

WIP: The Missing Link? Providing Honors Students a Self-Paced Assignment That Fits Their Needs

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Introduction

The University of Arkansas hosts a robust, multidisciplinary Honors College with the mission to prepare students to be leaders with intellectual, economic, cultural, and ethical impact in the widest scope of fields. Aligning with this mission, the College of Engineering at our institution offers a dynamic and interdisciplinary honors curriculum aimed at nurturing both creative and critical thinking while instigating proactive engagement. Within this framework, the First-Year Engineering Program (FEP) plays a role by offering honors versions of the two mandatory first-year introduction to engineering courses.

FEP program aims to have a first-year curriculum to meet the diverse needs of students. This involves considering their varied backgrounds, experiences, goals, and existing knowledge. The goal is to ensure that students receive a curriculum that resonates with them, is meaningful, and aligns with their educational and professional objectives. To satisfy this goal, we offer different general engineering courses. Most of our students (~80%) enroll in Introduction to Engineering I or Honors Introduction to Engineering I. Students who are under-prepared in math and do not have necessary prerequisites for the first semester of 8-semester engineering degree plans are enrolled in Fundamentals of Success in Engineering Study [1]. We also have a small group of students (~10%) who are well ahead of the requirements and are offered to take a special section of Honors Introduction to Engineering I course along with the optional Honors Research Experience and Honors Innovation Experience courses [2]. All general engineering courses meet twice a week for lectures and once a week for a drill section. While the lecture contents differ, the drill sections are the same for all courses. During the drills, we partner with other College of Engineering units to focus on major selection, academic coaching, student success and professional development skills.

On average, 40% of incoming first-year engineering students are a part of the Honors College. Over 95% of these honors students choose to take the Honors version of the Introduction to Engineering I course. Honors and regular students in the Introduction to Engineering courses have been integrated into the same sections, attending identical lectures, completing identical assignments, and undergoing the same assessments. Honors students, however, are tasked with additional coursework to earn honors credit. Given that honors students often juggle multiple demanding courses simultaneously, striking a balance between workload and academic standards is paramount. Past iterations of this supplementary work have included additional problems assigned only to honors students for some course material, creating a quad chart related to the short hands-on projects, and delivering a 3-5 minute presentation related to the long hands-on class project.

In Fall 2023, the Introduction to Engineering courses have undergone extensive improvements with regards to course content and delivery methods inspired by principles from Association of College and University Educators (ACUE) training that the FEP faculty attended. ACUE training

emphasized the importance of meeting the students at their current level, ensuring assignments relevance, offering flexibility, and boosting students' motivation. As a part of these improvements, we also updated the additional coursework assigned to the honors students.

When enhancing the requirements for honors students, we focused on the following question: How can the FEP at the University of Arkansas personalize our honors curriculum to meet the diverse needs of students, considering their varied backgrounds, experiences, goals, and knowledge, to ensure a positive reception and provide the student with something they find meaningful and relevant to their educational and professional goals? Alongside these principles, we wanted to ensure that the honors assignments are not too rigorous for a one-credit hour honors course, and we wanted the integration of the any new assignments not to be too cumbersome for the instructors.

These objectives led us to requiring honors students to complete a LinkedIn Learning Pathway as a part of their additional honors coursework. LinkedIn Learning was selected due to its widespread popularity as an online educational platform [3-5], offering a diverse array of courses spanning business, technology, creative skills, and more [6]. Moreover, our university provides access to LinkedIn Learning at no cost to students. Students also earn certificates for completing the LinkedIn Learning pathways and display these certificates in their LinkedIn profiles.

The purpose of this paper is to share the implementation of LinkedIn Learning Pathways as well as the student feedback, offering insights for educators seeking similar adaptations in their instructional settings.

Research Questions and Methods

Since this was our first semester offering LinkedIn Learning Pathway as an assignment, below are the main questions we wanted to answer:

- How did the implementation of LinkedIn Learning assignment go for the instructors?
- How satisfied were the students with the new assignment and LinkedIn?
- What were students likes and dislikes about their LinkedIn Learning Pathways?
- What were the students' suggestions for future honors assignments?

There are over 11,000 instructional videos offered through LinkedIn Learning that are available to all University students, faculty, and staff at no individual charge [7]. For some offerings, these videos are bundled together to form a "LinkedIn Learning Course". Another option available is to complete a "LinkedIn Learning Pathway", where several LinkedIn Learning courses with similar objectives are combined to create a more in-depth and diverse coverage of a topic. We decided on using the LinkedIn Learning Pathways over LinkedIn courses. To promote flexibility and universal design through choice [8], we offered multiple Learning Pathways to students. The pathways we chose were centered around traits and tools needed in our current class.

