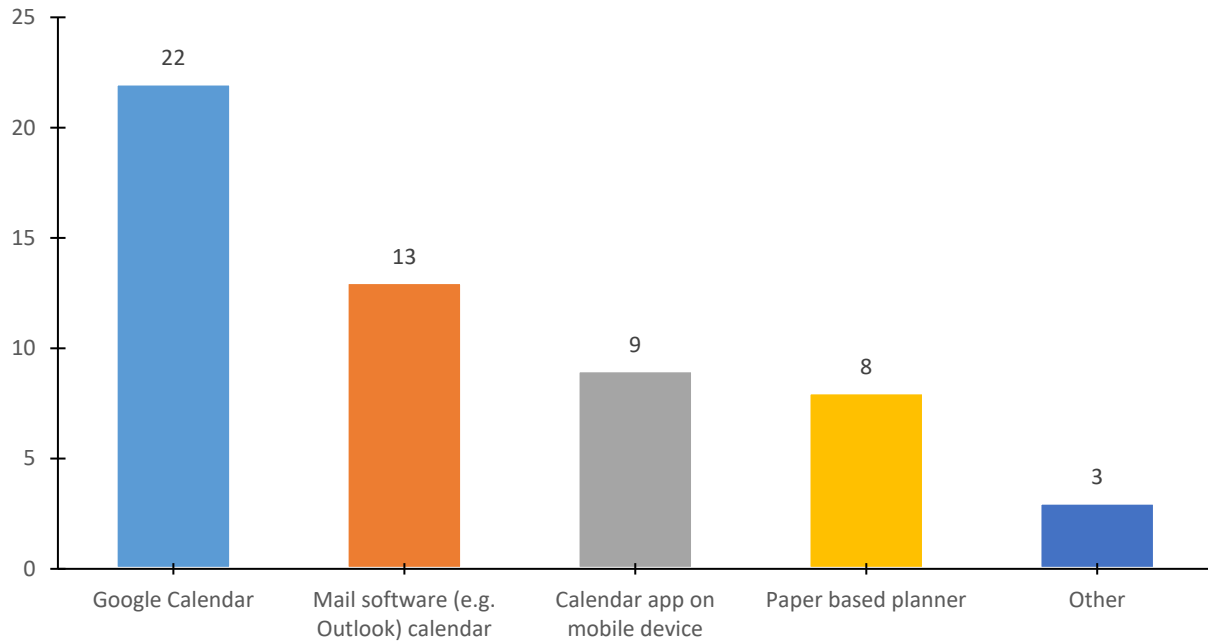


Figure 8 - Ways to organize time (n=36)

