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Prompted to Explore: A Microlearning Model for Faculty Development in Generative AI

Matthew J. Bodek
Pennsylvania State University

Elizabeth E. Park
Vanderbilt University
elizabeth.e.park@vanderbilt.edu

Jennifer Valcin
Pennsylvania State University

Abstract: The rapid advancement of generative artificial intelligence (GenAI) tools presents significant opportunities and challenges for higher education faculty. Faculty responses to these tools vary widely, necessitating innovative professional development. This study describes a microlearning program designed to promote meaningful engagement with GenAI. Participants received weekly emails with GenAI prompts relevant to course design or student engagement. They were invited to share their prompting experience in online discussions and explore supporting resources on a dedicated website. The program was asynchronous, allowing flexible engagement for peer support. Using a mixed-methods approach, including surveys and qualitative reflections, the study found a significant increase in GenAI use among participants. Applications included course content creation, student engagement, administrative tasks, and student support. Participants reported time savings, improved teaching material organization, enhanced student engagement, and better student support. The program also fostered a ripple effect, with participants encouraging peers and students to use GenAI. The success of this microlearning program highlights its potential as a scalable, flexible framework for faculty development across diverse institutional contexts, offering a sustainable approach for an evolving education landscape.

Keywords: generative artificial intelligence, faculty development, microlearning, communities of practice, digital badge

The rapid advancement of generative artificial intelligence (GenAI) tools is a sea change in higher education, particularly for faculty. While tools such as ChatGPT offer new possibilities for teaching and learning, faculty responses vary widely. Some reject GenAI entirely, while others are uncertain about how to integrate it into their teaching. To support faculty in navigating this shift, professional development is essential. Traditional faculty development approaches, such as synchronous workshops or technical documentation, frequently fall short in fostering meaningful engagement with GenAI.

Instead, faculty would benefit from training that encourages experimentation, reflection, and peer interaction. In response to this need, Pennsylvania State University (Penn State) implemented the Summer Prompt Challenge (Prompt Challenge). The Prompt Challenge was an asynchronous microlearning initiative completed with a community of practice (CoP) in a low-stakes environment. The Prompt Challenge guided participants through weekly GenAI prompts relevant to course design and student engagement. Participants were invited to reflect on their prompt engineering and post in an online discussion space. The program design was grounded in constructivism and connectivism learning theories and research-based strategies on microlearning, CoPs, and digital

badging. This study examined the effectiveness of the Prompt Challenge as a faculty development initiative to support GenAI adoption in teaching and learning. The article proceeds with a review of the relevant literature, descriptions of the teaching situation, solution attempted, and analysis of its effectiveness, and implications for broader implementation.

Literature Review

In this literature review we explore the context of faculty responses to the integration of GenAI tools in higher education and examines the importance of faculty development opportunities that address both technical literacy and ethical considerations, especially as the use of GenAI in pedagogical contexts remains limited. Drawing from Mah and Groß (2024), we emphasize the need for tailored interventions that account for varying levels of faculty readiness to engage with GenAI. The review further highlights the effectiveness of microlearning as a flexible, goal-oriented strategy that supports faculty in developing GenAI competencies at their own pace. Digital badges and microcredentials are discussed as tools for incentivizing faculty achievements in GenAI adoption. Finally, this review supports the significance of CoPs in fostering collaborative learning and reflective engagement.

Faculty Responses to GenAI

Within 2 months of being publicly available, ChatGPT had 100 million registered users (Hu, 2023). In higher education, faculty demonstrated a range of responses. While some opted for outright bans because of concerns about academic integrity and critical thinking, others cautiously experiment with GenAI in controlled settings (Kasneci et al., 2023). Underlying these responses, faculty have self-reported low levels of GenAI literacy (Almatrafi et al., 2024; Chiu et al., 2024; McGrath et al., 2023). These realities underscore the need for faculty development opportunities that address both technical and ethical aspects of GenAI use (Hasanein & Sobaih, 2023). Faculty adoption of GenAI for curriculum design or student engagement has lagged behind administrative functions (Liu et al., 2020). As Zawacki-Richter et al. (2019) provocatively asked, "where are the educators" in the evolving GenAI landscape? Administrative tasks and automated support systems, such as virtual tutors and intelligent learning platforms, remain the primary use of GenAI in higher education (Crompton & Burke, 2023; Ouyang et al., 2022). More broadly than GenAI, artificial intelligence (AI) is embedded in several tools that are commonly used in education. Writing tools such as Grammarly and plagiarism detector tools such as Turnitin.com are widely used by many faculty (Petricini et al., 2024).

