

Insights of Using AI-Powered POWER Platform for Coaching Needs: A Case Study

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Introduction

As the demand for student support services continues to rise, many community colleges face significant challenges in providing adequate academic advising and counseling, such as staffing shortages and limited resources [1,2]. With advisors often managing large caseloads, students sometimes struggle to receive the personalized guidance they need to succeed academically, plan their careers, and navigate personal obstacles [3]. Similarly, while counselors are available to offer emotional and mental health support, the availability of these services is often limited, leaving students without timely assistance [1,2]. To address these gaps, AI-powered tools present a potential solution. While AI has been increasingly integrated into educational settings [4], its use for enhancing academic advising and counseling services remains relatively novel [5,6]. AI platforms can offer personalized guidance by assisting with goal setting, time management, academic planning, and even providing initial support for emotional well-being, all while making these services more scalable and accessible to a larger student population. Therefore, in this study, we look at how community college students in a Research Experience for Undergraduates (REU) program utilized an AI-powered coaching service for personalized guidance.

Literature Review

Coaching for Community College Students

Coaching is emerging as an effective approach to support community college students in navigating their academic and personal challenges. Unlike traditional counseling, coaching focuses more on active listening, goal-setting, skill development, and proactive strategies for overcoming obstacles to help students develop new skills toward achieving their personal and professional goals [6]. It emphasizes personalized guidance and accountability, helping students develop practical strategies to succeed in their coursework, manage time, and balance personal responsibilities. Research suggests that coaching can significantly improve student engagement, retention, and academic performance, particularly when it involves regular check-ins and tailored support [7-10] and the impact is more significant for students from underserved populations [11]. However, coaching services are often limited in community colleges due to resource constraints and the high demand for academic advising. Additionally, the literature highlights several barriers that impede students from utilizing available counseling services. A study by Auger et al. [13] identifies key obstacles such as stigma, the desire to manage problems independently, lack of positive relationships with counselors, and privacy concerns [12, 13]. These barriers underscore the need for counseling programs to foster trust and a supportive environment where students feel comfortable seeking help.

Recent trends, such as the use of technology-dependent or AI-powered coaching platforms, are helping to address these limitations by providing scalable and personalized support to a larger number of students [11]. These digital tools offer real-time feedback, motivational prompts, and goal tracking, making coaching more accessible and efficient for a diverse student population.

A systematic review of AI applications in education emphasizes its potential to tailor learning experiences and improve outcomes [4]. Furthermore, in the realm of educational counseling, an innovative interface designed to predict students' likelihood of admission to universities has been developed to assist in academic and career planning [5]. While these technological tools can support students in their educational journeys, ensuring equitable access and protecting privacy are essential to their success.

AI Services Available for Students

AI tools are revolutionizing the way high school and college students approach their studies and offer a range of services to boost productivity and streamline tasks. Google Scholar, for instance, provides a free database that helps students find scholarly articles, research papers, and other academic resources for their projects [15]. Notion serves as an all-in-one productivity platform, combining note-taking, project management, and collaboration features, making it especially useful for group work and managing busy schedules [15]. Grammarly, an AI-powered writing assistant, helps students refine their writing by checking for grammar, spelling, punctuation, and style while also offering suggestions for improving clarity and organization [14].

ChatGPT stands out as a powerful tool for homework assistance, test preparation, language learning, and other support across a wide range of subjects [15]. TutorAI provides easily digestible lessons on complex topics, helping students grasp difficult material [15]. Quizlet, another AI-powered platform, helps students study more efficiently by transforming notes into flashcards, outlines, or practice tests [15]. Mendeley is a reference management tool that enables students to organize research, generate citations, and collaborate with peers [15]. For creating presentations, Gamma offers an intuitive AI platform that generates beautiful, engaging slideshows with just a topic input. Lastly, Mathway assists students by providing step-by-step solutions to complex math problems, covering subjects like algebra, calculus, and statistics [15]. Building on the wide range of AI tools designed to enhance academic success, we decided to explore the potential of AI in supporting students through the POWER platform.

POWER Platform

The POWER platform is our AI-powered coaching system designed to enhance student achievement and well-being through personalized coaching and goal setting. The system facilitates self-exploration, problem-solving, and goal-oriented action, tailored to the individual needs and contexts of each student. Drawing upon the research by Barell, Huitt, and Boyatzis [16-18], the POWER Platform boosts students' cognitive capacity—encouraging self-direction, self-awareness, and self-regulation by utilizing the POWER model. This includes helping students articulate aspirations (Purpose), recognize personal abilities (Ownership), define clear goals and actionable steps (Wisdom), habitually advance toward these goals while reflecting on progress (Execution), and self-regulate while accessing supportive resources (Resilience) [19]. Building on insights from the pilot program that the developers completed, the following are the key features of the POWER platform:

1. Non-Directive Coaching: Facilitates self-discovery by asking questions rather than giving direct advice, encouraging students to take control of their learning and decisions.
2. Personalized Interactions: Customizes conversations per student, providing guidance that aligns with each individual's unique situation and goals.

