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Equipping Our Students for Future Financial Success

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Abstract

It is nothing new that young people often lack knowledge or experience with the basics of financial literacy and management. Students today are faced with rising costs for housing, health care, student loans, and rising interest rates. While those in engineering receive higher than average starting salaries, these rarely come with defined benefit pension plans, but rather rely on employees to navigate various investment plans for their retirement. At our school, civil engineering students take a senior seminar course that has a collection of topics to prepare them for successful entry into and growth throughout their professional life. Among the topics in our initial offering of this seminar course was one seminar on the basics of financial literacy and management, which proved to be very popular and highly rated as to its perceived usefulness by the students. As a result of student feedback, the seminar was expanded to two seminar periods. This led the author to ask the questions: (1) is there a need for financial literacy education among engineering students, including civil engineering students? and; (2) can financial literacy in civil engineering students be increased through a limited series of seminars? Can providing basic information on this topic make the students more comfortable about managing their future finances and securing a retirement that would meet their future needs? This paper will provide an overview of the literature on the need for financial literacy, present a summary of the topics covered in the seminars, and provide an assessment of the effectiveness of the seminars through survey data. A survey was developed and administered as a pre-lesson gauge of comfort with managing basic finances and as a check on basic financial knowledge. This tool was not only completed by students taking the seminar course, but also by over 150 students in other engineering disciplines and computer science to get a boarder baseline of existing knowledge. A post-seminar survey, done at the end of the semester (not immediately after the seminars on financial literacy) was given to gauge the success of these seminars on students' comfort with and knowledge of basic financial knowledge required to manage their finances. With our students increasingly receiving ever higher salary offers and yet being expected to manage their future finances and invest for retirement with little formal education or knowledge, providing even minimal information seems like the right thing to do to help our students bridge the gap between being a student and a responsible working professional.

Introduction

For many years I listened to a podcast each week called Marketplace Weekend, from NPR, a show that offered a mix of economic news, stories, and segments geared towards helping "people better understand the economic world around them" [1]. I was an avid listener and recalled that a constant mantra from hosts and pundits on the show was the need for better financial literacy. The podcast ended in 2018, but their persistent plea was planted in my mind. As we developed a new civil engineering program we had a blank slate, albeit with some ABET and many resource constraints, and we imagined many things to add to the program in addition to traditional civil engineering courses to better prepare graduates to enter the professional world. Improving their financial literacy was one of many items that were stuck in the back of my mind. This paper will focus on answering two questions:

(1) Is there a need for financial literacy education among engineering students, including civil engineering students; and

(2) Can financial literacy in civil engineering students be increased through a limited series of seminars?

To answer the first question this paper will review some of the research that makes a case for the need for such education among college students and provide results of a survey of engineering students at our college to gauge their confidence and knowledge of basic financial literacy. The paper will also report on our efforts to address this need and provide initial assessments of our efforts, and try to answer the second question. This is still very much a work in progress, but some of the results are encouraging enough that others might find it of interest or want to introduce a similar effort at their institutions.

Long-standing need

The Organization for Economic Co-operation and Development (OECD) has defined financial literacy as the "knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life" [2]. If we accept this definition, it is clear why financial literacy is important. OCED's sentiments are echoed by other sources and research calling financial literacy "a cornerstone of family economic well-being" [3] and stating it has important ramifications in day-to-day life, long term decisions, personal economic behavior as well as societal economic impacts [4, 5]. When looking at young adults, their financial behavior, through loans and purchasing, can impact the national economy and society both now and shape the financial future of any country [6].

Today it can be argued that financial literacy is even more important than it has been in the past. College students are graduating with more debt than ever before [7, 8, 9] and they are being made more responsible for their financial futures [5, 10, 11]. The days of defined pension plans have in most cases become a thing of the past and responsibility for retirement, as well as the risk, has shifted to employees. Even at a young age, today's workers face complicated financial decisions that have important consequences and can affect their ability to accumulate wealth. With life expectancy on the rise, despite a recent dip due to COVID and drug overdoese [12], and social welfare programs that are continually under greater strain, not only in the US but in many other countries as well, the need for people who have the financial knowledge to effectively make financial decisions is more important than ever [4, 5, 10, 11].

Despite this well-known need for financial literacy that is so necessary to make financial decisions, research has shown that in the United States knowledge of financial concepts is universally low, although we are not alone or an isolated case [3, 13]. This lack of knowledge has been seen to correlate to ineffective financial behaviors both in the U. S. and in other countries [3, 4, 5, 14]. This has not gone unnoticed and leaders and policymakers in the U. S.

and around the world who have called for greater education to promote financial knowledge [15, 16, 13, 17].

The President's Advisory Council on Financial Literacy (PACFL 2008) in the U.S. noted that "far too many Americans do not have the basic financial skills necessary to develop and maintain a budget, to understand credit, to understand investment vehicles, or to take advantage of our banking system. It is essential to provide basic financial education that allows people to better navigate an economic crisis..." [15]. This is not new news and few would argue that there is not a real need for better financial literacy in our country.

Need to educate or have courses

Clearly, a path to increased financial literacy will require greater education and our engineering students are very likely not immune to this need. With our continual increase in individual fiscal responsibility, students today need to be taught basic personal finical skills and knowledge to become financially literate [2, 5, 15, 16, 13, 18]. Former U.S. Federal Reserve Board Chairman Ben Bernanke has stated:

> In our dynamic and complex financial market place, financial education must be a life-long pursuit that enables consumers of all ages and economic positions to stay attuned to changes in their financial needs and circumstances and to take advantage of products and services that best meet their goals. Well-informed consumers, who can serve as their own advocates, are one of the best lines of defense against the proliferation of financial products and services that are unsuitable, unnecessarily costly, or abusive [17].

