Adaptive Microcredentials and Automated Assessments for PLAR (Prior Learning Admissions Requirements) to ease students transitions to post-secondary

PROBLEM OF PRACTICE

How can institutions, like Nova Scotia Community College (NSCC) use AI in Brightspace to create adaptive microcredential pathways that ease P12-to-college transitions and automate PLAR (Prior Learning and Admission Requirements) assessments? How might the institution personalize curriculum to close skill gaps via dynamic learning pathways, and, analyze prior learning evidence (portfolios, experience) for equitable, efficient credential recognition.

How can NSCC reduce the friction and time students spend in exploring career options as well as the time counsellors, faculty or staff spend on helping prospective students submit and gather evidence of prior learning?

nscc

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Province:	Nova Scotia
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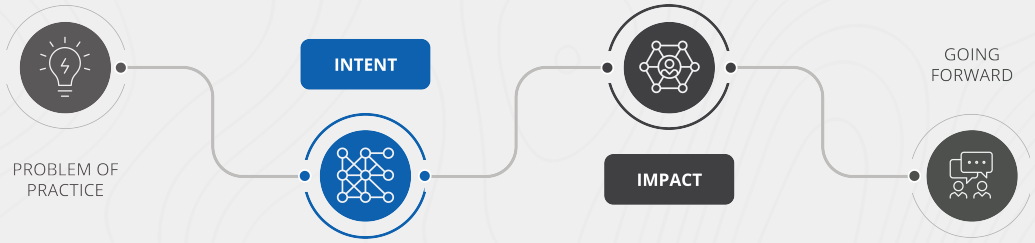

Intent

AI is playing a pivotal role in our use case by enabling the creation of GPT agents (chatbots) that facilitate natural language, conversational interactions. Our team leveraged ChatGPT to develop an agent that engages users in a dialogue about their career interests, strengths, and interests. Based on the user's input, the agent searches our programs and microcredential offerings to provide tailored recommendations. The agent supports multimodal communication, making the experience accessible and effective for diverse users. We created a second agent designed to assist college staff with the Prior Learning Assessment and Recognition (PLAR) approval process. This agent is expected to enhance communication with students throughout the process and utilize Brightspace to collect evidence of prior learning. After several adaptations and changes to these custom chatbots, we were able to establish a workable prototype for both models and received outstanding feedback from users.

Our use case is supported by a combination of digital tools, AI technologies, and human expertise:

- **AI and Chatbot Technology**: ChatGPT is the core AI technology used to build and train the agents.
- **Brightspace**: Our learning management system at NSCC is utilized for collecting and managing evidence of prior learning from students.
- **NSCC Program Data**: Our agents access and search through NSCC's program and microcredential offerings to provide relevant recommendations.
- **Testing and feedback**: Both current student testers and staff have seen the chatbots produce highly useful results that will expedite conversations that will eventually include counsellors.
- **Human Resources**: Our PL Coach, played a crucial role in developing and refining the agents, as well as providing expert guidance throughout the process. Several Student Services Advisors and Faculty members provided invaluable insights and feedback to inform the design of the agents, drawing from their extensive experience working directly with students. We had students test out the agents and provide feedback on ease of use and relevance of the agents' responses.

> "These chatbots have clearly proved their effectiveness and potential for both staff and students. The next step is to explore ways to ensure data privacy and security issues are addressed as well as full integration into Brightspace or publicly accessible NSCC sites."
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> *—Holly Stackhouse, Educational Technologies Analyst*

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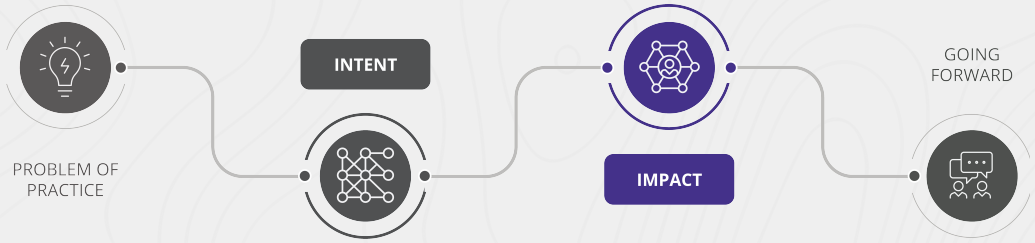

Impact

Before this use case, there was a lack of understanding in our team about how AI agents were developed.