The analysis of Mah and Groß (2024) offers a nuanced lens for understanding faculty readiness to engage with GenAI. The authors classified faculty into four profiles: optimistic, critical, critically reflected, and neutral. These unique profiles reveal that effective interventions must address varying levels of enthusiasm, skepticism, and awareness. Optimistic faculty are primed for immediate engagement with GenAI, while critical and neutral faculty require foundational education that emphasizes responsible and transparent GenAI use. Mah and Groß (2024) noted most faculty are interested in professional development on GenAI. Critically reflected faculty, who balance excitement with caution, can act as bridges to model informed and ethical practices to their peers.

Faculty Development: Relevant Theory and Method

In light of this context, there is a clear need for a structured intervention that provides a tailored, experiential learning environment. Constructivism and connectivism provide a theoretical

foundation for faculty development that incorporates microlearning, digital badging, and a CoP. Constructivist principles, as Bada (2015) explained, emphasize scaffolded, active engagement and reflection, which align with the use of microlearning modules and weekly reflective tasks. Connectivist theory, as Gašević et al. (2023) described, highlights the role of networked environments where knowledge is distributed and supported by digital artifacts such as badges. The CoP draws on both perspectives: It reflects constructivist traditions of social learning through dialogue and reflection, while also resonating with connectivist principles by linking participants within broader knowledge networks. Taken together, these theoretical underpinnings justify the methodological design of the intervention, where microlearning, badging, and peer interaction collectively support individual growth while leveraging collective intelligence.

Microlearning is a powerful strategy that delivers content in short, focused bursts (Taylor & Hung, 2022). This approach is beneficial for faculty members with demanding schedules, as it allows them to access professional development opportunities without overwhelming their time commitments (Kohnke et al., 2024). Microlearning modules can be designed with specific goals that build relevant skills incrementally. As Eades (2014) and Cheng et al. (2018) highlighted, this method caters to modern learning preferences, enabling faculty to engage in goal-oriented learning that fits seamlessly into their routines. The flexibility and targeted nature of microlearning make it a valuable tool for faculty development, particularly when integrating new technologies.

Microlearning can be designed to offer a microcredential that awards a digital badge. As discussed by Cheng et al. (2018), digital badges serve as a form of recognition for competencies gained during professional development programs. As institutions move toward recognizing nontraditional forms of professional growth, competency-based microcredentials are valuable (Rimland & Raish, 2019). The badges earned from microcredentials offer a tangible acknowledgment of faculty members' progress, motivating them to continue engaging in learning opportunities. By providing milestones of achievement, digital badges align with goal-based learning, offering faculty a sense of progression. As Dyjur and Lindstrom (2017) noted, the use of digital badges can enhance motivation and engagement by offering concrete recognition for individual accomplishments.

To enhance the microlearning experience, CoPs provide a collaborative space for participants. They facilitate ongoing engagement, peer mentorship, and shared problem solving (Nicolini et al., 2022; Wenger et al., 2002). Digital platforms such as Microsoft Teams can enhance these communities by offering a centralized space for faculty to discuss applications, share resources, and interact asynchronously. Features such as chat and file sharing enable sustained interaction, reinforcing distributed learning networks (Rimland & Raish, 2019). The literature underscores that effective faculty training includes extended, community-based programs that provide ongoing support, reflective feedback, and ethical guidance (Cilliers & Tekian, 2016; Omidvar & Kislov, 2014). Combining the best practices of CoPs, digital badging, and microlearning, faculty development can be designed to uniquely support faculty learning on GenAI.

Teaching Situation

Trends in higher education responses to GenAI are seen in the specific teaching situation for this faculty development initiative, which is Penn State. The university has a large-system campus structure that includes over 88,000 students and 7,800 faculty across 24 campuses (Penn State, 2025). Its instructional challenges and opportunities often reflect the needs of higher education more broadly. As a large institution, the university has faculty members with varying levels of experience and openness to new technologies. While some departments are more adept at integrating emerging technologies, others have limited experience or resources for incorporating

tools such as GenAI. Addressing this readiness gap is essential for both immediate and long-term development. The particular faculty who participated in the Prompt Challenge were from a variety of fields, including education, math, biology, and business. A small number of instructional designers also participated. Participation was open through a broad call to the university faculty, and no financial incentives were offered.

A spring 2023 study of the university faculty and students explored participants' familiarity with GenAI and their perception of the benefits and risks of using GenAI in higher education (Petricini et al., 2024). In their responses, faculty reported limited experience with GenAI. They had not addressed the use of GenAI in the classroom but were concerned that students would misuse it for coursework. Faculty responded that they were not comfortable using AI-generated text to build a course assignment or activity. They were not ready to use GenAI in teaching, research, or scholarship. Faculty reported that they had not received training on ChatGPT but were interested in faculty development on the topic. Petricini et al.'s (2024) research suggests that faculty are uncertain about GenAI in higher education because of limited experience and lack of training (p. 16). This is precisely the need that the Prompt Challenge sought to address.