3. Goal Setting and Tracking: Aids students in defining and tracking specific, achievable goals while adjusting strategies and offering encouragement as needed.
4. Facilitating Custom Activities: Leads students through tailored activities to boost key skills or offer psychological interventions, benefiting personal and academic growth.

For this study, we offered community college students participating in the Research Experience for Undergraduates (REU) program at a private university the option to use the platform for additional guidance and support. At the end of the program, we invited students to share their insights about the platform. Thus, the study addresses the following two research questions:

1. How and in what ways are students using the POWER platform?
2. What are some recommendations for the platform developers from student's perspectives?

Methodology

Twenty community college students participated in a 10-week Research Experience for Undergraduates (REU) program. During the REU orientation, participants were introduced to the platform, with a walkthrough provided by the program developer outlining what to expect over the 10-week duration. Students had the option to create an account and use the platform throughout the program for their coaching needs. The platform was exclusively available to participants in the REU program, and access was not extended to other audiences. In the 8th week of the program, researchers reached out to REU students via email, inviting them to participate in the study focused on assessing the usability of the POWER platform. Two students expressed interest in sharing their insights. As a result, semi-structured interviews were conducted with these two students during the 9th week of the REU program.

Each interview lasted approximately 45 minutes and aimed to gather detailed feedback on how the students used the platform to receive personalized support, as well as their suggestions for improving future iterations of the platform. At the time, the platform was a browser-only application. The interview questions were designed to explore the students' experiences and interactions with it. Key questions included the frequency of platform use, the most helpful features, the features that were not utilized, and any additional features the students would like to see in future versions of the platform.

Data analysis

The interviews were recorded and transcribed using Otter.ai transcription services. The researchers carefully reviewed the transcripts and identified that both students used the platform for different purposes. Through inductive coding, the researchers analyzed the data and presented each student's unique use of the service in addition to the overlaps of information shared by both students.

Findings and Discussion

The findings from the semi-structured interviews with two community college students provided valuable insights into their experiences with the platform including both strengths and areas of improvement. The first student employed the platform extensively for scholarship

application writing by using its personalized approach through targeted questions, which helped the student refine their essays and outlines effectively. *"I was working on applying to scholarships, so [I used the platform] to brainstorm how to make an outline for the essays."* The student stated that *"having to write a lot of essays can get very repetitive...[the platform] helped me personalize differently and [gave] me different outlines."* The student remarked that the personalization of the platform and its ability to pose questions to the student was the most powerful aspect of the platform in meeting the requirements for scholarship essay writing.

The second student received a detailed educational plan for their career goal and received guidance on how to manage their time. The POWER platform guided this student through creating a structured schedule using a spreadsheet, breaking down their daily routine into manageable tasks and thus helping them manage their time and remain organized throughout the ten-week REU program. When asked about how the platform helped with personal development, the student explained they used the platform to improve their time management skills by asking questions such as *"How do I become a better planner?"* and then with clarifying information about their skillset and their strengths, it led to specific suggestions such as *"write down the schedule" and "make a spreadsheet"* and wake up earlier than their routine. The ability to receive tailored advice based on their individual situation was appreciated, as the student noted, *"You can kind of customize it so the answers are specifically for you. I provided my interests and shared my skillset."* The student remarked that *"it helped establish a good and a healthy habit in me"* as they incorporated the spreadsheet into their daily routine and would continue to *"update that spreadsheet [as the school year gets hectic]."*

Although the students used it for different purposes, there were many similarities also. Both students recognized the platform's potential value for future academic and personal challenges. One student reflected on the potential need for the platform as they transitioned to university, stating, *"Looking into the future, like going into transferring to a university, I'm expecting it to be a lot more stressful. And so I think in times like that, I could definitely use a platform like this."* This indicates that while the students felt the platform was helpful, they also envisioned it being more crucial as their academic journey advanced.

In terms of usability, both students found the platform easy to navigate. One participant commented, *"students are well-versed in AI tools and technology. I think the platform was very easy to use. I don't know if I really learned anything new,"* suggesting that while the platform was accessible and functional, it did not introduce new concepts for students who were already familiar with technology-based tools.