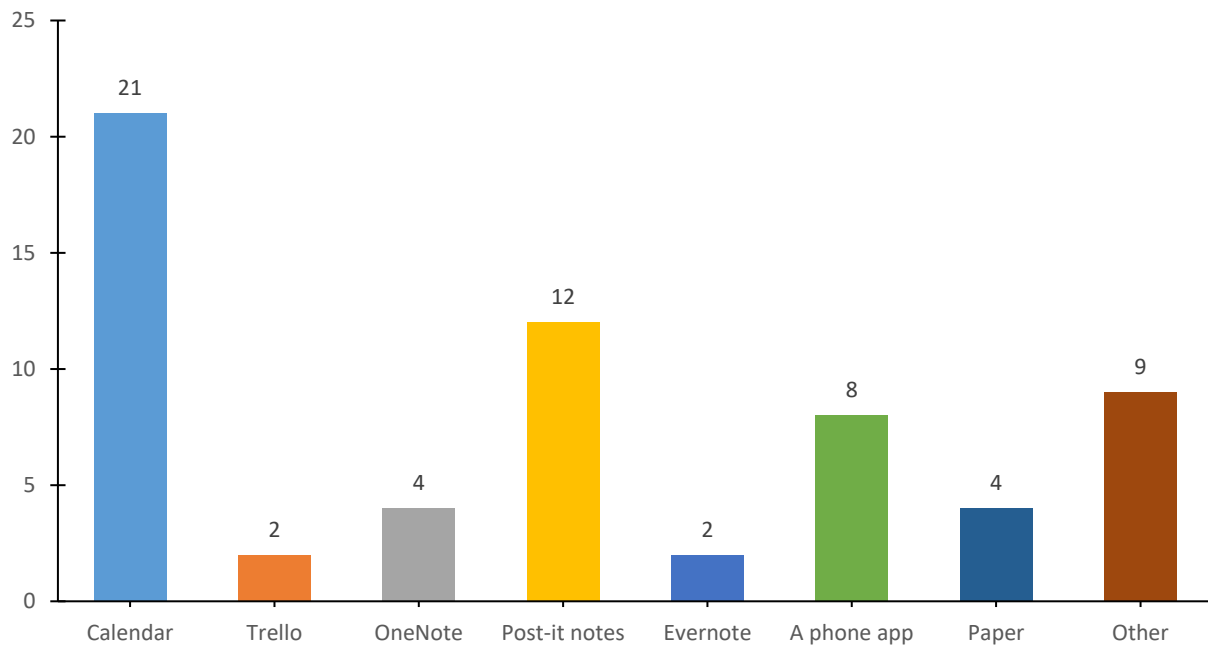


Figure 9 - Ways to track tasks and reminders (n=36)

Organization

A majority of the participants indicated that they were collecting artifacts for tenure and promotion; see Figure 10. As with the teaching portfolio, participants were also asked where they were storing these artifacts; see Figure 11. Most participants were storing artifacts electronically. Electronic storage has its advantages including the ability to backup artifacts.

Physical folders are vulnerable to water or fire damage and could get lost. While electronic storage can fail and files can be accidentally deleted, cloud storage usually includes version control and backups. Cloud storage has the additional advantage of being accessible from multiple locations. Three participants emphasized the importance of each candidate developing an individually tailored system of organization. I also consulted popular productivity books: Allen⁹ concurs with these participants, emphasizing that having a functional system is key to an effective workflow. One participant suggested keeping a journal of activities and another suggested setting aside half of a day at the end of each semester to document accomplishments and what to consider changing next time.

I keep all of my artifacts on Google Drive. I use Google Drive Sync to keep my desktop at home and work laptop up to date with all of my relevant documents. In my Google Drive, I have folders for each course I have taught, general teaching resources and my teaching portfolio, research, service, university documents, and professional organizations. I have a similar label structure within my Gmail. Within each course folder, I have another folder for each semester have taught the course. Inside my research folder, I have folders for current projects, brainstorming for new projects, and relevant calls for papers or proposals.

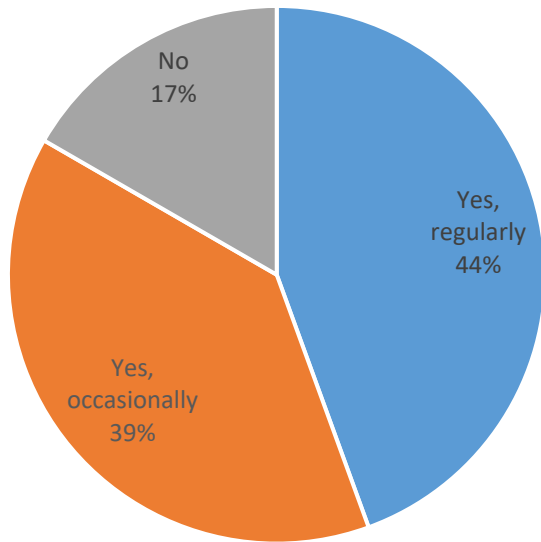


Figure 10 - Participants collecting tenure artifacts (n=36)

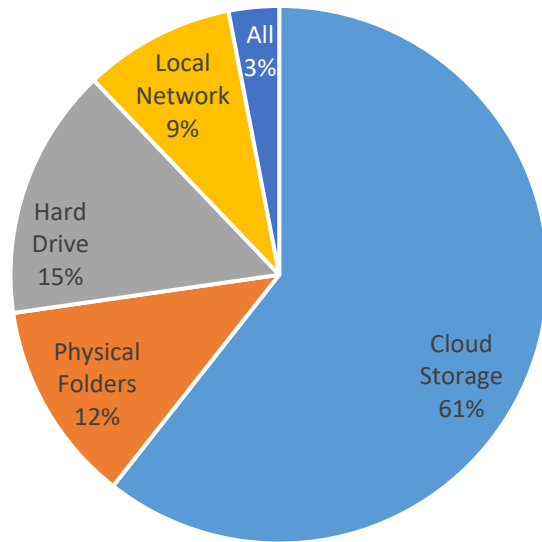


Figure 11 - Storage location for tenure artifacts (n=33)

Conclusion

While there is probably not a single solution for all candidates who need to keep their tenure and promotion documents organized, several tips and tricks emerged from this study:

- Know the requirements for promotion at the institution
- Start collecting artifacts early and update regularly
- Have an individualized system for organizing the artifacts and update if needed
- Keep a backup (or two)

In addition to these broad tips, I have presented a system of organization that works for me and perhaps can be a starting point for others. I hope this advice will help reduce the stress leading up to the application for tenure.