Solution Attempted

The Prompt Challenge was implemented to address the gap in faculty engagement with GenAI. It was a 12-week microlearning training, designed to offer hands-on use of GenAI in a low-stakes, peer-supported environment. The initiative was designed to reach faculty from many campuses, across diverse disciplines, in the summer months.

During the Prompt Challenge, participants received a weekly email with a GenAI prompt tailored for practical application. Appendix 1 contains the 12 prompts that were shared. The prompts were selected and developed with faculty needs in mind, often emerging directly from challenges faculty commonly express in their teaching and course design. The prompts provided to faculty were ready to use, requiring only the insertion of course-specific information or parameters such as learning objectives. Each prompt was tested in Microsoft Copilot to ensure that it performed effectively across a range of disciplinary examples. The selection emphasized practicality, drawing on common challenges faculty report in their daily work. Faculty received supplemental resources, including a short video tutorial and Microsoft SharePoint site, to demonstrate iterative prompting and prompt design. Collectively, this design introduced faculty to structured, discipline-relevant prompts while also modeling ways to adapt them for their own teaching needs.

Faculty were encouraged to adapt and reflect on the prompts to gradually build confidence in using GenAI tools. After experimenting with the prompt, participants documented their experiences via a form to encourage individual reflection. They could also share reflections in a dedicated Teams group, to support collaborative learning. Recognizing faculty time constraints, particularly over the summer months, the Prompt Challenge was structured asynchronously. Participants also had the freedom to select prompts of interest, revisit previous weeks' prompts, and engage at their own pace. The informal CoP added support on a flexible timeline. Faculty could discuss concerns, share insights, and provide feedback on each other's experiences, creating a supportive, peer-based environment.

The Prompt Challenge tasks were intentionally brief and practical, enabling quick application without requiring extensive time commitment. These tasks provided flexibility for participants to either complete in short bursts or delve into deeper exploration as desired. Even the training video on prompt engineering was short, under 4 minutes in length. Visual elements such as summer-themed graphics conveyed a low-pressure experience focused on experimentation rather than mastery. This atmosphere encouraged faculty to approach the material without the stress of

performance expectations. Badges were integrated as a gamification element, rewarding faculty participation. This added an element of motivation and a sense of achievement, making the learning process more engaging.

Solution Tools

Several technology tools supported the Prompt Challenge. Initially, the plan was to use the tools of the learning management system, Canvas, to support this professional development opportunity. After additional research and discussion, the decision was made to use multiple components of the Microsoft Office 365 suite of software. In addition to working with GenAI, using these tools provided opportunities for faculty to become more knowledgeable of the Microsoft Office 365 suite of tools recently made available. Also, it was thought that the Teams tool would be more robust than Canvas discussions in supporting the faculty asynchronous discussion.

An email marketing platform, MailChimp, was used to send the weekly email announcements. This tool greatly facilitated the weekly email prompts that were sent to participants. Emails with the weekly prompt and brief instructions were crafted and stored in the tool to be sent to registered participants each Monday. The graphics were designed to communicate a low-stakes environment, with beaches and summer images. The platform also provided a mechanism to review open rates and other analytics to evaluate the use of the emails.

Copilot was selected as the GenAI tool since it is available with commercial data protection using Penn State credentials. As stated on the university's information technology website:

> Microsoft Copilot at the University operates under Enterprise Data Protection. Prompts and responses are protected under the same contractual terms and commitments as other Microsoft 365 services, such as Exchange and SharePoint. User inputs are not used to train Microsoft's AI models, including Copilot for Microsoft 365. Users can delete their Copilot activity history. (Pennsylvania State University Information Technology, 2025)

The commercial data protection provided by the university assured faculty that their materials were protected from potential exposure. After submitting the modified sample prompt into Copilot, faculty were encouraged to iterate their prompt in Copilot to observe the updates or changes in the tool's response.

The SharePoint site was created to provide instructional support materials, such as resources on prompt engineering or examples of GenAI use by other educators. In addition, the SharePoint site was configured with pages containing a Microsoft Form tied to a Microsoft List to accommodate the sharing of the refined prompts among participants. After working with the weekly prompt in Copilot, participants were encouraged to respond to a few questions on their prompting experience in a Microsoft Form. Their submissions were automatically added to a Microsoft List displayed on another page of the site for participants to review. These elements, and the entire SharePoint site, were designed with summer-themed graphics to reiterate the low-stakes learning experience introduced in the email campaign.

A Teams channel was used to facilitate weekly asynchronous discussions. Participants posted their experiences in Copilot with the weekly example. They shared their successes in modifying the prompt and their failures. In replies to the posts, colleagues offered encouragement and suggestions. They could also request additional details on the iteration process to learn more from colleagues.