- 1) Improve Your Teamwork Skills (8 courses, 7h 3m, 260 points)
- 2) Professional Soft Skills (12 courses, 9h 40m, 304 points)
- 3) Getting Started with Microsoft Office 365 (6 courses, 8h 17m, 255 points)
- 4) Develop Critical Thinking, Decision-Making, and Problem-Solving Skills (7 courses, 4h 29m, 183 points)

The LinkedIn Learning Pathways were quite easy to integrate into Blackboard and our curriculum. Pathways consist of multiple courses, and each course has multiple videos and quizzes. When a pathway is completed, a certificate becomes available for the students. One inconsistency we encountered was the way the quizzes became available to students. When using the built-in Blackboard integration of LinkedIn Learning the quizzes for the videos were no longer visible to students, while if students open LinkedIn in a new web browser, students were able to see the quizzes, but we were not able to track completion. These short quizzes are valuable for demonstrating the students' understanding of the topics offered in the videos, therefore, we didn't want to omit them. To address this, we replicated quizzes from the LinkedIn Learning Pathway within Blackboard as Blackboard quizzes. We provided students with unlimited attempts and due dates for these Blackboard quizzes, with the option to work past the due date. Depending what pathway the student chose, quizzes were due every week to two weeks. By setting a "suggested due date" in Blackboard, students received emails warning them of their assignments due date, which created recurrent reminders to complete their pathway sent throughout the semester. "Suggested due dates" is also one subject that was emphasized in ACUE training, because setting suggested dates instead of fixed due dates helps to build flexibility and constant communication creating an inclusive environment [8]. We had a few fixed due dates: students had to declare what pathway they were going to complete by the second week of class and had until the last day of class to complete the pathway and the Blackboard quizzes.

We also developed a grading system that balanced time commitment with incentivizing students to select pathways aligned with their educational and professional goals. We were concerned about students opting for the quickest or simplest pathway. To address this concern, we assigned more points for pathways that took longer to complete and required more assignments. We allocated points into both the completion of the LinkedIn videos and the Blackboard multiple-choice assessments. We found it most efficient to vary the pathways' points utilizing Blackboard assessments. The longer pathways naturally had more quizzes and questions. By assigning each question a value of 1 point, we established a grading system directly correlated with the workload demanded by each pathway. Then, we made the completion of all videos in the LinkedIn Learning pathway worth 100 points (with partial credit available based amount completed) to come to the total points listed in the above list next to the pathway names.

The concluding task for honors students was a feedback survey, aimed at gathering insights from the students on the honors assignment. The survey comprised questions concerning their familiarity with LinkedIn, reasons for selecting their chosen pathway, their rating of the pathway experience and usefulness. We also asked students to rate our suggestions for future honors assignments, which provided the students with an opportunity to create their voice in the classroom and take control of what they learn. This effectively creates a more equitable learning environment and encourages students to a greater level of ownership for their learning [9]. Finally, we asked the students to suggest LinkedIn pathways that would be of interest to them, to incorporate later.

It is worth noting that we assigned a LinkedIn Learning Course introducing AI in the Introduction to Engineering I course to all students. Therefore, the students who are not in the

honors section also got a chance to get introduced to the LinkedIn Learning platform and have a certificate they can display on their LinkedIn account. Also, we partner with the College of Engineering career services in spring semester during Introduction to Engineering II classes to emphasize professionalism. This includes developing a resume, updating LinkedIn account, and university’s career connections account, and participating in mock interviews.

Results and Discussion

In Fall 2023, 185 honors first-year engineering students enrolled in Honors Introduction to Engineering I course and were required to complete the LinkedIn Learning pathway. 157 of these students responded to the feedback survey. The results below summarize the feedback received from these students.

Table 1: LinkedIn Pathway distribution and completion rate for the 157 students who responded to survey.

LinkedIn Learning Pathway	# of Students that chose the pathway	# of students that have received LinkedIn learning certificate	# of students that have not received certificate, but completed most or all Blackboard quizzes	# of students that have not received certificate and not completed Blackboard quizzes
Teamwork Skills	28 (18%)	25 (89%)	2	1
Professional Soft Skills	29 (18%)	27 (93%)	2	0
Microsoft Office 365	57 (36%)	47 (82%)	9	1
Develop Critical Thinking	43 (27%)	37 (86%)	6	2

It was encouraging to observe that, on average, 87% of the students earned a LinkedIn Certificate. Students will be able to reference these certificates in their professional development material. The third column of Table 1 shows that some students completed the Blackboard quizzes without earning a certificate. Almost all Blackboard quizzes consisted of multiple-choice questions with unlimited attempts. As a result, it is technically feasible (although potentially monotonous and time-consuming) to achieve full credit for the quizzes without watching the associated videos.

