Student Perceptions of the Implications of a Financial Literacy Project Within a College Mathematics Course

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Abstract

The purpose of this study was to investigate how students perceived their engagement in an experiential learning project with a focus on financial literacy within general education mathematics courses (skills, knowledge, attitudes, and behaviors). Specifically, the researchers were looking to investigate whether the completion of a finance project within a general education mathematics course influences students' perception of and knowledge about personal finance concerning their lives and career paths. An aggregated analysis of survey responses using Qualtrics showed approximately half of students lacked knowledge of personal finance, the skills to interpret financial information, and expressed limited knowledge of loan repayment calculations. While over half of the participants would recommend this course to other students. There was no statistical significance in the correlation between students' assessments of their pre-and-post financial literacy knowledge and whether they recommend this course for future students. However, the majority of responders indicated that they have thought about future career and personal finance before completing the project.

Keywords: Student Loan Debt, Financial Literacy, Personal Finance, Experiential Learning, Finance Project.

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INTRODUCTION

The increase in the national student loan debt coupled with the actual and perceived decline in educational standards in American higher education was the focus of recent scholarly discussions (Baum, 2016; Goldrick-Rab, Anderson, & Kinsley, 2016; Williams, 2019). According to the Pew Research Center, student loan debt has reached 1.6 trillion U.S. dollars during the 2018-19 academic year. With the rising cost of tertiary education, and eventually the amount of student loan debt, institutions have an obligation to educate students about money management not only to pay back student loans but also to avoid various forms of financial distress after graduation (Williams, 2019). Additionally, institutions of higher education play a critical role in developing educated and financially-literate citizens (U.S. Financial Literacy and Education Commission, 2019).

The issue of financial literacy is not limited to American students and American institutions. Financial literacy has gained global recognition and is now considered an essential life skill (OECD, 2020, p. 15). According to the Organization for Economic Cooperation and Development, a 2018 study about financial literacy involving students (age 15) found that 16% were below the proficient level of financial literacy, 22% demonstrated a basic level of financial literacy, and only 12% successfully demonstrated the highest level of financial literacy (OECD, 2020, p. 30). This lack of financial literacy in middle and high school levels becomes evident once students reach college and have to navigate life's financial issues on their own.

Undergraduate students seek financial independence but are unaware of how to do simple tasks such as balance a checkbook, pay bills, understand investment strategies, or how interest works on loans (Lin, Bumcrot, Ulicny, et al., 2019). The missions and visions of higher education institutions are to prepare students for life after college (U.S. Financial Literacy and Education Commission, 2019). To this end, educating students, or providing them with financial literacy training opportunities about money management can have life-long implications (Lin, Bumcrot, Ulicny, et al., 2019; U.S. National Strategy for Financial literacy, 2020). Ultimately, an impactful and life-long education begins with a positive learning experience that connects classroom knowledge to real-life events and decisions. In addition to preparing students for professional skills, higher education institutions can play a significant role in educating students about financial decision-making that would lead to productive participation in the economy, build wealth, and attain goals (U.S. Financial Literacy and Education Commission, 2019, p. 21).

This study will share the research, methods, findings, and recommendations based on survey data collected and analyzed from one private four-year university in the Midwestern United States. The data was collected based on existing instrumentation tested for both reliability and validity. The sample for this study consisted of undergraduate students who were enrolled in seven sections of Quantitative Reasoning in various modalities. Participants in this study reflected on their knowledge about financial literacy before and after completing a course summative finance project, which is a key assessment in their general education core. The finance project includes five assessments about the students' abilities to apply mathematical concepts in life after college. Students were tasked with calculating annuity, filling out an expense worksheet, a food budget worksheet, a job and apartment worksheet, and a vehicle loan worksheet. The survey data was collected through the use of Qualtrics, and participation in the study was anonymous and optional.

Objective of the study

The purpose of this study was to investigate how students perceived their engagement in an experiential learning project with a focus on financial literacy (skills, knowledge, attitudes, and behaviors) through the analysis of their responses to the 19 Likert scale and open-ended survey questions. As part of this general objective, answers to the following research question were sought: To what extent do students believe that a project in a general education mathematics course adds value to their prior knowledge of financial literacy?

This research builds on prior studies about financial literacy initiatives for college students and the rising concerns about the national student loan debts in the United States. Data for this study was gathered using a survey which was created by the researchers and administered by the office of research and effectiveness at the university. The researchers gathered data from students enrolled in seven sections of a general education mathematics course and examined their perceptions of financial literacy after completing the finance project.

LITERATURE REVIEW

Educational Accessibility and Affordability

There is no doubt that education is one of the best vehicles for social and economic development and promoting upward mobility. Additionally, the relationship between education and socio-economic development has long been established (Ferguson, Macqueen & Reynolds, 2014; Joseph & Payne, 2011). To this end, a country's social and economic development depends largely on its ability to educate and empower its citizens, and how well it arrives at equipping its labor force with superb skills (OECD, 2020). The view of education as a vehicle for change and enhancement of the human condition has been documented in government reports and scholarly discussions (Ferguson, Macqueen & Reynolds, 2014; Joseph & Payne, 2011; Joseph & Payne, 2011; OECD, 2020). There is also a universal consensus regarding the importance of a country's education system and its ability to compete in a globalized economy (Joseph & Payne, 2011; Menashy & Dryden-Peterson, 2015). Therefore, the importance of earning a college degree has economic implications individually and globally. For example, a report from the Social Security Administration stated that an individual with a bachelor's degree earns approximately $900,000 more in median lifetime earnings than high school graduates (SSA, 2015).