References

1. Lucas, C.J. and J. Murry, John W., *New Faculty: A Practical Guide for Academic Beginners*. Third ed. 2011, New York, NY: Palgrave Macmillan.
2. Reis, R.M., *Tomorrow's Professor: Preparing for Careers in Science and Engineering*. Electronic ed. 1997: Wiley-Interscience-IEEE.
3. Wankat, P.C. and F.S. Oreovicz, *Teaching engineering*. 2015, West Lafayette, Indiana: Purdue University Press.
4. Whicker, M.L., J.J. Kronenfeld, and R.A. Strickland, *Getting tenure*. Survival skills for scholars. 1993, Newbury Park: Sage Publications.
5. Seldin, P., J.E. Miller, and C.A. Seldin, *The Teaching Portfolio: A Practical Guide to Improved Performance and Promotion/Tenure Decisions*. Fourth ed. 2010, San Francisco, CA: Jossey-Bass.
6. Hahn, L.D. and C. Migotsky, *Formative Classroom Observations for New Faculty*. ASEE Conferences: Seattle, Washington.
7. Furtak, E.M. *My Writing Productivity Pipeline*. 2016. **2017**.
8. Boice, R., *Advice for New Faculty Members: Nihil Nimus*. 2000, Needham Heights, MA: Allyn & Bacon.
9. Allen, D., *Getting Things Done: The Art of Stress-Free Productivity*. 2001: Penguin Group.

Appendix – Survey

Demographics

1. What is your current title?
 - a. Lecturer
 - b. Assistant Professor
 - c. Associate Professor
 - d. Professor
 - e. Other
2. What is your tenure status?
 - a. Tenure-track (or equivalent)
 - b. Tenured (or equivalent)
 - c. Non-tenure-track
3. If applicable, how many years before you can apply for tenure?
 - a. Numbers 1-10
4. If you currently have tenure, how many years since you earned tenure?
 - a. Numbers 1-10
 - b. More than 10
5. What department are you in? Short Answer
6. What Institution do you currently work for? Short Answer
7. What is the primary classification of your institution?
 - a. Doctorate granting institution

- b. Master's granting institution
 - c. Baccalaureate granting institution
 - d. Associates granting institution
 - e. Other
8. How many years have you worked for your current institution?

Classroom Technology

In this section, we will ask a few question about how you use technology in the classroom or to support teaching.

9. Which of the following classroom learning management systems (LMS) does your campus provide support?
- a. Blackboard
 - b. Canvas
 - c. Moodle
 - d. Angel
 - e. Google Classroom
 - f. Other
 - g. None of the above
 - h. Do not know
10. Which LMS do you use the most?
- a. Blackboard
 - b. Canvas
 - c. Moodle
 - d. Angel
 - e. Google Classroom
 - f. Other
 - g. None of the above
11. Why do you use that LMS the most? Open Response.
12. Which of the following functions do you use in the LMS? Check all that apply.
- a. Grade book
 - b. Discussion board
 - c. Virtual office hours
 - d. Quizzes
 - e. Tests
 - f. Assignment drop boxes
 - g. Electronic course information (e.g. syllabus, handouts)
 - h. Electronic grading/feedback
 - i. Electronic rubrics
 - j. Other
 - k. None of the above
13. What tips or best practices for LMS use would you share with early career faculty members? Open response.

14. What other types of technology do you use in the classroom? Check all that apply.
- a. Clickers
 - b. PollEverywhere
 - c. Videos
 - d. Presentations via tablet with handwriting input
 - e. Simulations
 - f. Other
 - g. None of the above
15. What tips or best practices for technology in the classroom would you share with early career faculty? Open Response.
16. Do you collaboratively teach with other faculty or share resources with teaching assistants?
- a. Yes
 - b. No
 - c. Sometimes
17. If so, how do you share the information? Check all that apply.
- a. Cloud service (e.g. Google Drive, Dropbox)
 - b. LMS
 - c. Email
 - d. Paper
 - e. Other
18. What tips or best practices for using technology to collaboratively teach would you share with early career faculty? Open Response.

Research Technology

In this section, we will ask questions about how you use technology to organize your research, not your topic of research.