Many have noted that financial education should be part of our education system and taught in schools [5]. Some have cited compelling reasons for this including the need to expose students to the basic concepts underlying financial decision-making before they have to make important financial decisions that in most cases come with significant consequences [4, 5, 10, 11, 15]. Some researchers have noted that financial literacy does not seem to increase substantially with age [5], so expecting life experience to create financial literacy likely is not a valid approach. There is ample evidence that women and other minorities often lag behind in financial literacy and are often simply not exposed to it, so schools are poised to provide access to these groups [5, 19, 20, 21, 22]. There are also compelling reasons to have personal finance courses specifically in college or university as well, including that they often already offer courses in corporate finance to teach how to manage the finances of firms; an individual also needs this type of knowledge to manage their own finances through their working lives and beyond [5]. Additionally, a study has found a positive association and credibility between sources associated with college and university financial education. These sources, such as college professors and classes, are relatively easy for students to access. More importantly, regardless of ethnic background, parental education levels, and family knowledge and economic practices, all students benefit from having personal finance materials incorporated into college curriculums [6]. In another study, researchers found that college classes significantly and positively impact financial knowledge and behavior. College classes dealing with personal financial issues were found to be among the most effective tools in promoting financial literacy. Interestingly enough a positive effect on financial literacy was also seen by students regularly reading or watching the news [10]. Facing higher levels of student loan debt, easy access to credit cards, and an increasing role in managing their retirement college graduates need financial literacy now more than ever and it only makes sense that they receive this financial education before they start making their own financial decisions [4, 18].

What was done

It seemed clear that there is a need for financial education and it is confirmed by research. Being involved with the start of a new civil engineering program at York College of Pennsylvania I had an opportunity to influence the development of the curriculum. Borrowing an idea that I had seen when teaching at the U. S. Military Academy at West Point, we decided to offer a professional development type of seminar course aimed at preparing our soon-to-be graduates for life as a professional after college. The course was imagined to mix instructor-facilitated seminars and outside speakers brought in to touch on various topics of importance as well as to spark curiosity and deeper thinking about a range of issues. This course seemed to be the ideal spot to offer a seminar on financial literacy aimed mostly at the idea of saving and investing for retirement, the need and wisdom of starting early, and a few “basics” of personal finance. It was just one among several other seminars that touched on topics such as a review of resumes and LinkedIn, the role of licensure, leadership lessons from top-level civil engineering executives, the role of business and public policy in civil engineering, negotiating, job benefits, taking the Fundamentals of Engineering (FE) Exam, ethics, and graduate school and continuing education options. It was offered as a one (1) credit course meeting for an hour once a week. Assignments would consist of writing exercises including some professional in nature (resume, LinkedIn profile, career plan), an ethics essay, reflections responding to various speakers’ seminars, and a book review.

The first year the course was introduced, spring of 2020, there was one seminar on financial literacy scheduled to cover personal finance and investing basics. The goal was to quickly go over some basics and spark interest to put the topic on their radar screen as something important to their future. The lesson objective, “Develop a plan for managing your personal finances to achieve your goals and objectives”, while seemingly simple, had many facets. Information for the seminar was initially based on material received from a financial planning company, Hammond Isles Wealth Advisors, who provided slides they used for client seminars which were supplemented with other basic financial knowledge readily available from numerous sources both in print and online. The seminar turned out to be one where the students were engaged from start to finish, and they literally all stayed for an extra 30 minutes to continue the discussion and ask questions. Unfortunately, shortly after this seminar session we very abruptly went to remote instruction due to COVID-19 and there was no opportunity to have a follow-up or an extra seminar session. From the end-of-course survey, personal finance was the one topic they almost universally indicated they wanted more information on and suggested we have two seminar sessions in future years. The second year the course was offered we added a second seminar session, one covering personal finance basics (renting vs. buying a home, buying vs.

leasing a car, emergency funds, paying down debt, fundamentals of wealth accumulation, etc.) and the second one focused on saving and investing for retirement. All of these are at a very basic level and the lessons were preceded by a preparatory work assignment, reading an article or two, or listening to a podcast (taken from a series "Your Money Your Purpose" that Hammond Isles Wealth Advisors produced and is readily accessible on the web); see Appendix A for a list of articles and podcasts used. Students then responded to what they had heard or read prior to the seminar in a series of short reflections. In the third year, again in response to end-of-course surveys, we changed the format to an hour and 50-minute seminar sessions and made it a two-credit class. This was largely to have more time with our outside speakers, allow more time on each topic, and better reflect the effort and time students were putting into written assignments. In terms of personal finance, we had roughly quadrupled the time in the course on the topic from our first offering.

