

# Experiential Learning Using Simulated Trading Platform in Investment Education

Yi Zhang, Prairie View A&M University

## ABSTRACT

*Experiential learning bridges the often criticized gap between education and real world experience. This study provides a case of how to use simulated trading platform – StockTrak to improve student learning in investments. StockTrak is a popular online trading simulation which allows students to make trading and investments based on real market prices using virtual money. This paper presents the curriculum integration of StockTrak into different levels of investment courses: introductory course which is open to nonbusiness students, intermediate course and advanced course which are mainly for finance majors. In addition, this paper introduces how to use StockTrak to conduct trading competitions to attract students to increase enrollment, and to promote financial literacy for the community including high school students and professionals, which helps build up relationship and boost image of the college.*

## INTRODUCTION

Experiential learning has been widely adopted in financial education to enhance student learning. Experiential learning model of Kolb (1984) provides a theoretical foundation that advocates students learn the most through experience. Finance, particularly investment, a highly theoretical subject with complex models and quantitative computation, is a challenge for students in learning. In order to help students understand and apply concepts to real world experiences, professors have adopted various methods to teach finance courses. Case study, excel application, project, group work and trading simulation have been extensively used to provide students hands-on learning (Waggle and Moon, 2009). In recent years, computerized trading simulation has become popular in financial education. McClatchery and Kuhlemeyer (2001) find more than 600 schools use stock trading simulation in their finance courses. Moffit et al. (2010), Marriott et al. (2015), Evan and Johns (2016), Mukherji et al. (2018) among others present cases of using trading simulations in finance courses and show that experiential learning using simulations positively affect student learning interest and outcome.

There are several trading simulations for academic use. StockTrak is the most widely used simulator in business schools (Waggle and Moon, 2009). One competitor of StockTrak is OTIS-Wharton online trading and investment simulator. There are other web-based simulators that are free but with limited securities available for trading, such as Wall Street Survivor, HowTheMarketworks, Market Watch and Investopedia Stock Simulator. Mukherji et al. (2018) discuss how to use StockTrak in various finance courses to enhance active learning. Even though

trading simulations can be used in other areas of finance such as corporate finance (Keys, 2017), personal finance (Huang and Hsu, 2011), international finance (Seiver, 2013), etc. The major adoption of StockTrak is in the area of investment. Jankowski and Shank (2010) compare various trading simulations for teaching investments. Evan and Johns (2016) show that using Stocktrak in investment classes increases student satisfaction and performance. Guo et al. (2013) introduce the integration of StockTrak at EMBA investment education. In this paper, I describe the curriculum integration of StockTrak into three different levels of investment courses at a HBCU school with AACSB accreditation. Different trading simulations are designed based on student background and learning objectives of the courses. In addition, I present the case of using StockTrak to create trading competitions to attract university students, high school students and industry. These competitions will help increase enrollment, advocate financial literacy, establish professional network and hence enhance the image of the college.

## **CURRICULUM DESIGN**

StockTrak is a web-based virtual trading simulation that allows professors to create various challenges with selected trading rules. Professors can provide students with different initial amounts (from \$100 to \$100 million) to invest for different lengths of trading period. Professors can also select different markets (US, Canada and other major international exchanges) and different types of securities (stock/ETFs, mutual funds, bonds, options, spots, futures and future optitons). StockTrak recently added the trading of Forex and Cryptocurrency. Professors can set their own trading rules such as commission, interest rate, short sale, margin requirement, maximum trade, limit of position, minimum stock price etc. StockTrak is the most comprehensive virtual trading platform that offers a lot of flexibility for professors to design their own simulations. It also allows professors to create assignments for article reading, video watching and making required trades. The website provides learning articles for various business disciplines such as economics, accounting, marketing, management, personal finance and investment. Professors can easily create assignments of article reading with quizzes, video watching and making required trades. StockTrak website provides market and company information for students to conduct investment analysis, such as economic calendar, security quotation, technical charts, analyst recommendation, company profile and financial statements. The last, but not the least, StockTrak provides easy management and reporting.

StockTrak is not free for usage. College can pay the fee or let students pay based on usage. My college purchased the StockTrak university branding platform since 2016 and paid annual fee so there is no charge for students. This strongly encourages professors to adopt the StockTrak for courses. There are three undergraduate investment classes at the college. Wall Street 101 is an introductory course open to all students (including nonbusiness students). There are two sequential investment courses for finance students: investment analysis and investment management. These courses are required courses for finance majors but other business students can take them as electives. Students need to pass investment analysis course before taking investment management course. In the following section, I will describe the integration of StockTrak into these three courses one by one.