But while there is clear evidence for the role of education in promoting social mobility and economic development, access to education is hindered by the price tag and rise in tuition costs. According to the Pew Research Center, student loan debt has reached 1.6 trillion U.S. dollars during the 2018-19 academic year. The issue of educational affordability, access, and success has been a challenge, especially for poor and marginalized groups (Pew Research, 2019). Moreover, the racial divide, uneven distribution of wealth, and other cultural phenomena continue to impact access to all levels of education, despite recent provisions and investments in the human capital. Ideally, education should be a process by which members of society develop the skills and capabilities necessary for their successful social integration (Pfeffer, 2015). However, minority students, particularly African American students, accrue more debt than their White peers (PRC, 2019). With the rising cost of tertiary education, and eventually the amount of student loan debt, students and their parents are considering alternative pathways for accessing traditional college education and credentialing (Brown & Kurweil, 2017). To this end, institutions of higher learning have an obligation to educate students about money management not only to pay back student loans but also to avoid various forms of financial distresses that they may face after graduation. Additionally, institutions of higher education play a critical role in developing educated and financially-literate citizens (U.S. Financial Literacy and Education Commission, 2019). This is a skill that many students do not learn about in high school through their required mathematics credit courses as it is not a graduation requirement in many states.

Financial Literacy Defined

Financial literacy skills are one key aspect of independence and there have been many definitions of this term (Hogarth & Hilgert, 2002). Financial literacy has been defined as the awareness, knowledge, skill, attitude, and behavior necessary to plan and make sound financial decisions (money management, and ultimately achieve individual financial well-being) (OECD; 2006, Beverly & Burhalter, 2005; Hogarth & Hilgert, 2002). According to the U.S. National Strategy for Financial Literacy (2020),

- Financial literacy describes the skills, knowledge, and tools that equip people to make individual financial decisions and actions to attain their goals; this may also be known as financial capability, especially when paired with access to financial products and services.

- Financial education is the process by which people gain information, skills, confidence, and motivation to act, through various means, including classroom education, one-on-one counseling and coaching, technology-based interventions, and self–study.

- A key desired outcome for financial education is sustained financial well-being, in which people can fully meet current and ongoing financial obligations, can feel secure in their financial future, and can make choices that allow enjoyment of life (p. 2).

There are a variety of factors that contribute to individuals' levels of financial literacy. Some of these items include parental socialization and the number of available resources (e.g., knowledge, attitudes, and personal characteristics) (Deacon and Firebaugh, 1981). According to Deacon and Firebaugh (1981), the Family Resource Management Theory Framework suggests young adults develop financial skills by interacting with parents throughout their lifespan; young adulthood serving as a critical period to develop a financial attitude and behavior outcomes (Shim, Xiao, Barber, & Lyons, 2009). Although a majority of financial literacy skills are taught by parents and/or guardians either informally or formally, many parents may not have the appropriate abilities to guide their young adults to become responsible economic consumers (Moschis, 1985; Jorgensen & Salvla, 2010; Lyons & Hunt, 2003). As an individual's level of financial knowledge increases, their attitudes and behaviors also tend to improve (Jorgensen & Salvla, 2010). Financial attitudes, or the psychological tendencies regarding financial management, may be positively influenced by parents with a higher income level, and an increase in positive life experiences (Jorgensen & Salvla, 2010).

College and Financial Literacy

The issue of financial literacy for college students has gained national and international attention in recent years (Lin, Bumcrot, Ulicny, et al., 2019; U.S. National Strategy for Financial literacy, 2020). This attention is due in part to the rising cost of higher education in the United States and the fact that income has not kept up with these costs. According to the National Center for Educational Statistics of the U.S. Department of Education, between 2007–08 and 2017–18, prices for undergraduate tuition, fees, room, and board at public institutions rose 31%, and prices at private nonprofit institutions rose 23% (NCES, 2019). The rising cost of college tuition and student loan debt is more troubling when considering a recent report by the Federal Reserve Board, which found that 20% of adults who attended college believe the cost of their education exceeded its financial benefits (Federal Reserve Board, 2018). Educating students about the long-term implications of student loan borrowing is critical to their personal and professional successes after college. Additionally, mastering financial knowledge and gaining financial skills in the classroom is critical to future decisions and citizenry life (OECD, 2020). For example, a school savings program or a money management college course has valuable outcomes for students, parents, and the community at large (U.S. National Strategy for Financial Literacy, 2020). This established link between early education initiatives and future financial decisions reiterates the importance of financial literacy for college students.