After the first iteration and reading student reflections, I was struck by how eager the students were for knowledge on this and how appreciative they were for the information, the chance to ask questions, and to expand what they knew. It was also apparent they brought a wide range of knowledge and experience on this topic with them, from literally none to a couple with a significant amount. At that point, I began to wonder if this was something they truly needed—because they lacked initial knowledge—and if there was something that a couple of hours of a seminar could positively impact. Unfortunately, as previously noted we introduced this course the semester that COVID hit, and then the second iteration had to be done in a hybrid manner. This caused extra administrative requirements and planning and resulted in a delay in starting a serious assessment of the need and effectiveness of the seminars on financial literacy. In the spring of 2022, I created a financial literacy pre-seminar survey. The survey was created to measure the students' perceived awareness of their knowledge of financial literacy as well as their confidence in being able to manage their personal finances in the future. They were also given a series of questions to test the accuracy of their knowledge, there was also an option to choose do not know or unsure for each question. The survey questions were created from other surveys used or found on easily accessible websites and common knowledge on basic financial knowledge, see Appendix B – Financial Literacy Survey Questions [22, 23, 24]. This survey was given to all students in the seminar course and completed by all 25 participants prior to the first seminar on personal finance basics. In an attempt to gather data from a larger community, the survey was sent, after receiving Institutional Review Board (IRB) approval, to 366 students majoring in engineering or computer science primarily in their second, third, or fourth years, none of these students had taken the seminar course. This survey was used in an effort to answer research question one. The survey was completed by 156 of them for a completion rate of nearly 43 percent. Of those completing the survey, 22 percent were seniors, 29 percent were juniors, 30 percent were sophomores, and 19 percent were first-year students. Forty-five percent were mechanical engineering, 26 percent civil engineering, nine percent computer engineering, seven percent in electrical engineering, and 11 percent were computer science majors. A chance to enter a random drawing for one of four $25 Amazon gift cards was offered as an incentive for completing the survey.

Survey Results

Looking at the first two questions, students rating their knowledge or awareness of personal finances and their confidence in their ability to manage personal finances, Table 1 shows that both groups (civil engineering seniors in the seminar course and other engineering and computer science majors) had roughly the same responses. In rating their knowledge only 44-56 percent rated themselves as extremely or moderately knowledgeable, which leaves a sizeable portion rating their knowledge at a lower level. Interestingly, they rated themselves at a higher level of confidence in managing their personal finances if we look at extremely and moderately confident, roughly 60 percent, although we do see fewer are extremely confident as opposed to feeling extremely knowledgeable or aware. Regardless, this seems to confirm that our students lack adequate financial literacy if roughly 40-50 percent lack knowledge or feel confident in their ability to manage finances, which matches the research cited earlier regarding the need for financial literacy.

Table 1 Student awareness of financial knowledge and confidence to manage finances.

	Not at all		**Slightly**		**Somewhat**		**Moderately**		**Extremely**	
	CE Seniors	***Other Egr & CS***	***CE Seniors***	***Other Egr & CS***	***CE Seniors***	***Other Egr & CS***	***CE Seniors***	***Other Egr & CS***	***CE Seniors***	***Other Egr & CS***
How would you rate your own knowledge or awareness of personal finances?	0%	1%	12%	13%	44%	29%	32%	40%	12%	16%
How would you currently rate your confidence in your ability to manage finances over your career to meet your goals and secure a desirable professional life and eventually retirement?	0%	10%	24%	15%	16%	18%	52%	47%	8%	10%

A series of questions were asked of the students to validate or check their perceived knowledge of various basic financial topics, largely focused on investing and maintaining financial security. Looking in-depth at a question about the recommended size of an emergency fund, knowledge that can arguably be classified as important to financial security, we see in Figure 1 slightly over a third of the students knew the correct answer (bold outlines identify the correct responses) from both populations (the larger engineering and computer science majors group in green, the civil engineering seniors responses in blue), which means that almost two thirds either did not know the answer or got it wrong.

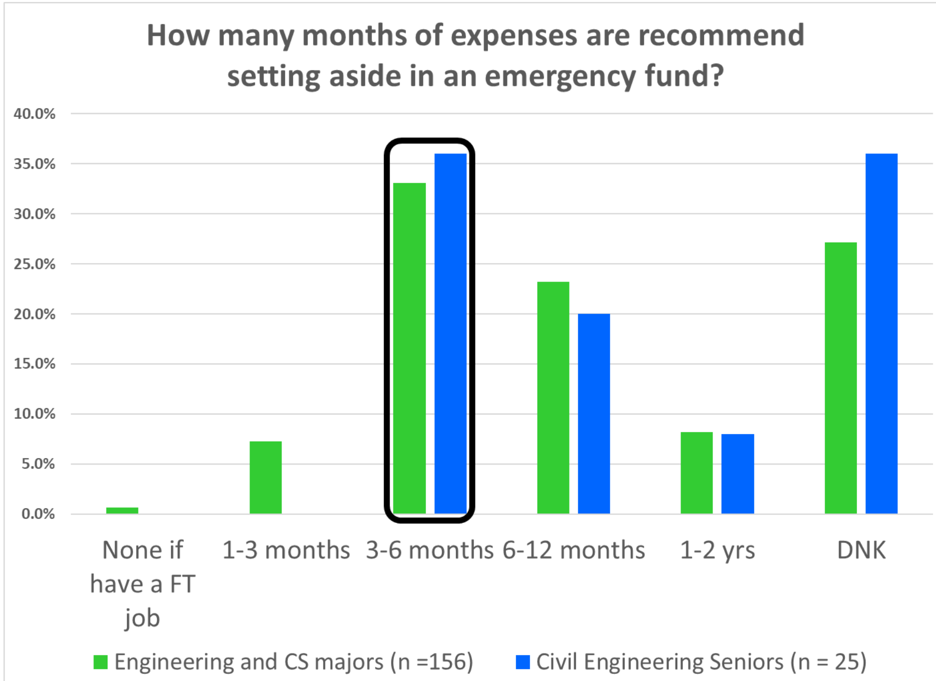

Figure 1 Recommended size of an Emergency Fund

We see better results in looking at students' responses to the question about the of the purpose of an IRA (Individual Retirement Account) or Roth IRA, in Figure 2 we see a large percentage of students with the correct answer, again the correct answer indicated with bold outline. There is a significant disparity in population responses, however, with a large portion of the students in the Engineering and Computer Science majors

