INSTRUCTIONAL DESIGN AND ASSESSMENT

An Elective Course in Personal Finance for Health Care Professionals

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Objectives. To create, implement, and assess an elective course on the principles and applications of personal finance.

Design. A 1.5 unit (15 hours total) elective course was designed using active-learning pedagogy, lecture, and group discussion. Homework assignments were designed to provide practical tools and materials that students could individualize and apply to their personal financial goals.

Assessment. Student satisfaction, using a standard course evaluation form, revealed consistent high ratings. Student enrollment increased from 19 students in its initial year to 90 students in its fourth year. Student knowledge, assessed using the Jump\$tart Financial Literacy Survey, indicated significant knowledge acquisition.

Conclusion. Many pharmacy students are ill equipped to effectively handle the complex financial decisions they face after graduation. This course provides students with practical tools to identify appropriate ways to achieve their financial goals and critically evaluate financial advice and advisors.

Keywords: personal finance, elective, curriculum, professional development

INTRODUCTION

The ability to manage personal finances has become increasingly important. Retirement, children's education, down payment for a house, a car loan, and substantial student loan debt load are some of the situations that graduating pharmacy students must grapple with as they begin their careers.

Many Americans have inadequate knowledge of personal finances and fail to make correct decisions because they have not received a sound education in personal finance.¹⁻⁷ Many workers do not save adequately for retirement and make investment decisions that are too conservative, thus not providing sufficiently for a financially secure retirement.^{1,3,8} Furthermore, personal financial problems stemming from inappropriate financial decisions have a direct and negative impact on employee productivity.⁹

Most Americans have little debt when they begin their careers, but as their salaries increase, their debt does as well. Unlike most Americans, pharmacy graduates often begin their careers with significant debt, and with high

salaries. Without the luxury of time and experience to become competent in handling personal finances, pharmacy graduates usually face a steep learning curve. Contracts for sign-on bonuses are confusing and complex, and naïve students are sometimes not aware of the disadvantages of accepting such contracts. Significant debt in the form of school loans can pressure students to grab the highest paying position available without taking time to evaluate other quality of work-life considerations or post-graduate education.

While no studies have been conducted on pharmacy students, or more generally, professional or graduate students, an analysis of personal finance literacy among college students across 13 college campuses showed failing scores in all areas of personal finance, including savings and borrowing, insurance, and investments, as well as general knowledge. The low scores were due to a lack of emphasis on personal finance education in the curricula.¹⁰ DeNuzzo and Denio suggested the need for teaching additional personal finance material in pharmacy schools.¹¹

One of the overarching goals of any elective course within a pharmacy curriculum is to provide students with the knowledge and skills to be successful in their field or specialty of choice. An elective course in personal finance may provide students and future pharmacists with the tools to focus on career development, and to free them from feeling locked in a job because of salary and benefits that come with employment tenure.

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We observed that some students, burdened by impending student loan payments, were assessing whether doing a residency would make good financial sense for them. Other students were weighing the advantages and disadvantages of accepting substantial sign-on bonuses from employers. In 2002, students approached the course coordinator to consider offering a personal finance course for pharmacy students. The course coordinator conducted an informal needs assessment of students to determine interest in the course. The course coordinator conducted a search in both Medline and International Pharmaceutical Abstracts (IPA) to determine whether pharmacy or other health professional programs published information about such a course. Many large undergraduate institutions provide a course in personal finance, usually in a business school. Numerous syllabi and textbooks were found online. However, most of these courses were comprehensively designed as 3-unit courses to be taught over a 15-week semester (a total of 45 hours), in lecture format, with multiple-choice examinations used for evaluation.

DESIGN

Personal Finance for the Health Care Professional (PPRA 648) was an elective course designed to address the need for personal finance training in health professions curriculum. It was offered as a brief 1.5 unit course to second-year students in an accelerated, 3-year doctor of pharmacy (PharmD) program during the spring or summer quarter. The course met for 1.5 hours per week for 10 weeks. The educational outcomes of the course were to give students the knowledge and skills to:

- Develop a plan to achieve financial goals;
- Create and evaluate a personal budget;
- Plan insurance strategies for property, health, disability, and life risks;
- Analyze credit and loan vehicles;
- Understand basic investment concepts regarding stocks, bonds, and mutual funds;
- Compare and contrast options involved in deciding whether to rent or purchase a home;
- Prepare income taxes, and;
- Facilitate a discussion with financial professionals using appropriate terminology.