The students also made several suggestions for enhancing the platform. One common recommendation was to integrate features for time management. One student proposed adding a calendar with reminders, saying, *"Having a calendar, maybe there, like the way that it kind of works on phones, like set up reminders. I think that would be a good feature to add in."* They also suggested the inclusion of a mobile app, adding, *"Have it send reminders to our phones or have a phone app."* This would enhance accessibility and make the platform more convenient for on-the-go use.

In terms of the platform's reach, one student expressed a desire for the platform to be made available to a wider audience, especially to students who might not have access to

guidance. They shared, *"It would be a good idea to open it to more students, more people. Because I feel like, not everybody knows what, like, not everybody has the access to talk to somebody that kind of for guidance, I guess."* Reflecting on their own experience, they continued, *"I didn't really know what to do for, like, a year and a half after I got out of high school, and I didn't have people to talk to."* This suggests that the platform could be particularly valuable for students without access to mentors or advisors.

Both students noted that the platform seemed more suited to high school students, which they felt limited its relevance to their own college experience. One student remarked, *"It's kind of aimed for like, high school students; [I suggest to] keep it general, like, for a general audience."* Another added, *"it assumed I was in high school...I had to tell it to cater to community college"* They suggested that the platform could be more useful if it were adapted to better cater to college students as well.

Both students emphasized the importance of human interaction, particularly when navigating complex academic paths [12,13]. One student explained, *"Although they still prefer the human interaction, especially in college if you don't have people [to guide], I think it could be a good resource for sure."* Despite this preference for in-person guidance, the personalized nature of the platform stood out to both participants. One student specifically mentioned, *"Personalization of the platform stands out to me,"* pointing to how the platform's ability to tailor advice to individual needs made it a valuable tool. They specifically contrasted this platform to other AI services, such as ChatGPT, and preferred individualized guidance and the personalized approach through questioning from the AI coach. One student shared, *"Other services would give me the answer. But it would just be like, it would give me an answer that was kind of general. However, in the POWER platform, it is more personalized."* This level of personalization made it more effective for addressing their specific needs. While both students acknowledged the platform's value, one noted that it did not replace the role of human mentors, explaining that the platform's responses were similar to advice they had received from their mentor, though more specific. As one student said, *"[The answers] weren't too different, but they did touch a lot, like, on the same things, like, for example, like math...like, I'm not really good at math. I would...remember asking [my mentor] a long time ago, how do I get better at it?... And [the POWER platform] will just be like, incorporate this to your schedule and set aside one or two hours and just practice, practice, practice."*

Keeping the key features of the POWER platform in mind, both students appreciated the personalized approach it offered. While they did not use the platform specifically for goal-setting, they engaged with it in ways that supported their individual academic needs. They valued the guidance the platform provided, particularly how it prompted them with questions before offering recommendations. Both students also highlighted the platform's ease of use, its customization, and its potential value for their future academic journeys, should they have the opportunity to continue using it. However, they also provided several suggestions for improvement, including making the platform more accessible to a broader audience, such as college students, and incorporating mobile functionality for more on-the-go use. Therefore, it is recommended to anyone desiring to make a similar platform for students to have some additional features in their platform, such as a calendar and mobile access, which would be ideal for students who prefer not to sit at a computer and instead want the convenience of managing tasks and chatting on their phones.

Although the students did not voice any concerns regarding ethics or privacy concerns, it is important to keep these two issues in mind at all times. Thus, the recommendations for developers of AI-powered platforms are to keep the needs of the students at the forefront, including helping them understand privacy concerns and how the data is handled in easy terms, continue advertising the program, and share the positive and negative aspects of the usage of the AI-powered counseling services [20].

Limitations

This study has several limitations that should be considered when interpreting the results. First, the sample size was relatively small, consisting of a limited number of community college students, which may not fully represent the broader student population. Additionally, the findings are not fully generalizable due to the specific context of the study, as the AI platform was originally designed for high school students, but we chose to apply it to community college students in this research. This decision may introduce contextual differences in how the platform is used and perceived. Future studies should consider expanding the sample size and conducting research with a more diverse range of student populations to enhance the generalizability and robustness of the findings.

Conclusion

Through this case study of two community college students, we illustrate how the POWER platform's personalized and adaptive features offer benefits that traditional AI services may lack. By addressing specific needs such as scholarship application assistance, career counseling, and time management, the POWER platform and other AI-powered coaching services have the potential to impact a large number of students who otherwise may not have access to guidance counselors.

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