Recent Initiatives for Addressing Financial Literacy

Within elementary and secondary schools, many states have implemented financial literacy standards. For example, within the state of Ohio, Financial literacy standards were adopted in 2017 for kindergarten through twelfth grade and it is a high school graduation requirement. School districts within the state of Ohio may choose to create a separate financial literacy course or integrate these standards within other courses. Social Studies, Business Education, Marketing Education, and Family

and Consumer Sciences teachers are all licensed to teach financial literacy within the state of Ohio (ODE, 2017). Although there are resources for financial literacy in the K-12 school systems, there is no guarantee that these resources will accompany students as they move from high school into college.

Many universities offer loan exit counseling for students nearing graduation. This short program is often not enough to make an impact on student's financial literacy as they have already made financial decisions over the previous four or more years in college (U.S. Financial Literacy and Education Commission, 2019). Although research exists among elementary and secondary school levels, there are few higher education institutions with mandatory financial literacy courses. Those institutions that had implemented financial literacy courses showed students made improvements in budgeting, increased confidence in money management, retention, and graduation rates (U.S. Financial Literacy and Education Commission, 2019). To improve student financial literacy skills, some institutions have implemented financial courses that address quantitative reasoning or social sciences requirements, provided mentors or success coaches for students, or have integrated financial education into first-year orientation or wellness courses (U.S. Financial Literacy and Education Commission, 2019). In elementary and secondary schools, many teachers integrate financial literacy within their required math, social studies, and other courses all students take.

The U.S. Financial Literacy and Education Commission (2019) has recommended institutions of higher education require financial literacy courses or implement the concepts and skills within a financial literacy course within mandatory general education courses. When planning these courses and topics, higher education institutions should use national, institutional, and individual data to determine specific financial literacy needs of their students and identify students that may be in the 'at risk' population (U.S. Financial Literacy and Education Commission, 2019). Based on current studies and government reports, financial literacy is a concern for students, parents, and academic institutions. To this end, this study incorporated financial literacy topics into a required general education mathematics course and sought to assess its perceived value from a student perspective.

RESEARCH METHODOLOGY

To answer the research question, *To what extent do students believe that a project in a general education mathematics course adds value to their prior knowledge of financial literacy*, the researchers of this study created and distributed a survey questionnaire. The survey was created to measure the course and program outcomes that are specific to the general education core at the university. This structure and the nature of the Likert Scale questions within the survey instrument were guided by recommendations from the Organization for Economic Cooperation and Development (OECD, 2011). To assess the views and perceptions of college students concerning their financial literacy, OECD (2011) recommends incorporating Likert Scale and multiple-choice questions (p. 4). As universities set individual standards, using a questionnaire already created would not be an accurate depiction of this specific course (Brown & Kurweil, 2017). However, prior research has used similar approaches in assessing college students' attitudes and behaviors concerning financial matters and money management decisions (Jorgenson, 2007). The questionnaire contained a total of 19 questions; 17 of which were Likert Scale in nature, the first four questions focused on students' demographics, while the following 13 related to course learning outcomes (i.e. knowledge of personal finances installment buying, etc.). The last two questions were open-ended and asked whether students would recommend the project and course to future students. The researchers and staff members from the Institutional Research Office reviewed and edited the questions to ensure grammar, formatting, and phrasing were appropriate.

The total sample size for this research project was 160 possible participants. Participants in this survey were enrolled in MAT185 during the spring semester of 2020. These students were enrolled in online and seated courses. Of the total 160 participants who were contacted to complete the survey, 45 responses were recorded, thus providing a response rate of 28%. Response data were analyzed in Qualtrics and SPSS to produce the findings discussed in this report.

Participants

Participants for this study were recruited through convenient sampling, given that they were enrolled in undergraduate general education courses. Of the 42 who responded to gender identification, 12 (28.57%) identified as male, 28 (66.67%) identified as female, 1 (2.38%) identified as intersex, and 1 (2.38%) preferred not to answer. For race-ethnicity, 42 out of 45 responded to this question; 33 (78.57%) answered White, 7 (16.67%) answered Black or African American, 1 (2.38%) answered two or more and 1 (2.38%) preferred not to answer. As to academic standing, 32 (76.19%) answered freshman, 4 (9.52%) answered sophomore, 4 (9.52%) answered junior, and 2 (4.76%) answered senior. For the school of study, 43 out of 45 students responded, 9 (20.93%) in School of Arts and Sciences, 12 (27.91%) in School of Business, 19 (44.19%) in School of Criminal Justice and Social Sciences, and 3 (6.98%) selected undecided. Concerning learning modality, 42 out of 45 students responded; 35 (83.33%) were enrolled in face-to-face classrooms and 7 (16.67%) were enrolled in online courses.

Procedure

The researchers of this study were faculty members teaching in the undergraduate and graduate programs at a Private Midwestern university in the United States. Once approval to complete the study was granted by the office of the Institutional Review Board, the survey questionnaire was shared with the office of Institutional Research and Effectiveness for dissemination with the potential participants, which served to eliminate the direct interaction between the faculty and the participating students. The survey was initially distributed by email via Qualtrics. A reminder email was sent through Qualtrics to all unfinished respondents two weeks from the initial contact. Another reminder email was sent through Qualtrics to all the respondents who started the survey and had not yet completed it by the second week. Response data were analyzed in Qualtrics and SPSS to produce the findings discussed in this study. Participation in the study was voluntary and anonymous. Students were allowed to stop participating at any time.