## **Wall Street 101**

Wall Street 101 course has no prerequisites and is open to nonbusiness students who are interested to learn about investment and trading. Because students may not have any background in finance or even business, this course is structured as an introductory class to allow students to learn various investment alternatives and how to trade securities and create portfolios. StockTrak is the main resource for this course. The eBook of the Investing 101 online course offered by StockTrak is adopted as the textbook. There are ten chapters that can be assigned as StockTrak assignment for students to read. Each chapter comes with a quiz that can be used to assess student learning. Weekly assignments composed of the following requirements are used to guide students throughout the semester (example of assignments will be provided in the appendix).

- Video watching – students can watch StockTrak video on how to navigate the site, how to buy and sell different types of securities and place different types of order such as limit order and stop order.
- Chapter reading – students are required to read one chapter per week and then complete the after chapter quiz to earn credits.
- Article reading – students are required to read additional articles available on the StockTrak to supplement topics covered each week and complete the quiz associated with each article to earn credits.
- Required trades – students need to make specific trades each week, such as buying two stocks at market order, buying two mutual funds, short a stock, buying one contract of call options etc.

Regular and structured assignments allow students to learn the course materials step by step. As an introduction and a survey of various investment alternatives, each student has initial balance of \$1 million to invest in all available securities in all exchange markets. After the completion of this course, students are expected to understand various financial securities such as stocks, bonds, mutual funds, ETFs, futures, options, spots for currency and commodity and cryptocurrencies. Student should be able to read the quotation and know how to buy or sell these securities, using different types of order such as market order, limit order, stop order, short and cover. In addition, students should be able to figure out investment returns.

## **Investment Analysis**

Investment analysis is the required course for finance majors but open to business students who have taken the principles of finance course. The focus of this course is to understand the valuation of securities such as stock, bonds and mutual funds and thus conduct fundamental and technical analysis to make investment decisions. Therefore, the usage of StockTrak is to let students access market and corporate information to conduct fundamental and technical analysis to make intelligent trading decisions. Students have weekly assignments to research and trade different securities. However, different from the assignments of Wall Street 101 class, trades should be made based on research. Students are required to use market news, economic calendar and forecast, corporate financial statements, analyst forecast and recommendation, and technical rules to make investment decisions. At the end of semester, students need to submit a report

detailing rationales for each transaction and evaluate the performance of each security in terms of risk and return.

### **Investment Management**

Investment management course is for students who passed the investment analysis course to learn about portfolio management. Students will learn about portfolio theory, stock and bond portfolio management strategy and portfolio performance evaluation. This course requires a project using StockTrak wherein students plan and create an investment portfolio. Students should first decide what kind of portfolio they would like to create and draft the portfolio objective statement. The statement should include the objective of the portfolio in terms of risk and return, capital allocation, asset allocation, constraints and portfolio review schedules etc. Each student has \$1 million virtual dollars on StockTrak account to create his/her portfolio over a 10- week period. After that student need to evaluate the portfolio in terms of diversification and performance.

### **OTHER APPLICATIONS AND IMPACTS**

StockTrak can be used to create exciting trading challenges. Since 2017, my college hosts annual stock trading challenge in the spring semester campus wide. There are about 100 students across campus participated each year. The challenge has become an important event for the university and attracted students outside the college. Every year, there are nonbusiness students winners. In 2018, the college expanded the challenge to high schools and hosted its inaugural high school stock challenge. There are more than 200 high school students participated. The high school challenge is a team competition instead of individual competition as the university challenge. As an outcome of the high school challenge, the college launched the Young Investor Symposium that invited industry leaders to conduct a panel discussion about investment careers and promoted financial literacy through multiple breakout sessions. The high school challenge and the symposium were a big success and received high praises from students, schools and professionals. The college has decided to make them annual events. The StockTrak trading challenge has been approved to be able to increase enrollment, enhance recruitment, improve image and strengthen professional networks for the college.

### **SUMMARY**

Trading simulation is a widely used experiential learning tool in investment education. This paper presents a case of using StockTrak – a popular web-based simulation in various investment courses. The paper also illustrates how StockTrak trading challenge can be used for campus events thus benefit the college. The goal of this paper is to share experiences and benefits of using StockTrak and encourage schools and professors to employ this type of experiential learning to improve student learnings and program quality.

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