A digital badge was made available to participants to encourage engagement and to motivate completion of a set number of prompt attempts and posts in the Teams channel. The Canvas

Badges microcredentialing platform was used to award the badge. The Canvas badges, Microsoft Office 365 suite, and MailChimp tools facilitated the microlearning faculty development model, incentivized participation, and created space for a CoP.

Analysis of Effectiveness

To assess the effectiveness of the Prompt Challenge, a mixed-methods approach was employed, incorporating feedback from surveys, descriptive statistics, and qualitative reflections from participants. Together, these data sources provide a multifaceted understanding of the Prompt Challenge's effectiveness in supporting faculty adoption of GenAI in teaching and learning.

End-of-Academic-Year Survey

In spring 2025, a survey was distributed to explore the impact of the Prompt Challenge on participants during the 2024–2025 academic year. The survey was intentionally concise to encourage participation and included only five questions. The survey combined Likert-scale items, multiple-choice, and select-all-that-apply questions. No incentives were offered to complete the survey, and no demographic information was collected. A full list of survey questions is provided in Appendix 2. Of 81 participants, 27 responded, yielding a 33.3% response rate. Prior to the Prompt Challenge, 40.7% of participants reported never using GenAI in teaching and academic work, while 59.3% indicated using it occasionally or frequently. Following the Prompt Challenge, only 7.4% of participants reported never or rarely using GenAI, with 92.6% reporting occasional or frequent use. A Wilcoxon signed-ranks test revealed a statistically significant increase in participants' frequency of GenAI use after completing the Prompt Challenge ($Z = -3.52$, $p = .001$). The number of positive ranks ($n = 15$) exceeded the number of negative ranks ($n = 2$), reflecting a general upward shift in frequency of GenAI use. Participants applied GenAI in various areas, including course content creation, course preparation, student engagement, administrative tasks, and student support. Many participants reported that GenAI saved time on routine tasks, improved the clarity and organization of teaching materials, enhanced student engagement, generated new ideas for teaching and assessment, and provided better support for students. Many participants (51.9%) introduced GenAI-based activities to their students, and several (29.6%) shared GenAI tools and strategies with their colleagues. These findings underscore the effectiveness of the Prompt Challenge in promoting the adoption and integration of GenAI tools in teaching and administrative tasks. The positive impact on teaching practices, including time savings, improved material organization, enhanced student engagement, and better support for students, highlights the value of such initiatives. Additionally, the role of participants in encouraging their peers and students to use GenAI indicates a ripple effect, further extending the Prompt Challenge's impact.

End-of-Prompt-Challenge Survey

At the conclusion of the Prompt Challenge in summer 2024, a survey was administered to participants to measure the perceived helpfulness of various components. The survey had 10 questions and included a mix of Likert-scale items, multiple-choice questions, and open-ended prompts. No demographic information was collected as part of the survey. A full list of survey questions is provided in Appendix 3. No incentives were offered to complete the survey. Of 81 participants, 20 responded, yielding a 24.7% response rate. Respondents rated the weekly email prompts as the most helpful component in learning to use Copilot, with a median score of 5.0. Notably, 85% of participants found these emails useful, and 65% strongly agreed on their

effectiveness. The weekly cadence of the microlearning gave faculty time to reflect on the prompt, and the pace and amount of content differed from traditional technical training. The ability to view colleagues' prompts in the Microsoft List was also considered beneficial, with a median helpfulness rating of 4.0 and 40% of respondents strongly agreeing on its value. Discussions facilitated through Teams were perceived as moderately helpful, reflecting the diverse preferences among participants for different learning modalities. The peer discussions offered many perspectives on the shared prompts and included encouragement or shared experiences of surprise or concern. Overall, these findings highlight the effectiveness of the Prompt Challenge model in providing a flexible and engaging learning experience that accommodates faculty needs and preferences.

Engagement Metrics

Email engagement metrics indicated an average open rate of 65.35% across all emails, peaking at 82.35% in Week 1 and declining to 54.26% by Week 12. This gradual decline, particularly after Week 8, may suggest participant drop-off or a shift in reliance on other Prompt Challenge components.

Within the Teams space, the 81 participants generated on average 1.5 posts, 1.8 replies, and 5.3 reactions per person. This reflected sustained peer-to-peer engagement, with a total of 124 posts, 143 replies, and 427 reactions. The Prompt Challenge SharePoint site, which housed supporting materials, received 3,782 visits over the 12-week duration of the program, averaging 315 site visits per week. Although the page views metric for website visits does not measure engagement and may be inflated by page refreshes, it does provide a snapshot of the traffic a webpage is receiving and can be used to compare traffic over time. Additionally, participants submitted a total of 288 prompts (about 3.5 per person) through the optional Microsoft Form on the SharePoint site, signaling active experimentation and knowledge sharing. Together, these engagement metrics demonstrate consistent multiplatform participation and suggest that faculty were interacting with the Prompt Challenge content and community beyond email delivery alone.