Researchers analyzed quantitative survey data using SPSS to identify correlations and Qualtrics to generate visual representations of the data. Means were established on each of the items contained in the Likert Scale for the students' responses. An analysis of variance test was conducted to determine whether students' experiences within the finance project predict satisfaction and whether they recommend the course to future students.

For the qualitative data, researchers created a matrix that described summaries by themes related to the research questions. After summarizing data of student responses, the authors generated a list of propositions about the data (Miles, Huberman, & Saldana, 2014) and developed a coding scheme to test and confirm the initial set of propositions.

RESULTS

Data collected within the survey are identified below. Figures 1-10 illustrate students' assessments' of their prior knowledge of various financial literacy topics after completing the finance project. Although these assessments did not produce a statistically significant predictor of whether students would recommend the project to future students, the value-added from completing the project is well-noted in these figures. It should also be noted that the majority of the survey respondents (approximately 82%) were students enrolled in face-to-face sections of MAT185 Quantitative Reasoning. Additionally, only 33 of the 45 students who responded persisted in completing the questionnaire in its entirety.

Of the total 33 respondents for this question, 4 (12.12%) answered strongly agree, 11 (33.33%) answered somewhat agree, 2 (6.06%) answered neither agree nor disagree, 9 (27.27%) answered somewhat disagree and 7 (21.21%) answered strongly disagree. There was also a higher

percentage of online students who disagreed with this statement over students taking the class on campus (See Figure 1).

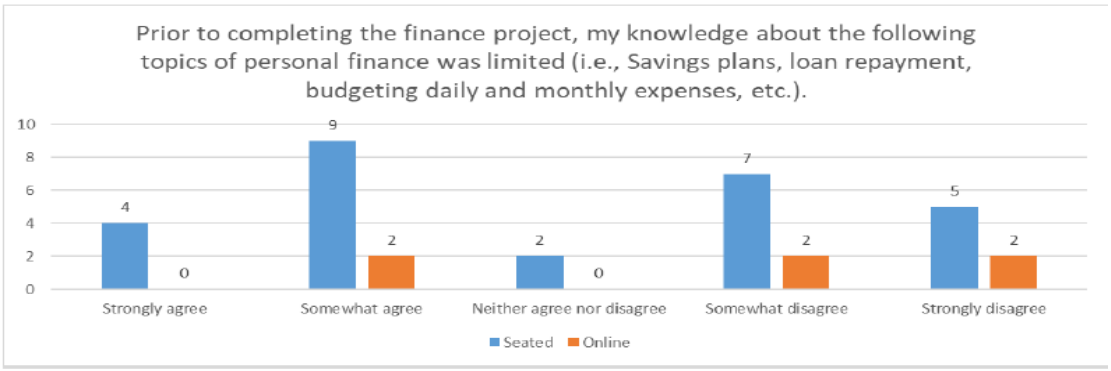

Figure 1 Knowledge of Personal Finance

Of the total 33 respondents for this question, 8 (24.24%) answered strongly agree, 11 (33.33%) answered somewhat agree, 3 (9.09%) answered neither agree nor disagree, 6 (18.18%) answered somewhat disagree and 5 (15.15%) answered strongly disagree. There were also more students in the online modality that chose to agree than disagree with this statement (See Figure 2).

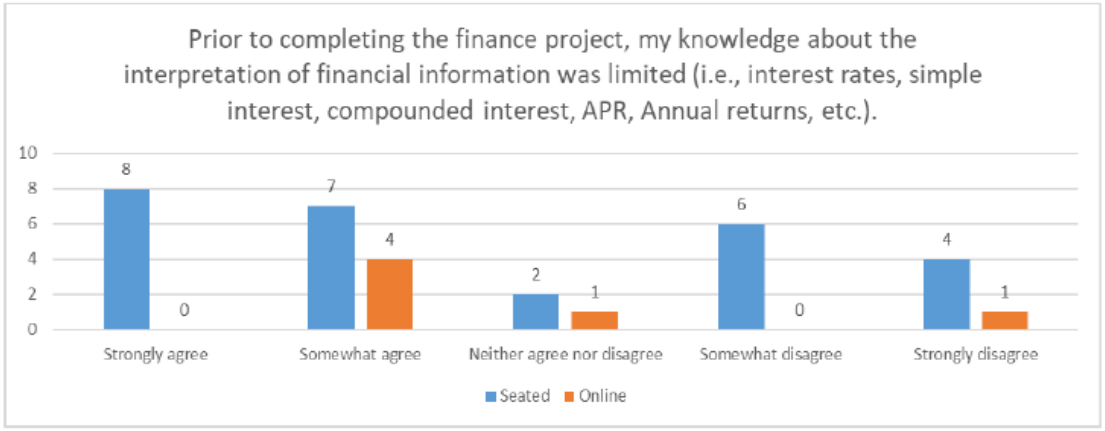

Figure 2 Knowledge of Interpreting Financial Information

Of the total 33 respondents to this question, 7 (21.21%) answered strongly agree, 9 (27.27%) answered somewhat agree, 4 (12.12%) answered neither agree nor disagree, 8 (24.24%) answered somewhat disagree and 5 (15.15%) answered strongly disagree (See Figure 3).