19. Do you use a reference/document management service? Check all that apply.
- a. Mendeley
 - b. Zotero
 - c. EndNote
 - d. RefWorks
 - e. Papers
 - f. Other
20. Does your institution provide free/upgraded access to a reference/document management service? Check all that apply.
- a. Mendeley
 - b. Zotero
 - c. EndNote
 - d. RefWorks
 - e. Papers
 - f. Other

21. Which reference/document management service do you use the most?
 - a. Mendeley
 - b. Zotero
 - c. EndNote
 - d. RefWorks
 - e. Papers
 - f. Other
22. Do you collaboratively write papers with other faculty or students?
 - a. Yes
 - b. No
23. If so, what is your primary word processing program when writing collaboratively?
 - a. Google Docs
 - b. LaTeX
 - c. MS Word
 - d. Other
24. If so, how do you share your manuscript while it is in preparation?
 - a. Cloud service (e.g. Google Drive, Dropbox)
 - b. MS Office 365/One Drive
 - c. Email
 - d. Overleaf
 - e. External drive
 - f. Paper
 - g. Other
25. If so, how do you share your data?
 - a. Cloud service (e.g. Google Drive, Dropbox)
 - b. Email
 - c. External hard drive
 - d. Paper
 - e. GitHub
 - f. Other
26. Do you use version control (e.g. subversion, Git) with your research?
 - a. Yes
 - b. No
 - c. Sometimes
27. What tips or best practices for using technology to collaboratively research would you share with early career faculty? Open Response.
28. What tips or best practices for using technology to keep your research organized would you share with early career faculty? Open Response.

Service Technology

In this section, we will ask questions about how you use technology to support your service commitments (e.g. serving on committees, advising student groups)

29. Which of the following technologies have you used to keep committee work organized for all members? Check all that apply.
- a. TeamSpace
 - b. Google Docs/Spreadsheets
 - c. MS Office 365/One Drive
 - d. Cloud service (e.g. Google Drive, Dropbox)
 - e. Evernote
 - f. OneNote
 - g. Other
30. Which of the following technologies have you used to work remotely with committees? Check all that apply.
- a. Skype
 - b. WebEx
 - c. AdobeConnect
 - d. BlueJean
 - e. FreeConferenceCall.com
 - f. Google Hangouts
 - g. Other
31. What tips or best practices for using technology to keep your service commitments organized would you share with early career faculty? Open Response.

General Technology Tips

In this section, we will ask about other technologies you use.

32. Which of the following technology resources are you aware of that available on your campus for faculty? Check all that apply
- a. Google Apps for Education
 - b. Office 365
 - c. Exchange (or server) based email
 - d. Evernote
 - e. Other
 - f. None of the above
 - g. Do not know
33. Which of these technologies do you use the most?
- a. Google Apps for Education
 - b. Office 365
 - c. Exchange (or server) based email
 - d. Evernote
 - e. Other
34. Why do you use that technology the most? Open response
35. Which of these Cloud services do you use? Check all that apply
- a. Google Drive
 - b. Box

- c. Dropbox
 - d. One Drive
 - e. Other
 - f. None of the above
36. Does your campus provide free or upgraded storage on any of the following cloud services? Check all that apply
- a. Google Drive
 - b. Box
 - c. Dropbox
 - d. One Drive
 - e. Other
 - f. None of the above
 - g. Do not know
37. Which of these cloud services do you use the most?
- a. Google Drive
 - b. Box
 - c. Dropbox
 - d. One Drive
 - e. Other
 - f. None of the above
38. Why do you use that cloud service the most? Open response.
39. If your campus does not provide cloud storage, do you still use a cloud storage service?
If so, do you pay a monthly fee? Open response.
40. Which of the following do you use to organize your time? Check all that apply.
- a. Google Calendar
 - b. Mail software (e.g. Outlook) calendar
 - c. Calendar app on mobile device
 - d. Paper-based planner
 - e. Other
41. Which of the following do you use to track tasks and reminders? Check all that apply.
- a. OneNote
 - b. Evernote
 - c. Calendar
 - d. Post-it notes
 - e. A phone app (e.g. Wunderlist, Todoist)
 - f. Other
42. Are you currently collecting documents, artifacts, and other data for tenure or promotion?
- a. Yes, regularly
 - b. Yes, occasionally
 - c. No
43. If so, how are you collecting these artifacts? Check all that apply.
- a. Physical folders/binders on paper
 - b. Cloud storage service (e.g. Google Drive, Dropbox)

- c. Computer's hard drive
 - d. Local campus network storage
 - e. Other
44. Do you have a teaching portfolio?
- a. Yes
 - b. No
45. If so, where is the information stored? Check all that apply.
- a. Physical folders/binders on paper
 - b. Cloud storage service (e.g. Google Drive, Dropbox)
 - c. Computer's hard drive
 - d. Local campus network storage
 - e. Other
46. What other tips or best practices for using technology to keep organized or save time would you share with early career faculty? Open Response.