For the badge component of the Prompt Challenge, 17 participants initially signed up, and 17 successfully completed the requirements to earn the badge. Notably, the badge was offered at the conclusion of the Prompt Challenge, meaning those who opted in were likely individuals who had already engaged with the activities to a significant degree. This timing may have contributed to the high completion rate, as participants who signed up were already positioned to meet the criteria. The strong completion rate suggests that participants saw value in earning the badge, whether as a credential recognizing their efforts or as a tangible incentive for completing the Prompt Challenge. Further exploration is needed to determine whether the badge itself was a motivating factor or if its high attainment rate was primarily due to self-selection by already engaged participants.

Faculty Panel on the Prompt Challenge

In preparation for the 2024–2025 academic year, five university faculty members shared their experience of the Prompt Challenge during a panel. The panel was part of Commonwealth Connections: Instructor Days, a 2-day faculty development online conference featuring 23 sessions. With 78 attendees, the panel was the second most well-attended session of the event. This attendance was more than double the average session attendance of 38, highlighting strong faculty interest in GenAI and pedagogical innovation. The panel discussion provided valuable qualitative feedback on the learning design elements of the Prompt Challenge, as well as its impact on faculty course preparation. While the qualitative data were drawn from the panel of five faculty participants, the group reflected a range of disciplines and prior experiences with GenAI. Panelists included instructors from mathematics, education, and communication, as well as both early adopters and

those initially hesitant to integrate GenAI. Their perspectives therefore represented varied levels of readiness and confidence rather than a single viewpoint. Although it was not feasible to collect qualitative feedback from participants who did not serve as panelists, the survey data complement these narratives by incorporating responses from a broader set of participants. Together, these data sources provide a balanced understanding of how faculty experienced the Prompt Challenge and its impact on teaching practices.

Many panelists expressed appreciation for the weekly emails that gave a specific, incremental prompt for faculty to try. One participant captured how many participants anticipated the weekly emails:

> I kept up with it every week, even a week I was traveling. I was in Bermuda, and I had my computer, and I just jumped in there and I did the challenge on that Monday because you did start to look forward to receiving those prompt challenges every Monday morning. (Smeltzer in Stanton et al., 2024, 16:30)

Once participants tried the prompt in Copilot, many of them wrote about their experience in the Teams space. The resulting conversations created an informal CoP, with many instances of peer learning. One faculty member described her experience of the peer discussions:

> One of the most beneficial things was that we were all working from a basic prompt each week although we all went in different directions with it. And then we were comparing what we got back. We were filling out a form to enter what the prompt was that we ended up using. But we are also doing a lot of discussion in Teams. A lot of discussion in Teams about what worked and what didn't, and what somebody used, and what happened next. And being able to read those discussions was incredibly useful to me because I was learning what I saw but I was also learning about what Joan saw and what Terri saw and all the rest of it. All at once. And I wouldn't have asked all of those questions the same way. I wouldn't have tried some of the things that different people did so I was really learning from my colleagues. (Hawkins in Stanton et al., 2024, 13:03)

Shaped by these CoP conversations and their experience of prompting in Copilot, many panelists modified their course assignments for the upcoming academic year. Another participant remarked:

> [For my] gen ed math courses, I try to create an assignment at the end that takes what we learned and makes a real-world problem out of it. And I was blown away by the different options that [Copilot] came up when I asked it to create an assignment for me for business calculus. It was really wonderful, and I spent a lot of time just playing around with that. And it'll definitely help me out in that end-of-semester project that I do. (Schultz in Stanton et al., 2024, 18:30)

One faculty member found that the Prompt Challenge dispelled her apprehension about the impact of GenAI on education:

> For our colleagues, I think participating in the Prompt Challenge will help take away some of the fear of the unknown. You'll see its strengths and weaknesses. You'll see our place as educators and feel confident that our place as educators is not going anywhere anytime soon. (Dodaro in Stanton et al., 2024; 44:30)

By experimenting with Copilot, she felt that her role as an educator remained vital and secure.

To visually explore recurring themes in the faculty panel, a word cloud based on open-ended quotes collected from multiple participants was created. Each speaker's quote was transcribed and segmented into individual words. The resulting word list was manually reviewed to calculate word frequencies. Common stop words (e.g., "the," "and," "is") and domain-specific filler words (e.g., "really," "just," "prompt," "challenge") were removed to highlight more meaningful content. The cleaned word-frequency data was imported into Python and visualized using the wordcloud library function. Word size in the cloud is proportional to frequency, such that more commonly used terms appear larger. The final word cloud (Figure 1) provided an intuitive snapshot of responses that emerged repeatedly across participant reflections of the Prompt Challenge.