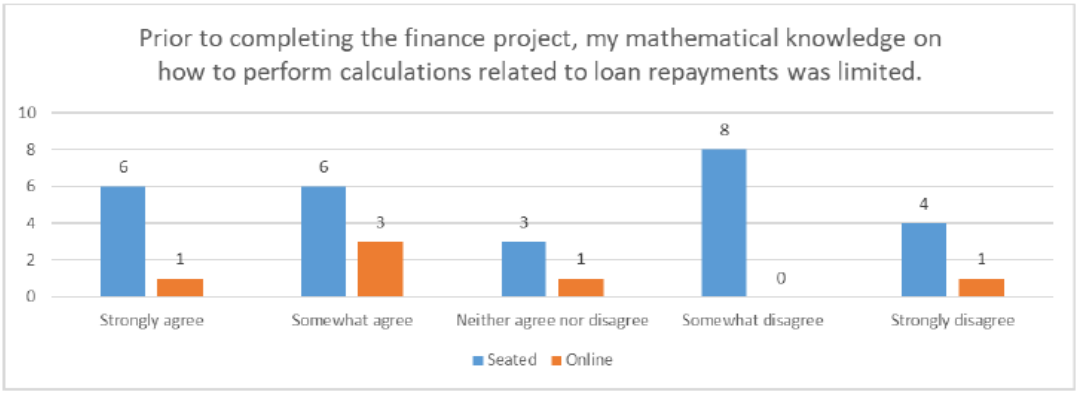

Figure 3 Knowledge of Performing Calculations for Loans

Of the total 33 respondents to this question, 5 (15.15%) answered strongly agree, 10 (30.30%) answered somewhat agree, 4 (12.12%) answered neither agree nor disagree, 8 (24.24%) answered somewhat disagree and 6 (18.18%) answered strongly disagree (See Figure 4).

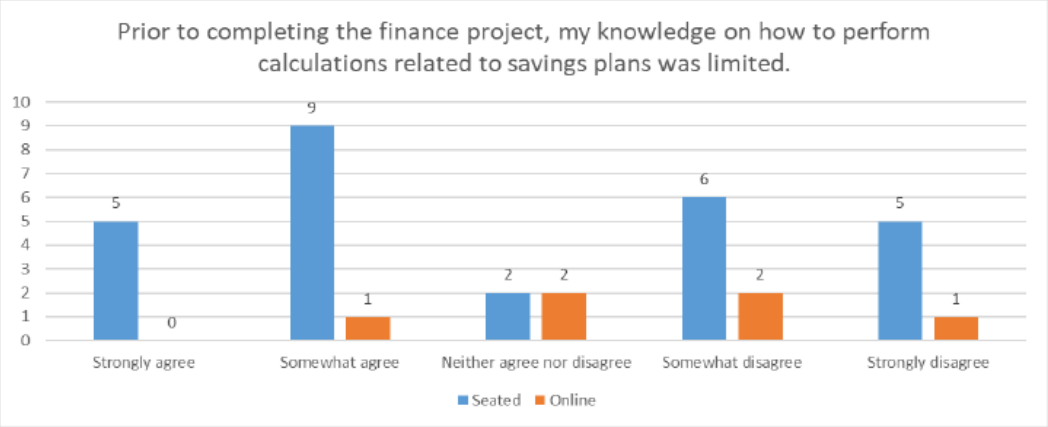

Figure 4 Knowledge of Performing Calculations for Savings Plans

Of the total 32 respondents to this question, 6 (18.75%) answered strongly agree, 12 (37.50%) answered somewhat agree, 3 (9.38%) answered neither agree nor disagree, 6 (18.75%) answered somewhat disagree and 5 (15.63%) answered strongly disagree (See Figure 5).

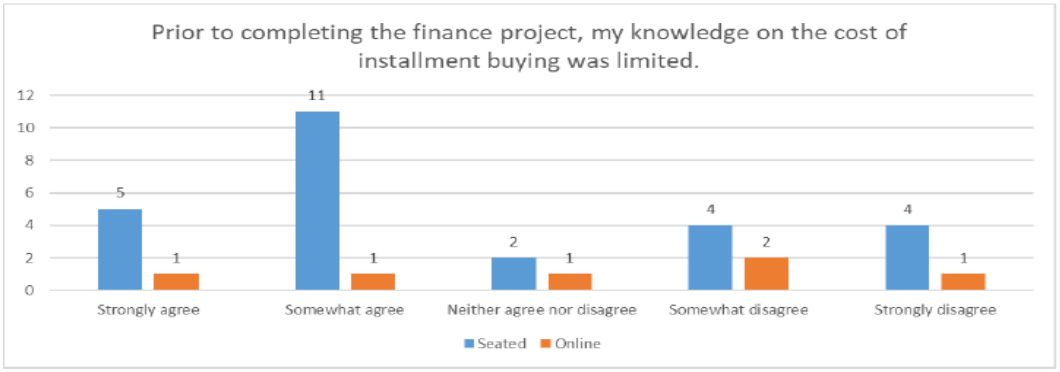

Figure 5 Knowledge of Installment Buying

Of the total 33 respondents to this questions, 8 (24.24%) answered strongly agree, 10 (30.30%) answered somewhat agree, 4 (12.12%) answered neither agree nor disagree, 6 (18.18%) answered somewhat disagree and 5 (15.15%) answered strongly disagree (Figure 6).