Also, we observed that the time commitment to the path did not have any significant impact on the students’ choice since the shortest path (Critical Thinking) was not the most picked and 36% of students picked the second longest path.

The responses to “Overall, what would you rate this LinkedIn Learning Pathway?” question is summarized in Figure 1. There are total of 28 students that chose option 1, 29 chose option 2, 57 chose option 3, and 43 chose option 4. While option 1 and 3 were rated more favorable, it is encouraging to see that the 4- and 5-star ratings combined for all paths are at 68% or above. Considering a 1-to-5-point scale, the average ratings for the pathways are 3.96 for Teamwork, 3.72 for Professional Soft Skills, 3.98 for Microsoft Office 365, and 3.74 for Critical-Thinking (3.87 overall for all pathways together.)

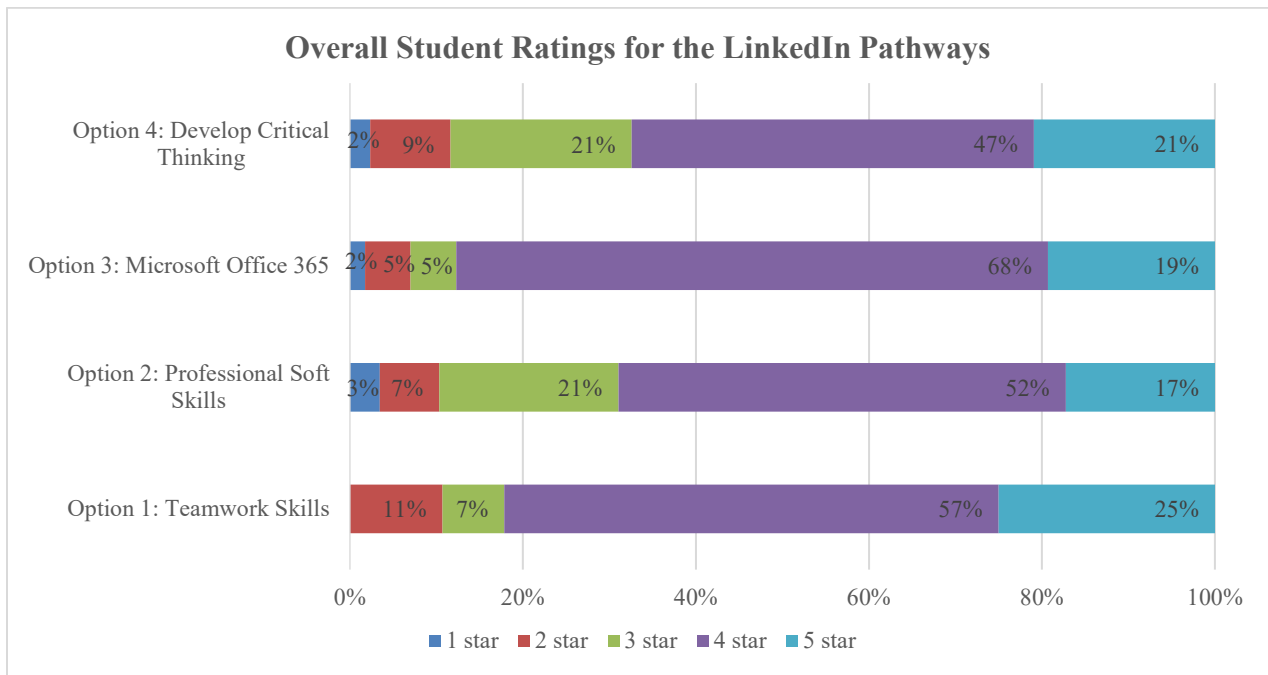


Figure 1: Student ratings for the LinkedIn Pathways.

Moving forward with LinkedIn Learning

In the survey, we asked several questions related to future use of LinkedIn Learning. 142 students out of 157 noted that they have not used LinkedIn Learning prior to this class. When we asked if they are interested in using LinkedIn Learning pathways for other subjects in the future, 28 said yes, 104 said maybe, and 25 said no.

When we asked about using LinkedIn Learning in our class, over 70% of the students (Figure 2) agreed that the use of LinkedIn Learning as an Honors assignment for this course was a good idea.