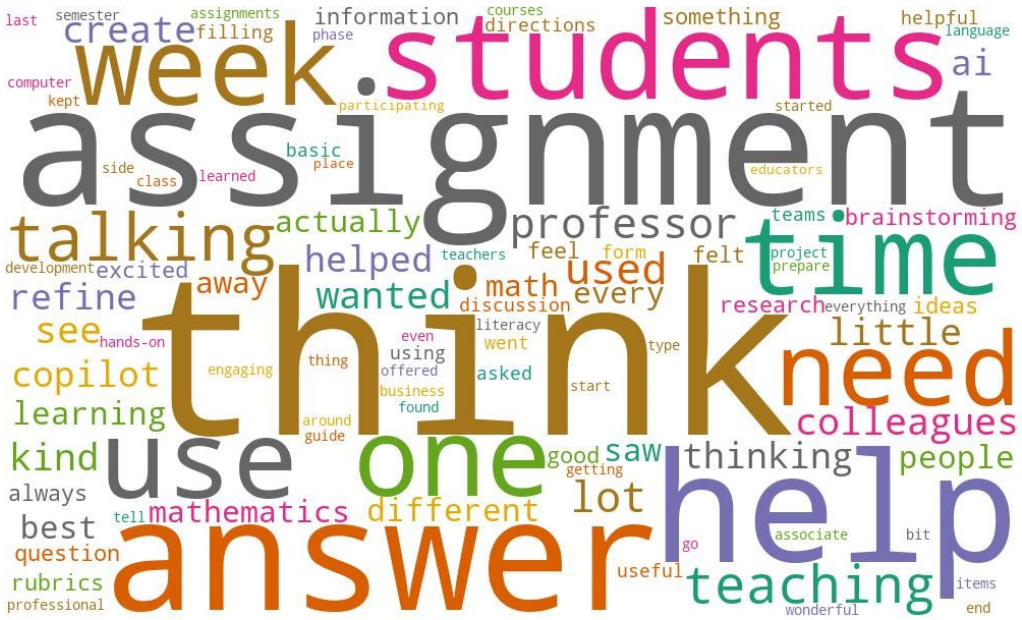

Figure 1. Word cloud based on open-ended quotes from the faculty panel.

The most prominent words include "assignment," "use," and "think," indicating these were key themes in the discussion. This visualization helps to identify the main concepts that faculty found significant. It underscores the Prompt Challenge's positive impact on faculty engagement with GenAI.

Feedback gathered from the faculty panel, engagement metrics, and multiple surveys indicate that faculty found the Prompt Challenge effective. The weekly email prompts maintained participant interest and facilitated microlearning. The use of Teams for discussions provided a platform for sustained interaction and peer learning in a CoP model. At the end of the academic year, participants reported significant trends in GenAI adoption. Furthermore, participants reported encouraging their peers and students to use GenAI, which indicates an amplification, extending the Prompt Challenge's impact beyond the initial participants.

Broader Implementation

The effectiveness of the Prompt Challenge model at Penn State highlights its potential as a scalable, flexible framework for faculty development across a range of institutional contexts and content

areas. As a high-impact model grounded in microlearning and CoP, it offers an alternative to traditional training approaches that often rely on synchronous workshops or static documentation.

At its core, the Prompt Challenge model combines task-based microlearning with structured pacing and peer interaction. It engages faculty through regular prompts that are supported by just-in-time resources and community-based discussion. These elements collectively promote consistent participation and ongoing reflection. The design fosters habit building and community learning without requiring high time investment, making it especially well suited to institutions managing limited instructional design capacity.

The model's core structure can be adapted to a range of professional development topics beyond GenAI. For example, the Accessible Skills Challenge at Penn State successfully applied the format to accessibility practices by delivering weekly tasks through email and hosting discussions in Teams. This same structure could be used to support initiatives in educational technology adoption, pedagogical innovation, or course design. While the tools used at Penn State (Office 365 suite) supported efficient delivery and community building, alternative platforms can be substituted depending on institutional infrastructure. Although this model can be implemented with an email-based tool only, with the faculty discussion facilitated simply by replying to the initial email prompt, key factors for successful implementation include a reliable communication channel, a discussion forum, and access to support materials.

One of the model's strengths is its reusability. Once the initial program structure is established, including email templates, forms, and badge criteria, it can be quickly adapted or repeated. At Penn State, the Prompt Challenge was offered in both the fall and spring semesters with minor revisions. For these iterations, the number of prompts was reduced to align with the academic calendar. Within this condensed structure, participant feedback from the summer cohort who shared their reflections in the Teams channel influenced which prompts were selected. Their comments indicated that certain prompts were especially useful or engaging, while others were less applicable. This cycle of reuse and improvement demonstrates how the model is sustainable and adaptable to evolving needs.