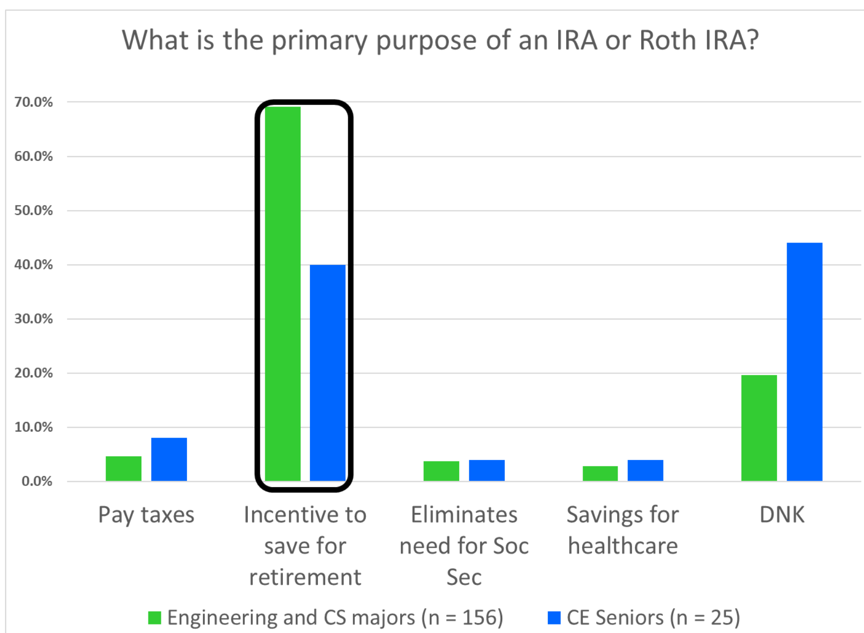

Figure 2 Purpose of an IRA or Roth IRA

group doing significantly better than the smaller group of civil engineering seniors, with almost 70 percent getting the correct answer, as opposed to only 40 percent of civil seniors. Looking at both groups though, 30 to 60 percent did not know the answer or get it correct.

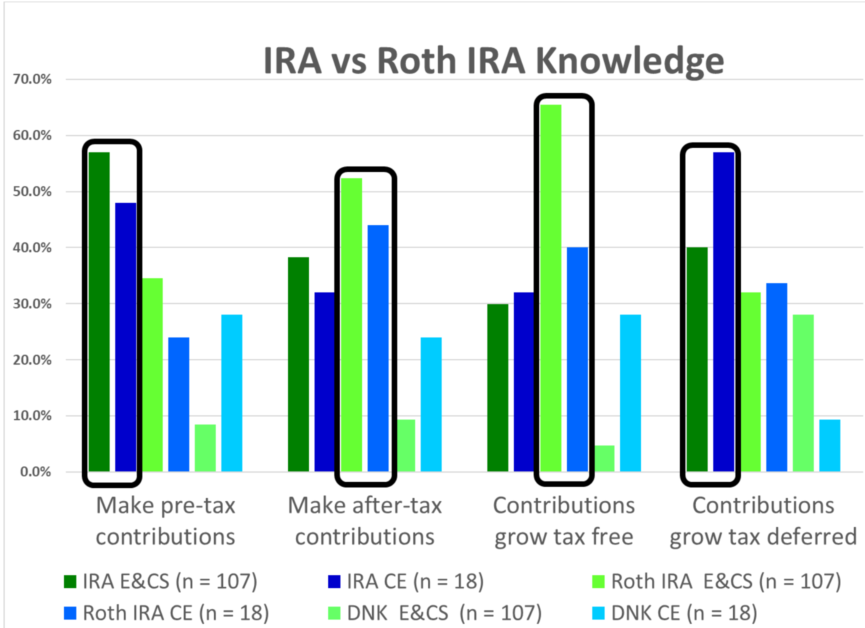

Figure 3 IRA vs Roth IRA Knowledge

In Figure 3 we see 40-65 percent of the students correctly identifying which type of IRA has which attribute, again the correct type of IRA is outlined in bold for each of the four characteristics. These questions were only asked of students who indicated they were extremely to slightly familiar with IRAs and Roth IRAs, this was 107 of 156 students in the engineering and computer science majors and 18 of 25 civil engineering seniors. We see significant portions did not know or did not get the correct answer, even though they had indicated some familiarity with the topic.

Finally looking at the other questions that were included survey shows that in no case did either group show that more than 75 percent chose the correct answer. The one question that had correct responses that high reflected what buying a company's stock means, for each population roughly 75 percent correctly responded that it means you own a part of a company, however, of the remaining roughly 25 precent, half got it wrong and half did not know, so there is clearly room for education even there. Among the lowest percentage of correct answers was the question about which of a list of alphabet government agencies and regulators protects against losses in the stock market; the correct answer being none of them do, was only correctly answered by approximately 8 percent and roughly 50 percent indicated they simply did not know. Questions dealing with anything about bonds showed generally low percentages of correct answers. Only about 30 percent of respondents knew that buying a company's bond was loaning money to the company. The other questions dealing with bonds all had below 50 percent correct answers and in some cases only 4 or 5 percent correct answers, again all with large numbers (40-75 percent) answering they did not know. While one could reasonably argue knowledge of the bond market is not of critical importance for young professionals, some basic knowledge is necessary and most would agree knowledge of what constitutes an emergency fund and basic knowledge of IRAs and Roth IRAs do constitute important knowledge among other personal finance basics in today's environment. From these results, we can see that our students could benefit from more education if they are to become financially literate and prepared to successfully navigate their financial futures.

