

Artificial Intelligence (AI) in Apparel Merchandising Professional Development Career Course: The Use Case of Quinnia Platform

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Introduction/Background:

Artificial intelligence (AI) is the ability of computers and machines to approximate human reasoning by mimicking human cognition and action (Chen et al., 2020; Sharma et al., 2019; Wartman & Combs, 2018). Artificial Intelligence (AI) has become increasingly prominent across various fields, including education (Timms, 2016; The Importance of Artificial Intelligence in Education for All Students, 2023). Its implementation offers numerous benefits such as efficiency, time-saving, and enhanced productivity. In academia, AI facilitates tasks like grading and providing feedback, particularly in large class settings where manual assessment becomes challenging (Chassignol et al., 2018; Chen et al., 2020).

Problem Statement:

Traditional methods of providing feedback on student materials can be time-consuming and may compromise the quality of feedback due to large class sizes. This necessitates the exploration of AI-driven solutions to streamline the feedback process and enhance its effectiveness. With the advent of many useful AI tools for academia, there is an opportunity to implement these tools and assess their efficiency and effectiveness. Many recruiters are using AI-driven applicant tracking systems (ATS) which help them to screen thousands of interns and full-time job applications. These tools are here to stay in the employer's hiring process. With the central research question "Is it possible to use AI-based Quinnia platform to do initial reviews of students' resumes and virtual mock interviews as part of an overall career preparation program?", this study explored the utilization of AI in an apparel merchandising professional development career course, specifically employing the Quinnia platform to evaluate student resumes and virtual interviews.

Purpose and Objectives:

The purpose of this study was to demonstrate how AI, exemplified by the Quinnia platform, can improve efficiency and effectiveness in providing feedback on student materials (i.e., resume and mock virtual interview). The objectives include assessing the impact of AI on student professional development, evaluating the effectiveness of Quinnia in enhancing resume quality and interview performance, and examining student perceptions of AI-based feedback.

Literature Review:

AI in education encompasses various applications such as curriculum development, personalized learning, and feedback provision (Chassignol et al., 2018; Chen et al., 2020). Previous studies (e.g., Cen et al., 2007; Chassignol et al., 2018; Costa et al., 2017; Laurim et al., 2021) highlight the benefits of AI in creating interactive learning environments, identifying academic challenges

early, and aiding in career planning. Quinncia, as an AI-driven platform, offers features like streamlined grading, detailed feedback provision, automated grading, and performance analysis, contributing to improved educational outcomes.

Methods:

Students in the apparel merchandising professional development career course (taken by sophomores and juniors) at a South Eastern University submitted their resumes and participated in virtual mock interviews via the Quinncia platform as a part of their course assignments. With the Quinncia system, resumes and recorded video interviews can be analyzed by the algorithms for immediate feedback. The system is built upon the same technology that corporations use to scan resumes for initial screening purposes referred to as Applicant Tracking System (ATS). Quinncia provided quantitative and qualitative feedback on resumes, and students revised their submissions accordingly. Virtual mock interviews were recorded in Quinncia, allowing for quick and detailed feedback as well. Evaluation indicators included pre- and post-assessment scores and feedback quality.

Results/Findings:

A total of 76 students (Spring semester $n_1 = 37$ and fall semester $n_2 = 39$) used the Quinncia system for submitting their resumes and conducting mock interviews. Student submitted their resumes twice (for the feedback and after the feedback) whereas, they appeared once for the mock virtual interview. The paired t -test was used to compare the before and after scores for resume assignment. Analysis of two semesters' data revealed significant improvement in students' resume scores post-Quinncia assessment. For example, mean scores on resumes were 150.29 (before) and 165.02 (after) with a significant statistical difference ($t = -3.162$; $p = 0.002$) for the Spring semester. Similarly, mean scores on resumes were 153.79 (before) and 167.92 (after) with a significant statistical difference ($t = -2.675$; $p = 0.005$) for the Fall semester. For the mock virtual interviews, students received a page of detailed feedback regarding their performance on various factors (e.g., audio, video, and content) encompassing attributes such as rate of speech, use of filler words, communication style, answer length, topic cloud, enthusiasm, micro-expressions, and eye contact. They also received a numeric score and a badge (i.e., gold, silver, or bronze) based on how they compare with other students in the same university. Students reported increased confidence during mock interviews following Quinncia's feedback. The study also observed enhanced resume quality upon review by the course instructor. Positive student feedback, along with increased confidence during internship/job interviews (reported by students), indicated the beneficial impact of Quinncia on student professional development.