Since it was an elective course, the course coordinator chose to focus on active-learning techniques and not to use examinations. The basic active-learning assumptions used to design the course were that “learning is an active process, people learn in a variety of ways, and how we learn depends on what we learned before.”¹² Course objectives would be achieved through participation, “learning by doing,” and individualized homework

assignments that would not only teach concepts but also provide tools for lifelong financial success. Students received information in a brief lecture, then participated in in-class group work, case studies, and small group discussions. Much of the initial group work included dispelling myths or misperceptions about personal finance that students may have learned from their parents. Because of time limitations, some topics less germane to the “20-something” student population—such as estate planning and investing in real estate—were excluded from the course objectives.

A cap of 40 students was originally set in hopes that a smaller class would encourage active participation. However, in 2006 and 2007, the cap was lifted due to the popularity of the course and administrative pressure. When the size of the class started to make large group discussions unmanageable, emphasis in the course shifted to small group discussions and activities as a way to keep class participation high. The lecture schedule is outlined in Table 1.

Because no course descriptions utilizing small group discussions and individualized assignments could be found, the course design was based largely on several books, including Ramsey’s *Financial Peace*, Orman’s *The Road to Wealth*, Kobliner’s *Get a Financial Life*, and *The Wall Street Journal’s Guide to Understanding Money and Investing*.¹³⁻¹⁶

The grading system for the course was relatively simple. During the 10-week course, participation during each lecture was worth 10 points, and completion of each homework assignment was worth 15 points, for a possible total of 250 points in the course. The homework assignments were intended to provide practical tools and materials that students could customize to apply to their personal financial goals. The homework assignments were graded for mastery learning in 3 tiers, using a plus mark for 15 points, a checkmark for 10 points, and a minus mark for 5 points. Students were allowed to redo any assignment for full credit. Due to the large number of students who took the course in 2007, and to difficulty discriminating between a plus, a check, and a minus, the grading system was converted to a pass/fail instead of a letter grade.

Students who applied the concepts from class and turned in a consistent and thoughtful assignment received full credit. An assignment not thoughtfully prepared was given back to the student to redo. The proportion of students asked to redo assignments did not change when the grading system changed.

While all of the topics and assignments produced frank discussion among students and with the course coordinator, some assignments seemed to make a greater

Table 1. Lecture Topics Presented in an Elective Course in Personal Finance for Pharmacy Students

Course Topics	Course Assignments
Setting Financial Goals, pre- and post- graduation budgets	Financial Goals, Pre-graduation Budget, Post-graduation Budget
Reducing Spending and Banking	Debt Reduction Worksheet, Compare your bank account with two other banks
Credit Cards and Debt Consolidation	Credit Card Comparison
Buying a House – location, real estate agents	Compare the lifetime costs of renting vs. buying a home
Getting a Mortgage	Identify the top qualifying price for a house, given the salary and location. Evaluate whether buying a house at the top price is consistent with other financial goals.
Income Taxes	Tax Return Exercise
Insurance: Home, Car, Health, Disability, Life	Personal Property Inventory, Get three life insurance quotes and evaluate whole vs. term life, evaluate your car insurance and compare with two other companies
Retirement Plans, Picking a Financial Advisor	Compare and Contrast retirement plans offered by two major pharmacy employers
The Stock Market and General Investing	“Scavenger Hunt” in teams of two to identify the Chairman of the Fed, the DOW at yesterday’s closing, the P/E ratio for Yahoo, etc.
Picking the Right Job – How to evaluate employment tangibles and intangibles	Evaluate the actual contracts for two anonymous sign-on bonuses offered to graduating students from the previous year

impact on students. Students discussed these assignments long after the material was covered, and other students who heard about these assignments but did not enroll in the course asked for copies to complete on their own. Those assignments are presented here.