Impact of the Seminars

The more significant question to answer, research question two, can financial literacy in civil engineering students be increased through a limited series of seminars? Obviously, this is a complex question to attempt to answer and this paper will only provide a very simplified assessment of the learning. For this study, at this point, a post-seminar survey was administered, identical to the pre-seminar survey, to all the participants in the class during the third-year iteration. They completed the survey at the end of the semester which was three weeks after the last seminar and 11 weeks after the first seminar. Students had an assignment worth 20 points to complete the survey (1.33 percent of their course grade) and 22 of 25 completed the survey. This analysis compares the answers in the pre and post-seminar surveys and looks for positive change, increased levels of awareness of financial knowledge and confidence as well as increased percentages of correct answers to the validation questions. As noted earlier this is very much a work in progress and the sample is a very small group, results are based on only 22 students. This is also based on only one group. That said, there still are some encouraging results and all the results will provide good data for the continuous improvement of this effort.

In answering the question, can financial literacy in civil engineering students be increased through a limited series of seminars, based on our results the answer is…maybe. For example, in Figure 4 and Figure 5 we see the results of the change in responses to the top-level questions about the students' perceptions of their awareness of personal finance knowledge and confidence in being able to manage their finances. The dark red indicates the pre-seminar survey responses and the light red the post-seminar survey responses. Figure 4 shows the difference in the percent of each of the responses for the first question. Small decreases are seen in the percentage of students who listed themselves as only "slightly" and "somewhat" knowledgeable or

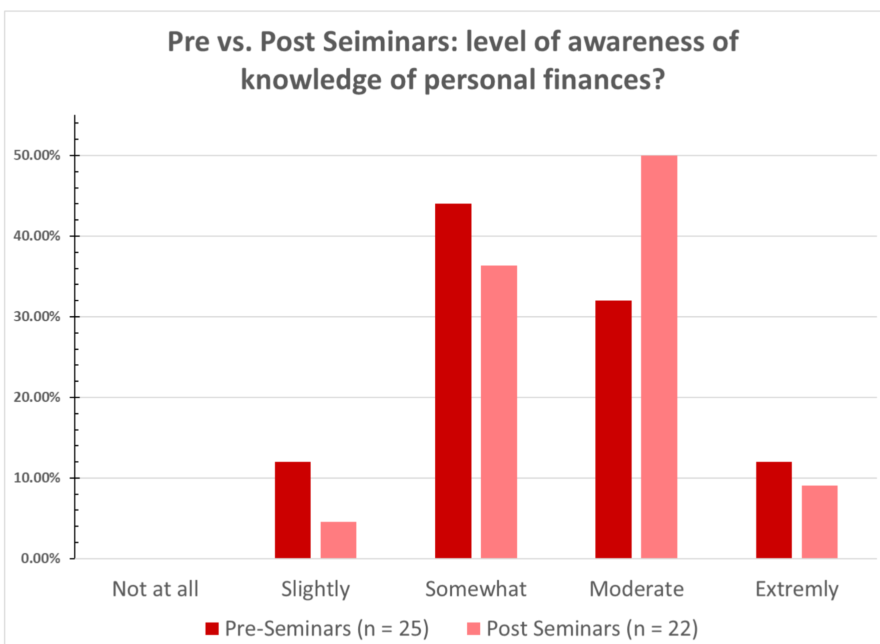

Figure 4 Change in Level of Awareness of Personal Finances

aware of personal finances, which is a good thing. Similarly, the number of students who listed their level as moderate increased significantly, another positive result. The decrease seen in those extremely aware is due to the small sample size, both responses at that level only represent two students. However, while the trend may be seen as a shift overall of students feeling they are more knowledgeable, 40 percent still list their level of awareness of personal financial knowledge as only slight or somewhat.