Discussion and Conclusions:

The integration of AI, particularly through platforms like Quinncia, enhances the efficiency and effectiveness of feedback provision in educational settings. By facilitating personalized feedback and improving student outcomes, AI contributes to the evolution of teaching methodologies. This study underscores the importance of leveraging AI tools for optimizing student learning experiences and preparing them for successful careers in their respective fields. Our findings suggest that with the use of AI platforms, we can augment or even replace the need for an

instructor to do initial reviews of student resumes and mock virtual interviews. This will free up the instructor's time to do more meaningful student career advising and coaching. Furthermore, students were able to build a "bot-proof" resume improving their odds of successfully getting past these applicant tracking systems before a human reader considers the submitted job application. Future studies may investigate the comparison of students receiving the number of interviews comparing the Quinncia reviews versus the instructor review and subsequent placement rate at graduation.

References

- Cen, H., Koedinger, K. R., & Junker, B. W. (2007). Is over practice necessary? Improving learning efficiency with the cognitive tutor through educational data mining. *Frontiers in Artificial Intelligence and Applications*, 511–518.
<http://pact.cs.cmu.edu/pubs/Cen%20&%20Koedinger%20AIED07.pdf>
- Chassignol, M., Хорошавин, А. В., Klímová, A., & Bilyatdinova, A. (2018). Artificial intelligence trends in education: A narrative overview. *Procedia Computer Science*, 136, 16–24. <https://doi.org/10.1016/j.procs.2018.08.233>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/access.2020.2988510>
- Costa, E., Fonseca, B., Santana, M. A., De Arajo, F. F., & Rego, J. B. A. (2017). Evaluating the effectiveness of educational data mining techniques for early prediction of students' academic failure in introductory programming courses. *Computers in Human Behavior*, 73, 247–256. <https://doi.org/10.1016/j.chb.2017.01.047>
- Holmes, W., Bialik, M., & Fadel, C. (2023). Artificial intelligence in education. In *Data ethics: building trust: how digital technologies can serve humanity*. (pp. 621–653). Globethics Publications. <https://doi.org/10.58863/20.500.12424/4276068>
- Laurim, V., Arpaci, S., Prommegger, B., & Krcmar, H. (2021). Computer, Whom should I hire? – Acceptance criteria for artificial intelligence in the recruitment process. *54th Hawaii International Conference on System Sciences Proceedings*.
<https://doi.org/10.24251/hicss.2021.668>
- Sharma, R. C., Kawachi, P., & Bozkurt, A. (2019). The landscape of artificial intelligence in open, online and distance education: Promises and concerns. *Asian Journal of Distance Education*, 14(2), 1–2. <https://doi.org/10.5281/zenodo.3730631>
- The importance of artificial intelligence in education for all students*. (2023, June 13). Language Magazine. <https://www.languagemagazine.com/2023/05/31/the-importance-of-artificial-intelligence-in-education-for-all-students/>
- Timms, M. J. (2016). Letting artificial intelligence in education out of the box: Educational cobots and smart classrooms. *International Journal of Artificial Intelligence in Education*, 26(2), 701–712. <https://doi.org/10.1007/s40593-016-0095-y>
- Wartman, S. A., & Combs, C. D. (2018). Medical education must move from the information age to the age of artificial intelligence. *Academic Medicine*, 93(8), 1107–1109.
<https://doi.org/10.1097/acm.0000000000002044>