Budget Assignment

At the beginning of the course, students were asked to write down their financial goals. All students indicated that paying off student loans was a high priority, but other typical goals included buying a house, buying a new car, retiring early, and saving for their children’s college educations. After they created their list, they were asked to refine their financial goals. For instance, “paying off student loans” was refined as “paying off student loans in 5 years,” and “buying a new car” as “buying a new car with cash.” After students revised their goals, they were tasked to develop both a current budget and a postgraduation budget. The purpose of requiring them to develop a current budget was to provide the framework to quantify the amount of money that was spent on a monthly basis, and whether the amount spent was less than or equal to the amount earned (or deposited from financial aid, parents, or other income sources). Once the framework was completed, it was hoped that students could use it again to reevaluate their budgets when their financial situations changed. The students were required to make their post-graduation budgets reflect their financial goals. The students were instructed to base their post-graduation budget on a gross annual income of \$100,000 that netted \$70,000

after payroll deductions. Their budgets could include spousal and other household income when appropriate. They were asked to make honest assumptions about cost-of-living increases if they planned to move. The students were required to deduct from their incomes a contribution to an emergency fund, in an amount specified by the student.

Credit Card Comparison Assignment

Students were asked to compare 4 of their credit cards to determine which credit card fits their spending habits the best. Students who did not have 4 credit cards were asked to consider and choose from the credit card offers they had received in the mail. All students were asked to evaluate the average percentage rate (APR), as well as how interest is calculated based on average daily balance, annual fee, transaction fee, punitive interest rate, over-the-limit fee, grace period, rebates or frequent miles available, and versatility (for example, the difference between a Best Buy card and a Visa card). Students were asked to evaluate the proportion of months they maintain a balance and whether the rebates are worth the interest that must be paid. Based on their spending and credit habits, they were asked to choose what they considered their best credit card and provide a rationale for their choice.

Debt Reduction Worksheet (Adapted from Dave Ramsey)

Students were asked to list their debts (student loans, credit cards, mortgage, etc) on a table, ranking smallest

debts first. For each listed debt, they were asked to list the payoff, the monthly payment, and the number of months before it would be paid off. For instance, a student may have had 4 debts: a Visa card (\$125 per month for 2 months), a Mastercard (\$150 for 6 months), a student loan (\$300 for 120 months), and a mortgage (\$1200 for 330 months). When the first Visa card debt was paid off, they were instructed to add the monthly payment for the first, newly paid-off debt to the payment of the second debt on the table (thus the original Mastercard payment becomes \$275 per month). As a result, this second debt will be paid off in a shorter amount of time. The new payment and new number of months are identified on the table. This is repeated until all of the debts are paid off, including student loans and mortgage. The total monthly payment never increases but is reallocated to pay off remaining loans.¹²

Students perceived that they would be in debt “forever,” as 30 years is not an insignificant length of time to pay off student loans or home mortgages. However, the intent of this exercise was to help students see that diligently paying off debt (without adding to it) would significantly shorten the time until they became free of debt.

Personal Property Inventory

Students were asked to inventory all of the personal belongings they keep at home and estimate the worth of these items. Students living with parents were asked to estimate the cost of replacing all of the common items they shared with the rest of the household.

Most students perceived themselves as “poor” (having little money) and longed for the days when they could spend money and purchase all of the items that they would want. This exercise was intended to quantify how much students already owned. When the costs of clothing, shoes, music media, stereo and computer equipment, kitchen utensils, and furniture were tallied, students were usually surprised by the amount of “assets” they already owned. This exercise also exemplified how relevant insurance would be if their “apartment burned to the ground while they were in class.”

Tax Return Exercise

Another assignment included a simple tax return case in which a student graduates from pharmacy school and enters a residency, and a more complicated tax return case in which the same student, 3 years later, is a clinical pharmacist in a hospital, has purchased a home, has gotten married, and has a child in day care. Students were required to manually fill in the tax return, using the www.irs.gov Web site as a reference for calculations help. From the handwritten assignment, it was relatively easy

for students to recognize the tax savings of contributing to a pre-tax retirement plan or purchasing a house.

ASSESSMENT

This course was introduced in 2004 with an enrollment cap of 40 students. Enrollment started with 19 students during its first year, increased to 41 students in 2005 (with one student receiving special permission to be enrolled), and, after the cap was removed, grew to 61 students in 2006 and 90 students in 2007.