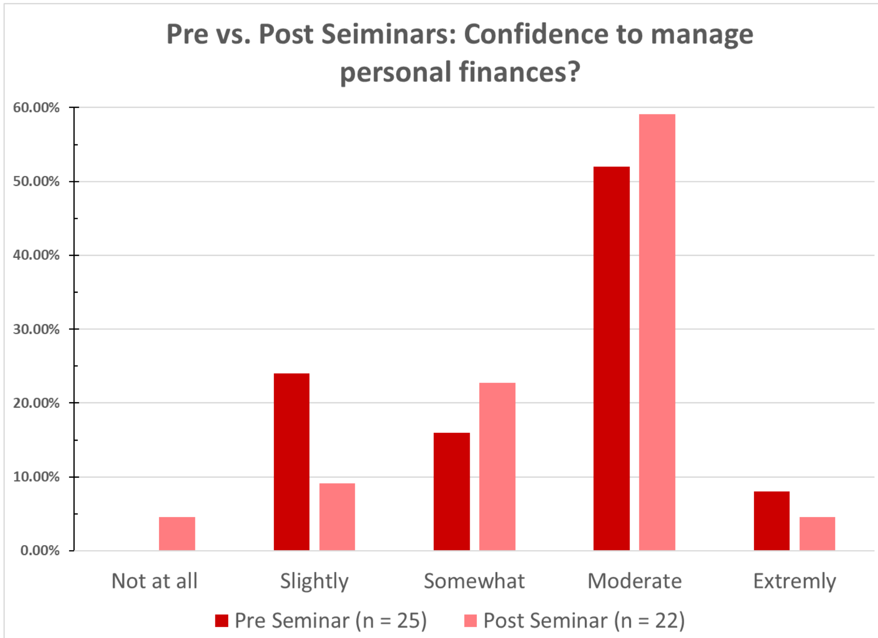

Figure 5 Change in Confidence to Managing Finances

The results to the second question, as seen in Figure 5, are possibly even more interesting. We see a shift generally toward more confidence. In the pre survey 40 percent of the students listed themselves as only slightly or somewhat confident to manage their personal finances, and in the post survey that decreased to 36 percent are in the "not at all" to "somewhat" knowledgeable ratings, a slight decrease. Not a huge difference to be sure and we see an increase in the "not at all" knowledgeable. In the moderate to the extremely knowledgeable self-rating, we see a change from 60 percent to 64 percent. Given the small numbers, these are basically the same result in each case. Does this mean the seminars had no effect on the student's confidence? Given the results to the first question, if the students feel more knowledgeable after the seminars, why has their confidence decreased? The survey used did not probe that or ask the whys for their choices, so we simply cannot answer that question based on the survey results. One possible interpretation could be that with some more knowledge, the students realize there is a lot more to know. Possibly some may have a more realistic or nuanced view of their confidence after the seminars than they did in the pre-seminar survey. Do they realize they were more confident initially than might be justified? Was it that the seminars just confused them, overwhelm them, were not effective, or had no effect? Simply put we do not know exactly what caused this result, but it suggests that future surveys need to try to get more detailed reasons or ask questions in a different way.

Looking at a sample of a few of the results of the more objective gages of the students' personal finance knowledge after the seminars, here too the survey results are mixed. In Figure 6 we see a fairly significant increase in the percentage of students who got the answer correct (outlined in bold) about the number of months expenses recommend to be saved in an emergency fund and a decrease in the percentage who did not know as well as a decrease in one of the wrong answers, 6-12 months. However, we see a slight increase in the other two incorrect answers. Again, it must be stressed that these are based on small population of students, so slight changes are not significant.

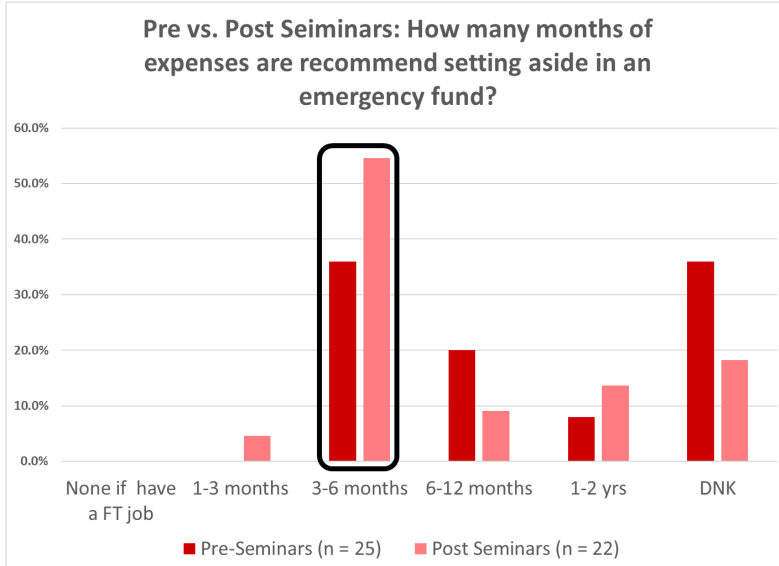

Figure 6 Pre vs. Post Seminars: Emergency Fund

Figure 7 shows a more complete positive result with a significant increase in the percentage selecting the correct answer as well a significant decrease in those who did not know. The other answers showed slight changes, two of the three in a positive direction but because of the small numbers it is likely constant or only an insignificant change.