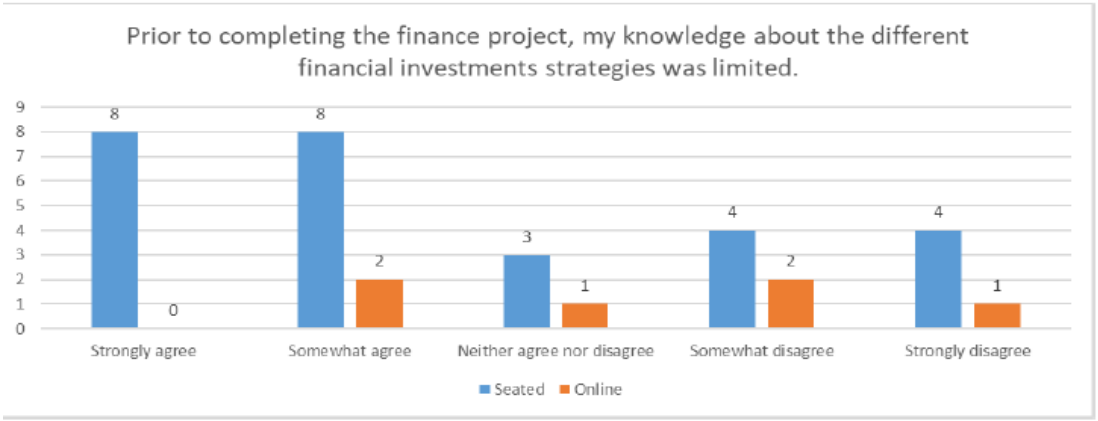

Figure 6 Knowledge of Financial Investments.

Of the total 32 respondents to this question, 9 (28.13%) answered strongly agree, 7 (21.88%) answered somewhat agree, 2 (6.25%) answered neither agree nor disagree, 9 (28.13%) answered somewhat disagree and 5 (15.63%) answered strongly disagree (See Figure 7).

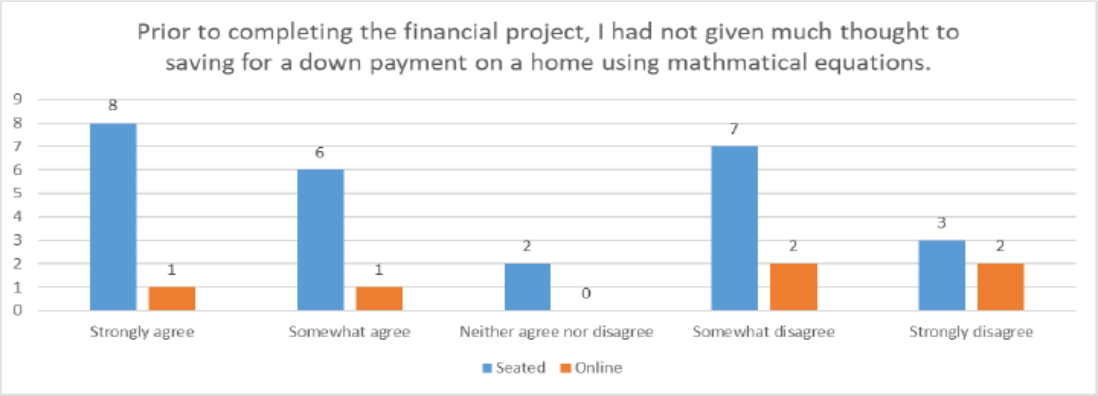

Figure 7 Knowledge of Down Payments

Of the total 33 respondents to this question, 4 (12.12%) answered strongly agree, 6 (18.18%) answered somewhat agree, 2 (6.06%) answered neither agree nor disagree, 11 (33.33%) answered somewhat disagree and 10 (30.30%) answered strongly disagree (See Figure 8).