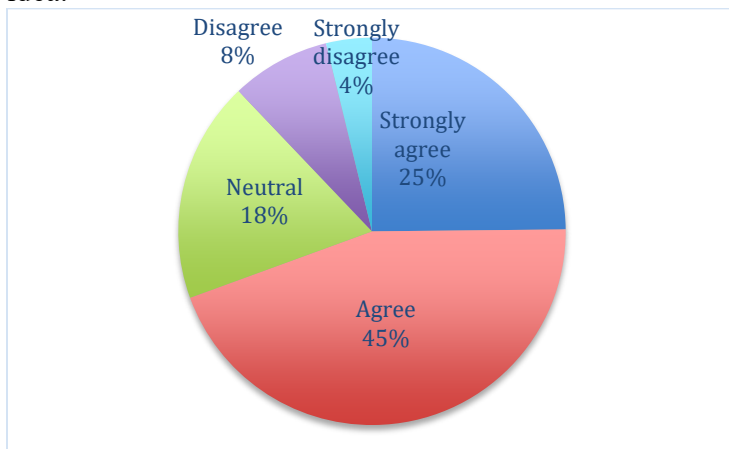


Figure 2: Responses to the question "The use of LinkedIn Learning Pathways as an Honors assignment was a good idea for this class".

Lastly, we wanted to have students input for the Spring 2024 semester honors assignments. We asked the students to rank the following options to be considered for incorporation in the upcoming spring semester as an extra honors assignment:

1. LinkedIn Learning Pathway
2. Assignments related to engineering skills content (i.e. skills checks, extra problems for Honors only)
3. More challenges related to class project.
4. Assignments related to programming/coding in our interactive programming textbook (zyBooks)

Figure 3 shows the students ranking for these options. LinkedIn Learning Pathway was the first choice for the majority of students and was ranked at the top again if we combined the first and second choice for students. This led us to finalize the decision to use LinkedIn Learning Pathways for students again in Spring semester. We plan to ask the students to choose a different pathway than they completed in Fall. We also plan to add more choices for the pathways following student feedback in the future.

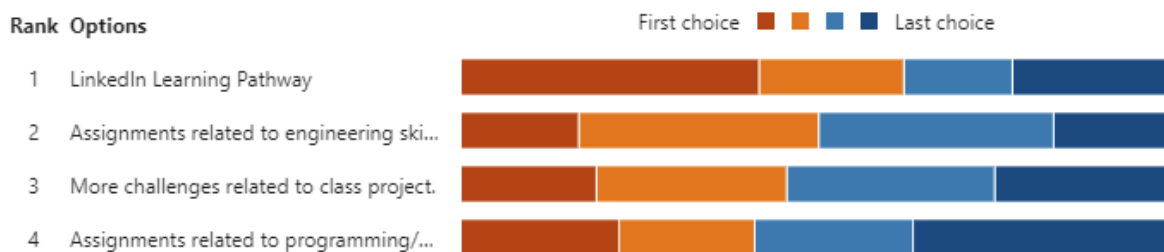


Figure 3: Student rankings on option for extra Honors Assignment for Spring Semester.

Open Response Questions

Question 3: Why did you choose this pathway?

Most students responded with some form of saying they thought it would be the most useful. Nearly a quarter of students (24%) mentioned something about it being useful for their future career while 8.3% were more concerned with how it would help them as a student. There were also 28% of the students who chose *Developing Critical Thinking* said they did so because it was the shortest. Similarly, 28% of students who chose *Professional Soft Skills* did so because it had the most points. The most popular course was *Getting Started with Microsoft Office 365*; 21% of the students who chose this one said they did so because they used a different suite (often Google) in high school, but the University of Arkansas supports Microsoft products.

Question 5: Reflecting back to the courses on your pathway, what was the most useful course on your pathway?

In response to which course in their pathway was most useful, students had varied opinions. The table below summarizes some of the top responses for each pathway. *Learning Excel Desktop* had the highest percentage within its pathway at 44%. This is likely because we also use and teach Excel directly in the classroom. *Microsoft Teams Essential Training* (19%) and

Learning Outlook Desktop (16%) also had high response rates because they were tools students had not used before. Within the teamwork pathway, *Fred Kofman on Managing Conflict* (39%) and *Communication within Teams* (32%) were the most popular. Students seemed to really like the ideas and presentation of these. *Crafting Questions to Make Better Decisions* (28%) led the way in developing critical thinking pathway because the concept seemed new to the students.