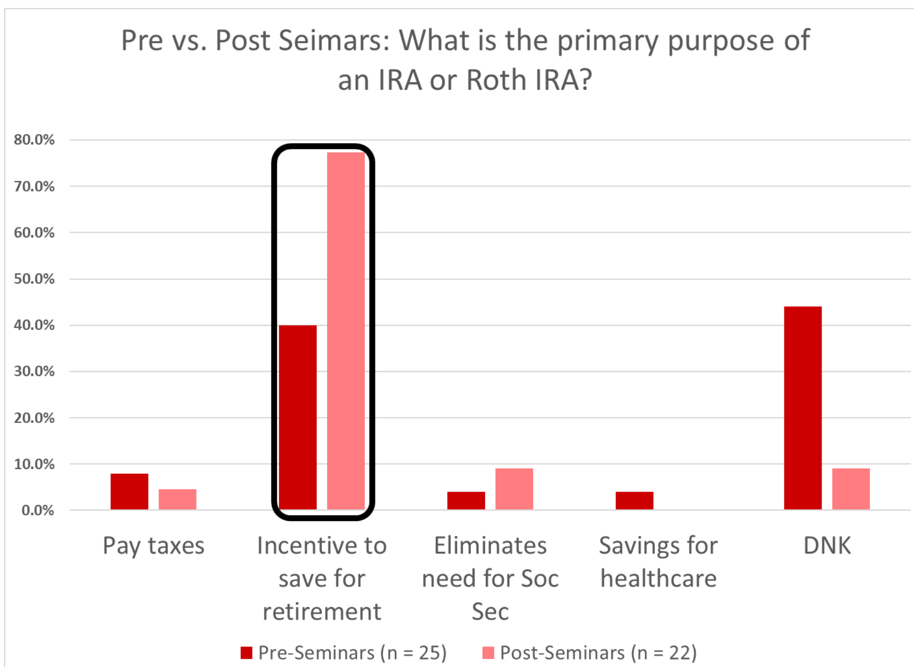

Figure 7 Pre vs Post Seminars Purpose of IRA

The results shown in Figure 8 show both progress and a lack of progress toward increasing the students' knowledge. In this question, students were asked to match the characteristics of traditional IRAs and Roth IRAs to the correct instrument. In the first two characteristics given, we see the percentages with the correct answer stay essentially the same, while the percentage who selected the wrong answer increased a fairly substantial amount, even though the percentage of students who indicated they did not know went to zero. For the third characteristics we see an increase in the correct answer, a decrease in do not know, but almost a third got the answer wrong showing no change. In the final characteristic we again see those who said they did not know go to zero and we see increases in both the wrong answer (to more than 50 percent) as well as an increase in those who got it right. Clearly this is, at best, a mixed result and there is no logical or data supported explanation.

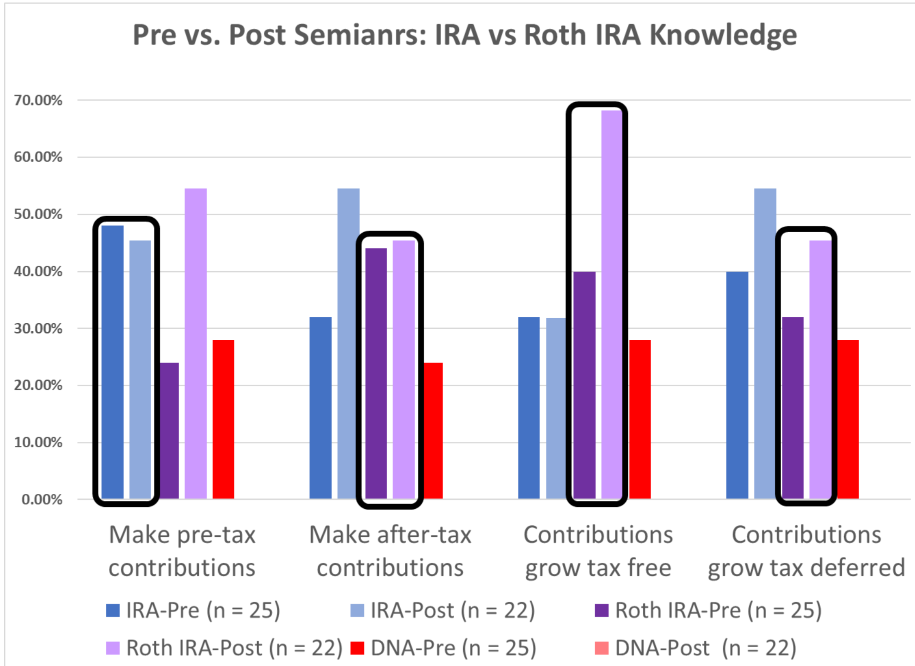

Figure 8 Pre vs Post Seminars IRA Knowledge

Future work

While the results are not universally positive, I believe they do offer some encouragement and warrant future work. Going forward I plan to use all the data results on the objective questions and review the seminar materials and content to look at highlighting areas that seemed to have not been adequately covered based on post-seminar survey results. This will involve altering material presented and activities in the class and then assessing the effectiveness of those changes with subsequent groups. One simple change will be to make sure the results of the pre-seminar survey are more explicitly covered during the seminars.

For future iterations, the post-seminar survey needs to be redesigned to better ask questions that will more efficaciously assess the effectiveness of the seminars on improving financial literacy knowledge and confidence to act on that knowledge, as well as to probe a bit deeper into the reasoning behind their answers. Asking if they feel more or less confident than prior to the

seminars and why, for example, will likely provide a better understanding of the effectiveness of the seminars.
If possible, it would be valuable to collaborate with other programs that might have similar offerings or are interested in introducing them. This would provide an opportunity to survey a larger group of students exposed to the material and topics and get a better idea if these, or similar efforts, are an effective way to increase the financial literacy of civil engineering students.

Conclusion

In answer to the first research question, survey results indicate there is a need for financial literacy education among engineering students, both civil and other engineering majors at our college. Roughly 40 to 50 percent of student rated their knowledge and confidence to manage their finances as moderately confident or extremely confident. The research on financial literacy and the current state of employment conditions point to the necessity for college students to increase their financial literacy, which are confirmed by our survey with engineering and computer science students. While it is possible that our students are a unique subset of engineering students, I rather doubt that and the results of our survey show that engineering students too need to improve their financial literacy. The answer to the second research question is much less clear and represents mixed results, some positive some negative. The clarity of the results is also minimized due to the lack of statistical significance due to the small survey population, 22. Other research has shown that students who received personal finance information from a college professor or courses had better financial practices and suggests that the college or university is an effective place to provide this information. This was shown to be true regardless of a student's major and had a positive impact on a student's ability to manage their financial resources in the future [6]. Given other studies have shown that greater knowledge leads to better financial decisions as well, it seems that encouraging and providing opportunities for our students to gain financial literacy will benefit both the students and our society at large [10]. While our small sample survey results, a limitation of this work to date, do not solidly confirm this, further work should be conducted to refine the teaching as well as increase the sample size of the survey to demonstrate if there is a significant effect of this type of instruction.