Staff who tested the agent expressed initial skepticism, yet this made way to enthusiasm about the potential of AI agents to enhance student experiences, basically acting like a silent, yet ever-present, learning buddy. The quick, conversational, and multimodal interactions made possible by AI have led to increased engagement and more dynamic learning experiences for students.

AI agents can provide round-the-clock support for students who may need advice at any time, and cope with student intimidations particularly around career guidance and program selection.

The feedback received so far from both Student Services Advisors and students for the P12-college career/program selection agent has been largely encouraging. Several key aspects have been particularly successful:

- **Quick Responses**: The agent provides rapid feedback, keeping the conversation engaging and dynamic.
- **Multimodal Communication**: The use of various communication modes, such as videos and written content, caters to diverse learning preferences and enhances user experience.
- **Focused Conversations**: The agent effectively stays within the scope of its purpose, ensuring relevant and on-topic interactions.

While the feedback has been positive, one area where the agent could be enhanced was response length. Some of the written responses tend to be lengthy, which can be overwhelming for users. Feedback, particularly from the high school demographic, suggests that shorter, more concise, and chunked responses would improve content absorption and user engagement.

Professional Learning insights

Our Professional Learning (PL) Coach played a fundamental role in guiding us through the development process. His expertise enabled him to effectively communicate complex concepts in an understandable way, demystifying AI and making it more accessible. He demonstrated how the GPT agent was built and explained its backend functionalities. This hands-on approach helped us better understand the capabilities and limitations of AI agents, fostering a more informed and collaborative development process.

Our PL Coach also facilitated feedback collection and analysis, ensuring that the agent's design and functionality continually evolved to meet the needs of the students, and provided ongoing training and support as necessary, reinforcing the notion of the agent acting as a learning buddy for both staff and students alike.

By leveraging the expertise and dedication of PL Coaching, our team was able to more effectively harness the power of AI to enhance learning and student support in this use case.

Going Forward

These chatbots have clearly proved their effectiveness and potential for both staff and students. The next step is to explore ways to ensure data privacy and security issues are addressed as well as full integration into Brightspace or publicly accessible NSCC sites.

Moving forward, we will prioritize continued exploration and development of AI-driven solutions. Our team holds Microsoft Copilot licenses, enabling us to develop custom Copilot agents with capabilities similar to the GPT bots evaluated in this case study. Active engagement with key stakeholders—faculty, students, and counsellors—remains critical, with enthusiastic participants from initial testing phases committed to ongoing collaboration and refinement of prototypes.

Recognizing the transformative potential of AI, we are proactively integrating this technology into institutional workflows rather than viewing it as a disruptive force. To foster widespread adoption and competence, structured knowledgesharing sessions will be introduced, equipping staff and students with practical skills to interact effectively with AI chatbots and agents.

Student involvement will be central to iterative testing, ensuring solutions align with user needs and real-world applications. Concurrently, cross-departmental partnerships are emerging, with Human Resources expressing interest inpolicy automation and the Office of Learning and Transformation exploring AI-enhanced onboarding processes. Additionally, there is interest in deploying an AI agent on the NSCC homepage to improve information accessibility and search functionality.

These initiatives collectively position NSCC as an adaptive, forward-thinking organization committed to leveraging cutting-edge tools for operational excellence and stakeholder success.

- **Pathways chatbot next steps**: For this use case research, we received permission to add full program and course documents to the GPT chatbot for two College programs. After testing with real students and test cases, we saw that using detailed curriculum information (like course outlines) gave the bot better, more specific answers compared to the general information on the NSCC website. Adding more College-specific materials could help us test new ideas by including detailed program structures. These outlines show how educational goals—such as self-advocacy, community connections, and career preparation could be built into AI tools to guide students through their studies. If we add more programs' full documents, the bot could explore how courses from different fields connect, check prerequisite requirements, and align skills, all while keeping the College's unique context that the publicly available course and program overviews do not cover.
- **PLAR bot next steps**: The student services advisor who tested the PLAR bot said she would love to see it developed to work with something like Microsoft's Power Automate to send students emails keeping them updated on progress as their PLAR application moves through the steps of review and approval.