The Prompt Challenge could also be implemented at smaller institutions. Even with a modest number of participants, faculty can benefit from the brief nature of the microlearning activities, the sense of connection fostered through an informal CoP, and the professional recognition of a digital badge. The model requires minimal technology or staffing resources, making it feasible for institutions with limited instructional design capacity. In small liberal arts settings, where faculty roles often span multiple disciplines, the shared prompts could facilitate cross-disciplinary dialogue and peer support. To increase cohort size or diversify perspectives, smaller institutions could partner with peer institutions to host a shared Prompt Challenge, connecting faculty and enriching collective reflection on pedagogical uses of GenAI. Together, these flexible applications across institutional sizes and contexts demonstrate how the Prompt Challenge model combines adaptable design, ease of replication, and strong engagement strategies to offer a sustainable approach to faculty development that aligns with diverse goals and evolving instructional priorities.

Conclusion

The Prompt Challenge demonstrated a promising approach to faculty development by addressing the timely need for meaningful engagement with GenAI. Grounded in the research-based strategies of microlearning and CoP, the model supported faculty through incremental learning, guided discovery, flexible participation, and peer interaction. This structure enabled low-stakes, high-impact experiences that fostered both individual reflection and shared learning across disciplines and

campuses. Its effectiveness at Penn State was evidenced by strong participation, positive feedback, and continued application beyond the initial offering.

As GenAI continues to evolve rapidly, institutions need faculty development approaches that go beyond synchronous workshops or technical documentation. The Prompt Challenge meets this need with a flexible, reusable framework that supports reflective adoption. Initiatives such as this will be essential to preparing faculty to navigate the pedagogical implications of GenAI responsibly and effectively.

Appendices

Appendix 1. Weekly Prompts for the Prompt Challenge.

1. Class discussion prompts from Rose (2023)

You are a university professor and an experienced instructor. Generate several thought-provoking discussion prompts, questions, and debate topics for a course titled: [example: Education in America]. The specific objective that I would like these resources to address is the following: [example: "Analyze how popular culture and the media impact students"].

2. Active learning prompts from Rose (2023)

You are a university professor and an excellent instructor. Please help me develop several interactive activities (such as problem-solving exercises, case studies and/or simulations) for a course titled [example: "Introduction to Learning Design and Technology"]. The activities will challenge students to think critically and apply their knowledge, leading to a more profound grasp of the content. The specific objective that I would like these activities to address includes the following: [example: "Apply strategies for reducing cognitive overload and reinforcing memory retention"].

3. Rubrics prompts from Rose (2023)

I am going to provide you with instructions for an assignment in a college course titled [example: Introduction for Educational Technology]. I would like you to create a rubric that I might use to evaluate student learning in the assignment. It is worth a total of 20 points. The instructions are as follows: [example: Reflect on the following blended learning resources and examples at this Edutopia site: Blended Learning Resource Roundup. Then create a plan/lesson on how you might design a blended learning experience for your classroom]. At the end of the lesson plan, include a reflection on both the challenges and benefits of a blended learning design.

4. Organizing ideas prompts to support students struggling with the learning process

You are a university professor demonstrating how Copilot can support students who are struggling with the learning process. Show the students how Copilot can predict outcomes based on the synthesized information from multiple sources. [example: Evaluate the potential consequences of deforestation in the Amazon rainforest on global climate patterns. Gather information from climatology studies, deforestation statistics, and ecological models to forecast the environmental impacts over the next decade.]

5. Overcome writer's block prompt (University of Sydney, n.d.)

You are an expert in [field]), writing a [task you are working on]. You have talked about [section you need assistance with] in your work. Suggest ways you can expand on this to give a more thorough understanding of it.

6. Reference letter draft prompt (AI for Education, n.d.-c)

You are an expert writer, experienced in writing reference letters and particularly skillful at conveying a person's abilities and attributes. Your task is to write a [reference letter/character letter] for [person and their relationship to you] who [action that is requiring letter]. Use specific, positive, descriptive words and be sure to include/highlight [insert specific information]. Also note [any additional information]. Do not [insert any specific requirements/guidelines].

7. Syllabus prompt (AI for Education, n.d.-a)

You are an expert teacher and instructional designer, skilled in planning out your course topics, lessons, assignments, and exams. Your task is to create a syllabus for [course level and subject]. The length of the course is [number of weeks] and meets [class cadence]. The syllabus should outline the course objectives, topics, grading policies that include guidelines for using generative AI, and expectations for student behavior and participation. Focus the syllabus on these [standards/learning objectives] and feature these [key activities, readings, etc.]. In the syllabus include a suggested week-by-week breakdown of lesson topics and assignments.