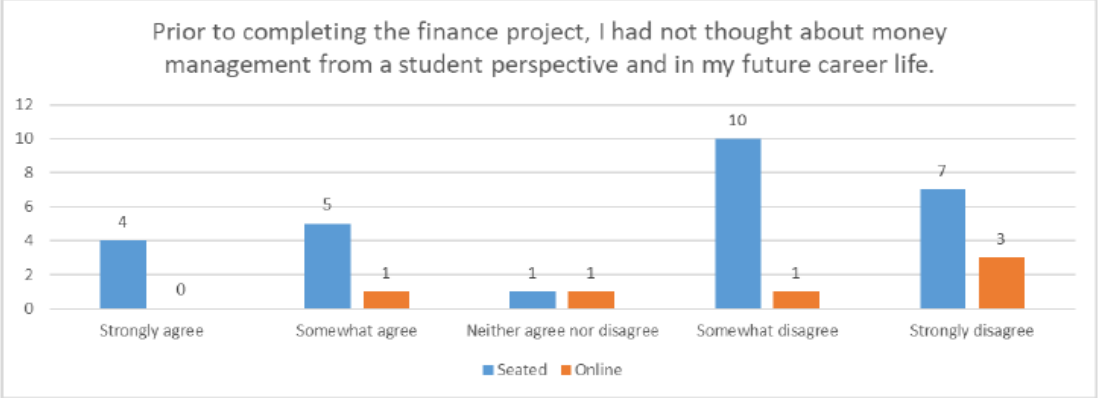

Figure 8 Knowledge of Money Management

Of the total 33 respondents to this question, 3 (9.09%) answered strongly agree, 5 (15.15%) answered somewhat agree, 2 (6.06%) answered neither agree nor disagree, 11 (33.33%) answered somewhat disagree and 12 (36.36%) answered strongly disagree (See Figure 9).

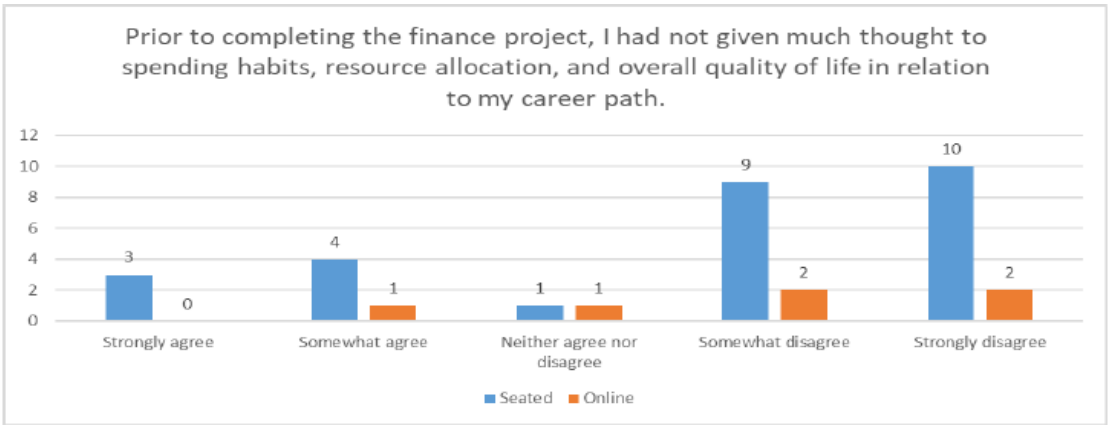

Figure 9 Knowledge of Spending Habits

Of the total 32 respondents to this question, 25 (78.13%) answered yes and 7 (21.88%) answered no (See Figure 10).

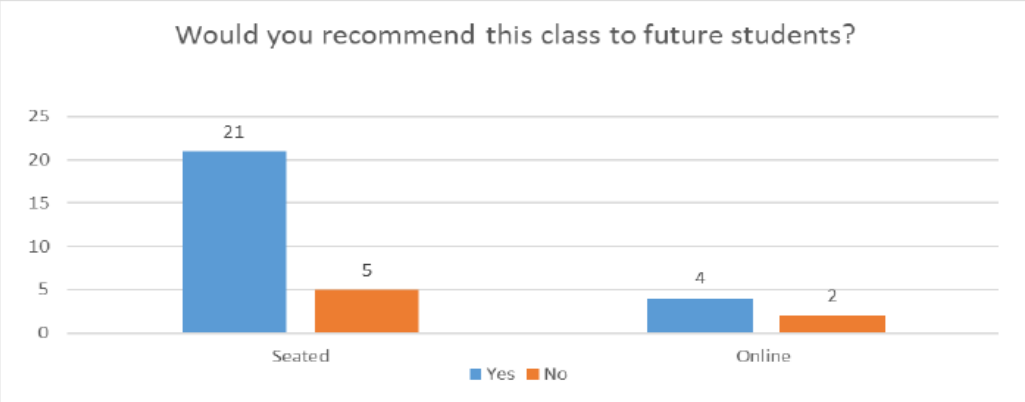

Figure 10 Recommendation of Class to Future Students

Positive Feedback

Of the respondents who would recommend MAT185 to future students, one specific student stated within their survey,

"I already knew how to save money, but this project taught me what other things to save up for that weren't a house or a car. Things that we take for granted because our parents pay for them right now. How much I spend on weekly grocery shopping trips, how much I'll spend on house & car insurance, how different living prices are based on the area make sure you know what you are spending money on so you aren't homeless and in debt for the rest of your life."