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Appendix A – Pre-lesson readings and podcasts

Bach, David. "16 Timeless Truths of Financial Freedom: Lessons to Live Rich in 2020 and Still Make Finishing Rich Your Destiny." Success, Jan.-Feb. 2020, pp. 46+. https://go.gale.com/ps/i.do?p=BIC&u=ycp_main&id=GALE|A609734915&v=2.1&it=r&sid=summon&asid=1a5b6e06

Floyd, David. "Buffett's Bet with the Hedge Funds: And the Winner Is …" Investopedia https://www.investopedia.com/articles/investing/030916/buffetts-bet-hedge-funds-year-eight-brka-brkb.asp

EP 29: 4 INVESTMENT LESSONS LEARNED FROM 2020" from" the ***Your Money Your Purpose*** radio show and podcast (https://www.hiwealth.com/your-money-your-purpose). [NOTE: It's a bit of an infomercial but there are some good tips and knowledge to be taken from it.]

Appendix B – Financial Literacy Survey

QUESTIONS—Self efficacy on finances

How would you rate your own knowledge or awareness of personal finances?

Not at all aware; Slightly aware; Somewhat aware; Moderately aware; Extremely aware

How would you currently rate your confidence in your ability to manage finances over your career to meet your goals and secure a desirable professional life and eventually retirement?

Not at all confident; Slightly confident; Somewhat confident; Moderately confident; Extremely confident.

QUESTIONS—Knowledge of finances

[NOTE: <u>Correct answer bolded and underlined</u>]

How many months' expenses do financial planners recommend setting aside in an emergency fund? [22]

a. None, if you have a fulltime job;
b. 1-3 months;
c. <u>3-6 months;</u>
d. 6-12 months;
e. 1 year;
f. Do not know/unsure

What are examples of what or when you should use your emergency fund for (check all that apply)?

<u>Job loss</u>; Property or Income taxes; **<u>Medical bills</u>**; Down payment on a house; **<u>Income reduction</u>**; **<u>Repairs</u>**; Auto registration; Unique vacation opportunity; Relative's or friend's emergency; Early retirement; Do not know/unsure

How you familiar with the following?

IRA
Roth IRA
401(k)
Matching plans

Not familiar at all; Slightly familiar; Moderately familiar; Very familiar; Extremely familiar

[If answered slightly to extremely familiar, then these follow-ups depending on the instrument they indicated familiarity with]

What is the primary purpose of an IRA?

a) allows workers to pay taxes with each paycheck
b) <u>provides incentives for people to save for retirement</u>
c) eliminates the need for savers to collect Social Security
d) creates savings accounts for current health-care expenses

e) Do not know/unsure

Check which applies to each type of IRA—Traditional IRA and Roth IRA

Make pre-tax contributions - **Traditional IRA**
Make after-tax contributions - **Roth IRA**
Contributions grow tax free - **Roth IRA**
Contributions grow tax deferred - **Traditional IRA**

Which of the following is an advantage of a 401(k) retirement plan over a private savings plan that a worker establishes for retirement?

a) Employers may contribute to a 401(k) plan.
b) An unlimited amount can be contributed to a 401(k) plan.
c) The money withdrawn from a 401(k) plan at retirement is not taxed.
d) The government guarantees a minimum rate of return on a 401(k) plan.
e) Do not know/unsure

Which of the following is the best example of a diversified portfolio?

a) Nora purchases several real estate lots in a small town.
b) Grant owns a U.S. coin collection covering all periods of history.
c) Eva purchases mutual funds with stocks from different industries.
d) Morgan holds U.S. Treasury bonds with the same dates of maturity.
e) Not sure/don't know

[NOTE: The following are from USA Today Financial Literacy Quiz] [23]

If you buy a company's stock...

a) You own a part of the company
b) You have lent money to the company
c) You are liable for the company's debts
d) The company will return your original investment to you with interest
e) Don't know/Not sure

If you buy a company's bond...

a) You own a part of the company
b) **You have lent money to the company**
c) You are liable for the company's debts
d) You can vote on shareholder resolutions
e) Don't know/Not sure

[NOTE: The following are from the Quizlet] [24]

Which type of bond is the safest?

a) U.S. Treasury bond
b) Municipal bond
c) Corporate bond
d) Don't know/Not sure

In general, if interest rates go down, then bond prices…

a) Go down
b) <u>Go up</u>
c) Are not affected
d) Don't know/Not sure

Which of the following organizations insures you against your losses in the stock market?

a) FDIC (Federal Deposit Insurance Corporation)
b) FINRA (Financial Industry Regulatory Authority)
c) SEC (Securities and Exchange Commission)
d) SIPC (Securities Investor Protection Corporation)
e) <u>None of the above</u>
f) Don't know/Not sure

g) Don't know/Not sure

Which of the following best explains why many municipal bonds pay lower yields than other government bonds?

a) Municipal bonds are lower risk
b) There is a greater demand for municipal bonds
c) **<u>Municipal bonds can be tax-free</u>**
d) Don't know/Not sure

QUESTIONS—Demographics

Please indicate your major

Civil Engineering
Computer Engineering
Electrical Engineering
Mechanical Engineering
Computer Science

Please indicate your class cohort:

First year
Sophomore
Junior
Senior

Are you a first-generation college student (i.e. neither of your parents graduated with a bachelor's degree, in any discipline)?

Yes
No
Do not know/unsure