During the last 2 years, in 2006 and 2007, students were assessed for knowledge acquisition of personal finance. An abbreviated version of the 2006 Jump\$tart Financial Literacy Survey (The Jump\$tart Coalition for Personal Financial Literacy, Washington, DC) was administered on the first day and last day of the course. The survey was used with expressed consent of the Jump\$tart Coalition for Personal Financial Literacy.¹⁷ Examples of questions from the Jump\$tart Financial Literacy Survey are provided in Table 2. Prior to conducting the first year’s assessment, this project was approved by the Midwestern University investigational review board.

The original survey contained 51 multiple-choice questions and included knowledge, attitude, and demographic questions. For purposes of this course, the 30 knowledge questions were retained, which cover knowledge assessment on the following topics: insurance, credit, investment vehicles, banking, loans, taxes, and budgeting. Students (95% response rate, 143 of 151 between 2 classes that filled out both surveys) scored a mean baseline score of 18 (60.0%) at the beginning of the course. Students showed significant improvement with a mean post-assessment score of 27.0 (89.9%), $p < 0.001$.

Overall, students rated the course highly and agreed that the course was useful in preparing them to become pharmacists. On a scale of 1 (strongly disagree) to 5 (strongly agree), students consistently rated the course high (range of 4.2 to 4.9). See Table 3. Students also agreed that course objectives were clear and that the material was well organized. Furthermore, students agreed that they were evaluated on interpretation and application of the material presented.

Specific comments included: “I am thankful that CPG offers this course. Financial skills will help us become better pharmacists because we will have less pressure in our lives and more energy to devote to our professional development,” and “Personal finance issues always seem to be something you put on the back burner until you have time to deal with it. Because of the homework assignments throughout the quarter, I was forced to sit down and look at my car insurance (which I ended up

Table 2. Examples of Questions from the Jump\$tart Financial Literacy Survey

1. Which of the following statements is true?
 - a. Your bad loan payment record with one bank will not be considered if you apply to another bank for a loan.
 - b. If you missed a payment more than 2 years ago, it cannot be considered in a loan decision.
 - c. Banks and other lenders share the credit history of their borrowers with each other and are likely to know of any loan payments that you have missed.
 - d. People have so many loans it is very unlikely that one bank will know your history with another bank.
2. Your take home pay from your job is less than the total amount you earned. Which of the following best describes what is taken out of your total pay?
 - a. Federal income tax, social security, and Medicare contributions
 - b. Federal income tax, sales tax, and social security contributions
 - c. Social security and Medicare
 - d. Federal income tax, property tax, and Medicare and social security contributions
3. Many people put aside money to take care of unexpected expenses. If John and Jenny have money put aside for emergencies, in which of the following forms would it be LEAST benefit to them if they needed it right away?
 - a. Stocks
 - b. Savings account
 - c. Invested in a down payment on a house
 - d. Checking account
4. If your credit card is stolen and the thief runs up a total debt of \$1,000, but you notify the issuer of the card as soon as you discover it is missing, what is the maximum amount that you can be forced to pay according to Federal law?
 - a. Nothing
 - b. \$50
 - c. \$500
 - d. \$1000
5. If you are behind on your debt payments and go to a responsible credit counseling service such as Consumer Credit Counseling Services, what help can they give you?
 - a. They can work with those who loaned you money to set up a payment schedule that you can meet.
 - b. They can force those who loaned you money to forgive all your debts.
 - c. They can cancel and cut up all of your credit cards without your permission.
 - d. They can get the federal government to apply any income taxes to pay off your debts.

The Survey is used with the expressed consent of the Jump\$tart Coalition® for Personal Financial Literacy, and the Coalition retains all rights to its use and distribution.

changing) and my profit sharing portfolio (which I also ended up changing).”

DISCUSSION

The budget assignment proved to be a defining exercise for students in the class. When completing their current budget, students were usually surprised by the amount of money spent at hair salons, coffee shops, and vending machines. On occasion, some students recognized that they were doing a good job budgeting and decreased the number of hours they worked or the amount of their financial aid awards. More important, this exercise highlighted common misperceptions about life after graduation and set the stage for students to start thinking about the future. When completing their postgraduation budget, students invariably were surprised to find that, in spite of the generous salaries they would earn, they would not be able to achieve all of their original financial goals immediately after graduation. Students then spent time re-

prioritizing their financial goals to meet their budget limitations.