Table 2: Most Useful courses in LinkedIn Learning Pathways

Pathway	# of courses	# total Responses	Most Popular (# responses)	Other popular (#responses)
Teamwork Skills	8	28	<i>Fred Kofman on Managing Conflict</i> (11)	<i>Communication within Teams</i> (9)
Professional Soft Skills	12	29	<i>Writing in Plain Language</i> (6) <i>Effective Listening</i> (6)	
Office 365	6	57	<i>Learning Excel Desktop</i> (25)	<i>Microsoft Teams Essential Training</i> (11) <i>Learning Desktop Outlook</i> (9)
Develop Critical Thinking	7	43	<i>Crafting Questions to make better Decisions</i> (12)	<i>Critical Thinking & Problem Solving</i> (8) <i>Making Quick Decisions</i> (8)

Question 6: What are three things you liked about your LinkedIn Pathway? (or skills that you think are beneficial to you)

In response to Question 6, 78% of students mentioned a specific skill from their pathway including how it had applications either in their current classes or for their future career. The other encouragement was 36% of students responded they liked the setup of the LinkedIn pathways. Students liked both that the pathways were comprehensive enough that they were learning and the courses within the pathway but were bite-size enough to allow them to go at their own pace. Many also agreed that the videos were well presented. Of course, to keep us grounded, two students replied “nothing.”

Question 7: What are things you disliked about your LinkedIn Pathway?

In contrast to the positive feedback in the previous question, 30% of students believed that the pathways or at least parts of it were too long or too slow. This continues as 46% of students thought that at least part of their pathway was wasting time because it was repetitive, redundant, or common sense. On the other side of this, 9% found parts to be confusing, abstract, or irrelevant. Both these reactions are expected as the pathways were not designed for the audience just selected from LinkedIn’s options. On the bright side, 12% had no complaints as compared to 3% liking nothing.

Question 12: If you were to do another LinkedIn pathway for this course, what other topics or skill sets would be a good option for future semesters?

In response to what other courses they might feel are useful, 55% mentioned one of the other courses that were already an option. Some mentioned skills that we cover in our Spring

semester class such as coding or Job search/interview skills as well as somethings we touch upon in different ways throughout the first year like time management, computer literacy, and adapting to college life. About 10% listed something general such as “problem solving” or “something engineering related”. Many wanted something more directly tied to the engineering major they intend to select or may select. Finding courses, much less full pathways, about these on LinkedIn can be difficult. Students did show additional interest in topics that may have courses on LinkedIn such as: artificial intelligence, Excel mastery, leadership, building your LinkedIn profile, research, and taxes & credit. The issue we currently would need to resolve is how to work out whether they have full pathways and how long are the courses they do have.

Question 13: Would you have changed anything about the way the LinkedIn Learning Pathway was used as a part of this course? Please give any feedback you have that can help improve the content or delivery.

The most positive part of these responses was that 2/3 of the students said nothing needed to be changed. The completely negative side included 7% who said do not do it. Some students thought that either the entire pathway or at least one course was too long. In our defense, students could see the length of the entire pathway before they started, and we were aware when reviewing our pathways that some courses were not as interesting as others. A similar number of students did not like that the embedded quizzes were repeated on Blackboard. They felt they were doing everything twice, but we currently do not have a better way to collect whether the quizzes were completed. There were some tips we could consider though. Students asked for more interaction within the classroom about the LinkedIn topics. This includes more reminders, class discussion, and even application of their skills in class. Since this was our first time implementing it, we really treated it as an add-on for their own development. We did not set aside time to work on it in class as students not in honors were not participating in the activity. There may be ways to adjust this structure as we move forward.

Conclusions

In reflection, the responses of the LinkedIn Learning Pathways as honors credit have been quite promising. With 87% of students successfully earning LinkedIn Certificates and more positive responses than negative, it's evident that the students found the pathways meaningful and relevant to their educational and professional goals in some way. Moreover, the finding that the time requirements of the pathways had little impact on students' decisions indicates that they selected their pathway based on their personal pursuit of knowledge. Encouragingly, a considerable number of students expressed interest in exploring LinkedIn Learning Pathways for other subjects and as honors credit in the spring, indicating a strong foundation for continued integration of this platform into the curriculum. In the future, we would use the students feedback to incorporate more interactive elements within the classroom. This presents a valuable opportunity to enhance engagement and deepen the learner's experience. It is evident that while the new curriculum has been met with enthusiasm and commendation, adjustments and enhancements will be essential to further enrich the educational experience and maximize the benefits of LinkedIn Learning Pathways for all students.

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