Mapping Learning Experiences onto Emerging Motivation Theory

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Abstract

In January 2024, Bennett and Mekler published a paper extending the traditional Self-Determination Theory (SDT) of motivation using Organismic Intrinsic Theory (OIT) of behavioral regulation. The new combination of motivational and behavioral theory creates nuanced understanding of learning experiences. This research will systematically review the literature on Educational Motivation to establish the promise of this new motivational and behavioral framework to be applied to a unique educational context. It will then build upon the work of a UNO and SMU collaboration studying scalable internships to provide STEM education to adults experiencing homelessness in a addiction recovery program. Using a priori coding of the qualitative interview data, this project will examine which ways the new motivational framework applies to the reported motivations of that population.

Keywords: Motivation in Education, Adult Education, Education for Vulnerable Populations

Project Description

Traditional approaches to understanding student motivation in education have lacked the nuance needed to effectively analyze and support diverse learning experiences [4], particularly for underprivileged and non-traditional populations. Self-Determination Theory (SDT) has established connections between expected short-term rewards and behavioral regulation [2, 8]. These connections argue intrinsic motivation primarily leads to positive behaviors related to a goal, while extrinsic leads to negative. This creates a system of motivation where intrinsic rewards are considered of greater value than extrinsic rewards. Recent findings from Bennett and Mekler [1] show a more complex relationship between the nature of the anticipated rewards and learner behavior. In short, either extrinsic or intrinsic rewards may lead to the desired outcome of autonomously regulated behavior in educational contexts [8]. It is currently unknown whether this more nuanced view of motivation applies to heterogenous or diverse contexts.

This research aims to map Bennett and Mekler's novel motivational framework theory onto a unique sample of vulnerable adult learners. The analysis will build on qualitative interview data from an ongoing UNO-Southern Methodist University collaboration on workforce development [6]. That project examines micro-internships as an avenue for the development of enterprise computing skills for adults experiencing homelessness. The team's research includes an extensive onboarding interview with each participant of the program. To determine how best to analyze and understand the available data, this project proposed to start with a systematic literature review. The review will be used to define the research gap investigating whether this new framework can be applied to the extended interviews which have already been conducted. Validation of the new motivational framework will inform efforts to create and deliver effective workforce development systems and platforms for society's most vulnerable individuals.

Research Questions

In which ways does Bennett and Mekler's expanded framework apply to a population of adults experiencing homelessness who participate in a workforce development program aimed at expanding access to tech career opportunities?

In which ways can the results of the application of this emerging theory to this population inform educational and workforce development services, particularly for adults?

Analysis methods

This project contains two substantial tasks to advancing the research.

1. **Systematic Literature Review –** A systematic investigation of the literature will be conducted to build upon the motivation framework of Bennett and Mekler [1]. The purpose of this review is to trace the development and application of educational motivation theories in research. The review will follow the PRISMA guidelines for systematic reviews [7].

   Databases: The systematic literature review will search from prominent educationally and psychologically focused databases EducationSource, PsycInfo, and ProQuest Social Science Premium Collection.

   Identification: The literature review will use targeted search terms, focusing on: "Organismic Integration Theory" [5], "Self-Determination Theory", "Educational Motivation", "Educational Persistence" with one of "MOOC", "Adult Education", "Upskilling", "Workforce Development", and optionally one of "underprivileged adult populations" or "underserved populations". That gives 4 options for the first search term, 4 for the second search term, and 3 for the third (two optional and empty) for a total of 48 possible combinations.

   Screening: The results of the literature identification step will be screened by title, language (English), keywords, and abstract review for appropriate content. In this screening, duplicate publications will be removed, as well as literature not dealing with adult populations or educational programs.

   Refinement: The results will be refined after full reading of the remaining results to select a final set of literature which directly addresses relationships between educational motivation/persistence and adult populations.

2. **Qualitative *A Priori* Coding –** The participant interview data will be coded following flexible qualitative coding derived from grounded theory [3]. The process involves three steps. First, the interviews will be indexed into sections based on their structure and content. Secondly, memo summarization of the indexed sections will be created to start to generate themes. Finally, an analytical code will be formalized from the memos focused on the presence of motivational locus and regulation.

The location and timescale of the research

This project will be conducted independently under the supervision of Dr. Magie Hall at the University of Nebraska at Omaha in the Spring of 2024. A schedule of expected progress is given below.

2025 Month	Objective(s)
January – February (4 weeks)	Systematic Literature Review Identification and Screening. Interview Data Indexing
February-March (6 weeks)	Systematic Review Analysis and Interview Analytical Coding and Analysis
April (3 weeks)	Preparation and Presentation of Research at UNO Office of Research and Creativity Fair

Table 1. Proposed Timescale of Research

Student/Faculty Mentor Roles: The student (Nick Oelschlaeger) will develop and conduct the systematic literature review, determine analytical codes and analyze interview data for motivational themes. Nick will also write a final report and prepare the project for presentation at UNO's Research and Creativity Fair in April 2025. The mentor (Dr. Magie Hall) will provide the interview results from her ongoing research and oversee and provide feedback on the research process towards quality and completion.

Budget and Budget Justification

This research has not received any previous internal funding. The requested amount for this grant is **$5000**. This will cover the student researcher's investment in this project above their traditional coursework during the Spring of 2024.

References

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November 21, 2024

Letter of Mentor Support

Dear GRACA Review Committee,

With this letter, I want to express my support for the GRACA project application of Nicholas Oelschlaeger. Mr. Oelschlaeger is working as a graduate assistant for Dual Enrollment while he completes the requirements for his degree in Data Science. Before this position, he was a teacher in Omaha Public Schools. This proposal represents Mr. Oelschlaeger's first independent research project; he is currently enrolled in my graduate-level Research Methods course. Mr. Oelschlaeger is a capable young scholar, who is keen to use this first research experience to position himself his thesis work. In the time since I've worked directly with him, I have been quite impressed with his work ethic and leadership.

Mr. Oelschlaeger's proposal builds on Bennett and Mekler's 2024 extension of Self-Determination Theory (SDT) through Organismic Intrinsic Theory (OIT), applying this nuanced motivational and behavioral framework to explore learning experiences among vulnerable populations. The research focuses on adults experiencing homelessness who are enrolled in an addiction recovery program at Siena Francis House and aims to examine their motivational and regulatory profiles in the context of workforce development initiatives.

The proposal leverages qualitative data from an NSF-funded project between the University of Nebraska at Omaha (UNO) and Southern Methodist University (SMU). This partnership centers on analyzing the strength of micro-internships connected with online classes to provide enterprise computing education opportunities for adults experiencing homelessness. The proposed study will analyze over 34 interview transcripts to identify themes and validate the applicability of this emerging motivational framework, something which is outside of the scope of work funded by NSF. By conducting a systematic literature review and employing qualitative coding methods, the proposed research seeks to uncover insights that could enhance the design of educational programs and platforms for marginalized populations.

This work is both timely and impactful, as it addresses critical gaps in understanding how motivational theories translate to diverse educational contexts. The findings have the potential to inform and improve workforce development strategies, particularly for underserved adult learners, making it a valuable contribution to the field. With my own experience as the originator of the research and a co-PI on the funded project, I am more than happy to support Mr. Oelschlaeger as the research mentor in this GRACA project.

If you have any questions, please do not hesitate to contact me.

Best regards,

Dr. Margeret Hall
Associate Professor, Department of Information Systems and Quantitative Analysis, College of Information Science and Technology, University of Nebraska at Omaha