We initially thought that increasing class size would negatively impact the course structure and level of participation. However, student evaluations and comments over the four years suggest that the course was a valuable experience for the students. While students in 2005 and 2006 rated the course highly, there was a noticeable drop in evaluation numbers during those 2 years. This might have been attributed to the rise in class size. To create an environment of active learning, the amount of instructor-facilitated discussion was decreased and the amount of peer-directed small group interaction increased each year. However, this was sometimes a process of trial and error. In-class exercises that had worked well with 19 students became confusing when class size grew to more than 40 students. The course coordinator actively sought formative feedback from students and revised course plans as necessary. The course coordinator anticipated greater

Table 3. Course Evaluation Scores of Pharmacy Students Enrolled in an Elective Course in Personal Finance

Item	2004	2005	2006	2007
The course objectives were clear.	4.8	4.3	4.3	4.9
The course content was well organized.	4.7	4.3	4.3	4.9
The course included interpretation and application of information.	4.7	4.4	4.4	4.9
The teaching methods used were helpful in acquiring a better understanding of course material.	4.7	4.4	4.3	4.9
The evaluation methods adequately sampled the information I was expected to learn.	4.7	4.4	4.3	4.9
The evaluation methods required I interpret and apply information expected to learn.	4.8	4.5	4.5	4.9
Overall, I rate this course highly.	4.8	4.4	4.2	4.9

enrollment in the course in 2007, and was better able to prepare for the bigger class.

While it was satisfying to work with so many students, the amount of time that the course coordinator spent developing active-learning exercises and supervising small group activities did not stabilize and was not anticipated, particularly as the class size became a “moving target.” In addition, the course coordinator spent additional time grading weekly assignments and meeting with students on personal financial matters. Faculty members who wish to employ these techniques should be encouraged to pursue them, but also cognizant of the amount of time necessary to successfully implement them.

While the Jump\$art tool appeared to be a reliable survey to assess financial literacy knowledge, having been used and refined 5 times over the past 10 years, it was clearly geared towards high school students. The tool did not cover questions about how to purchase a house, consolidate debt, or critically evaluate employer benefit packages. Furthermore, this survey had not been reported in any studies that quantify knowledge change. In the future, this tool could be used as a foundation for developing additional questions that measure other areas of financial literacy specifically for professional students entering high-paying jobs.

This elective was designed to provide an introduction to personal finance primarily to students who have never entered the full-time workforce, purchased a house, invested in the stock market, and the like. To students considering enrolling in the course, the course coordinator explained that those in a second career or who have spent time working full-time may not find this course as useful. That said, there were still a number of more financially experienced students who chose to enroll in the course. However, no attempt was made to quantify level of personal finance experience among students or to require students to provide identifiers on their answer sheets. The aggregate scores may be bimodal, with those more experienced skewing the mean score upwards. It would be interesting to determine true baseline scores and correlate them with level of financial experience.

During the 4 years that this course has been taught, a number of certified financial planners have approached the course coordinator to either guest lecture or assist in coordinating the course. This was originally welcomed, as the course coordinator felt that additional perspectives from experts in the field would make positive contributions to the course. However, the vast majority of certified financial planners are paid on commission. Despite the fact that these individuals provided excellent information, it was virtually impossible for them to refrain from a sales pitch during their presentation. As a result, in the last 2 years the course coordinator chose to provide all of the lectures.

Most pharmacy school electives provide didactic and possibly some experiential curriculum in a specialty area that can be linked to the health care arena. A distinction should be made that the goals of this particular elective are to provide exposure to personal finance concepts and an opportunity to apply financial tools to students' individual situations.

CONCLUSION

After graduation, pharmacy students transition quickly from low-income financial situations to complex, high-income situations. Exposure and application of personal finance concepts may give pharmacy students more self-assurance about their financial situation so that they may confidently pursue postgraduate training and knowledgeably evaluate employment opportunities. Teaching students about conservative spending and aggressive saving may help pharmacists enjoy more independence and forethought in looking for the most rewarding work, derive greater job satisfaction, and even deliver better patient care.

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