The positives outweigh the negatives when it came to feedback on the course and the financial project. Some additional positive comments regarding takeaways students had that relate to their lives and/or career paths include: planning for the future with understanding loans (i.e. buying a home) (3 participants), cost of living, and money management/budgeting (6 participants), time management skills (1 participant), savings plans for financial stability (3 participants), understanding salaries for future jobs (2 participants).

Negative Feedback

From the survey feedback, 36.36% of respondents strongly disagreed that before completing the finance project, they had not given much thought to spending habits, resource allocation, and overall quality of life concerning their career paths. This shows that approximately 33-36% of the students completing their financial literacy project already have completed tasks similar to this in their previous math or high school courses. Specifically, a student stated within their survey, "I don't believe the finance project was beneficial. It may be for some people but me, it was repeating what I already have to do in my life. It helped but it didn't at the same time, didn't help us understand how to physically do it or made sure we understood it. was more focused on us getting math right and the right answer rather than understanding it." Other students stated they would not recommend the financial literacy project due to the following reasons: the material was too challenging or confusing (3 participants), or the course contained too many topics (1 participant).

Analysis

Reviewing each question, there was a larger difference among student responses from agreed to disagree related to interpersonal finance, installment buying, investments, money management, and spending. There were more students overall who agreed that their knowledge was limited before

completing the project in interpersonal financial information, loan calculation, savings plans, installment buying, investments, and down payments on homes. Additionally, more students expressed that they already knew about personal finance, money management, and spending. Overall, there is a consensus on the significance of completing the project and the majority of students recommended this course for future students which underscores the value-added of completing the financial literacy project with undergraduate college students.

To analyze this data further, SPSS was used to determine the significance of prior knowledge being a predictor of recommending the finance project to future students in MAT185. Results are represented within Tables 1 and 2 below. The items within the survey questionnaire were entered into SPSS as predictors (i.e. Personal finance, interpersonal finance, loan calculations, etc.) while the recommendation for the course for future students was entered as the outcome variable.

Table 1 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Contant)	2.055	.707		2.908	.008
	Interpretation of Financial Data	.243	.356	.200	.684	.501
	Loan Repayment Calculation	.457	.420	.372	1.088	.287
	Savings Plans	-.936	.451	-.749	-2.075	.049
	Installment Payments	-.009	.404	-.007	-.022	.983
	Financial Investments	.721	.393	.590	1.832	.079
	Mortgage Down Payment	-.221	.290	-.189	-.763	.453
	Future Money Management	.636	.462	.517	1.377	.181
	Spanding Habits	-.633	.454	-.492	-1.394	.176

a. Dependent Variable: Recommend to Future Students

Table 2 ANOVA Analysis of Variance

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig
1	Regression	24.246	8	3.031	1.000	.461
	Residual	72.724	24	3.030		
	Total	96.970	32			

a. Dependent Variable: Recommend to Future Students

b. Predictors: (Constant). Spending Habits, Interpretation of Financial Data, Financial Investments, Mortgage Down Payment, Installment Payments, Loan Repayment Calculations, Savings Plans, Future Money Management

Overall, there was no statistical significance in the correlation between students' assessments of their pre-and-post financial literacy knowledge and whether they recommend this course for future students, F (8, 32) = 1.0, P = .461. However, based on the results from *Figure 8*, 78.13% of responders indicated that they have thought about future careers and personal finance before completing the project.

DISCUSSION AND CONCLUSION

Limitations and Recommendations

One limitation identified in this study was the low response rate. As only 28% of students responded to the survey, the results may not be reflective of how all the students who took MAT185 in

the Spring of 2020. If further research is conducted, it is recommended that the survey is distributed as soon as the participants complete the finance project. For example, given the fact that the online term is only seven weeks, online participants completed the project 8 weeks earlier than their seated counterparts.

Another notable limitation was the self-reporting nature of the data, which suggests that some of the responses might have been subject to social desirability bias. Future research studies should consider measuring students' responses to the survey questionnaire against other dependent variables such as the student's overall score on the finance project or score on a summative assessment that is related to the project.

To further analyze the data, the researchers recommend that prior knowledge of financial literacy should be assessed before completing the finance project. Doing so will provide an accurate assessment of the impact of this activity on the student's overall knowledge. For future studies, it should be addressed whether students took a financial literacy-specific course in their high school education to determine whether or not this course prepared them for independent life after graduation.

Findings from this study echo those found in the literature and government reports in that college students face a multitude of complex financial decisions (OECD, 2020; ODE, 2017; U.S. Financial Literacy and Education Commission, 2019). To this end, academic institutions have a significant role in developing and building upon financial literacy skills by promoting research focused on money management and financial decisions (OECD, 2011). The approach varies from one institution to another, but general recommendations on how to assess student attitudes and behaviors toward personal finance is well demonstrated by OECD and other government entities (OECD, 2020; ODE, 2017). Overall, the findings from this study reiterate the need for further research and assessment of students' financial literacies, especially in light of the increase in the national student loan debt (Baum, 2016; Goldrick-Rab et al., 2016; Williams, 2019). Additionally, financial literacy has gained global attention and became a measurement of preparation for money management and preparation for life after graduation (OECD, 2020; US. Financial Literacy & Education Commission, 2019).

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