8. Student career development prompts for faculty advisors (Dartmouth Center for Career Design, n.d.)

You are a university faculty advisor supporting a student's career development. How might you begin to explore the career field of [insert field]? What companies or organizations should I research? What companies are hiring interns with the student's background, based on their [resume]? Paste [resume].

9. Creating a specific format (tables) prompt (Yimgaing, 2023)

Create a table for [example: principles of acceptable use] based on the information I paste. Do not proceed until I have pasted the [principles of acceptable use]. The table should have [number] columns titled: [example: Employee Initials, Principle of Acceptable Use]. Populate the table with the information I paste. Please align the entries to the left. Add horizontal lines (borders) to separate the header row from the data rows and to separate each data row. Ensure consistent spacing between columns. Use a consistent number of spaces or tabs to separate the data within each cell. The column header should be in bold font.

10. Class lecture slide deck prompt

You are an expert in [example: computer literacy] building a slide presentation on [example: computer networking]. Provide an outline that can be used for this presentation. After we decide on the outline, provide detailed talking points for each slide.

11. Faculty collaboration prompt

As a university professor looking to expand my research network, I am interested in finding potential collaborators who share similar research interests and have a complementary publication history. I would like to explore opportunities for collaboration that could lead to joint research projects, co-authored publications, or shared grant applications.

Please analyze recent publications and research trends within the field of [specify field or topic] to identify researchers and academics who have a strong track record in this area. Highlight individuals who have demonstrated expertise in [specify particular methodologies, theories, or technologies], and who have expressed interest in collaborative ventures. Additionally, provide a brief overview of their most significant contributions to the field, and suggest possible avenues for collaboration based on our overlapping interests and complementary skills.

12. Authentic assessment prompt (AI for Education, n.d.-a)

You are an expert teacher, proficient in developing innovative and effective authentic assessments that enable students to develop and exhibit their learning. Your task is to create [number] authentic [formative or summative] assessments for my [grade level and subject] class studying [topic]. The assessments should measure [content standard]. The assessments should emphasize real-world application, complex tasks, varied response formats, and meaningful feedback. [Optional if summative: Include verification that the standard was achieved.] The [formative or summative] assessments should engage students and effectively demonstrate their learning, as well as enhance their skills and understanding of the subject in meaningful ways. Be creative and unique, do not [insert any remaining specifications].

Appendix 2. End-of-Academic-Year Survey and Response Options

1. Before participating in the Summer AI Prompt Challenge, had you used AI in your teaching or academic work?
    - Never
    - Occasionally
    - Yes, regularly

2. Since completing the challenge, how frequently do you use AI for teaching or academic work?
    - Rarely (once or twice since the challenge)
    - Occasionally (a few times a month)
    - Frequently (several times a week)

3. In which areas have you used AI since the challenge? (Check all that apply)
    - Administrative tasks (e.g., formatting documents, organizing information)
    - Student support (e.g., career development resources, scaffolding learning)
    - Course content creation (e.g., lecture slides, assignments, discussions)
    - Course preparation (e.g., syllabus design, rubrics, organizing ideas)
    - Student engagement (e.g., active learning activities, authentic assessments)

4. In what ways has AI impacted your teaching or workflow? (Check all that apply)
    - No noticeable impact
    - Improved clarity and organization of materials
    - Provided better support for students
    - Saved time on routine tasks
    - Enhanced student engagement
    - Helped generate new ideas for teaching and assessment

5. Have you encouraged colleagues or students to use AI in their academic work since completing the challenge?
    - Yes, I have introduced AI-based activities to students
    - Yes, I have shared AI tools and strategies with colleagues
    - No, I have not shared AI-related strategies

Appendix 3. End-of-Prompt-Challenge Survey

1. In learning to use the generative AI tool, Microsoft Copilot, the weekly email containing the example prompt was very helpful.
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

2. In learning to use the generative AI tool, Microsoft Copilot, the ability to view colleagues' prompts was very helpful.
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

3. In learning to use the generative AI tool, Microsoft Copilot, the discussion provided by the Microsoft Team Conversations was very helpful.
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

4. In learning to use the generative AI tool, Microsoft Copilot, the resources provided on the SharePoint website were very helpful.
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

5. In learning to use the generative AI tool, Microsoft Copilot, the training video that demonstrated modifying the prompt was very helpful.
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

6. Did you sign up for the Summer 2024 Prompt Challenge Badge?

- Yes
- No

7. In learning to use the generative AI tool, Microsoft Copilot, the opportunity to complete the Summer 2024 Prompt Challenge Badge was very motivating.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

8. Of the resources provided in the Summer Prompt Challenge, which did you find helpful?
Weekly prompt email Teams Conversations Sharing of prompts via form Resources available on the SharePoint website

9. What would have helped you learn to use Microsoft Copilot that was missing from the Summer Prompt Challenge?

- Open-ended (short answer or paragraph response)

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