

JOURNAL OF BUSINESS AND EDUCATIONAL LEADERSHIP

Volume 6, Number 1

ISSN 2152-8411

Fall 2016

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**A REFEREED PUBLICATION OF THE AMERICAN SOCIETY
OF BUSINESS AND BEHAVIORAL SCIENCES**

JOURNAL OF BUSINESS AND EDUCATIONAL LEADERSHIP

P.O. Box 502147, San Diego, CA 92150-2147: Tel 909-648-2120

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ISSN 2152-8411

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The Journal of Business and Educational Leadership is a publication of the American Society of Business and Behavioral Sciences (ASBBS). Papers published in the Journal went through a blind-refereed review process prior to acceptance for publication. The editors would like to thank anonymous referees for their contributions.

The national annual meeting of ASBBS is held in Las Vegas in February/March of each year and the international meeting is held in summer/fall of each year. Visit www.asbbs.org for information regarding ASBBS.

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U.S. PRESIDENTS AND PERSONAL INCOME TAX: DID THEY PAY THEIR FAIR SHARE?

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ABSTRACT

During the 1800s, although presidents did not have to pay income tax, President Lincoln paid it to set an example for future presidents. When individual income tax was re-introduced in 1913, U.S. presidents were exempt from the tax during the early 1900s. Although the 1939 Supreme Court decision was unclear as to whether or not taxation of presidential salaries was constitutional, the court's decision seemed to infer that the compensation was taxable. It is unknown if presidents Wilson, Harding, Coolidge, Hoover, or Roosevelt paid federal tax on their presidential salaries. Very little is known concerning taxes paid by Roosevelt, Truman, Eisenhower, Kennedy, and Johnson. Nixon made his tax returns public after some questions regarding his tax returns surfaced. Since the middle 1970s, presidents have publicly disclosed information from their income tax returns.

Key words: Federal Income Tax, U.S. presidents' income taxes, exemption of presidential salaries, public disclosure of presidential income tax returns

INTRODUCTION

Similar to ordinary citizens, presidents of the United States have had a varied record regarding their individual income taxes. However, the President, as the leader of the country, should be an exemplary model of proper attitude and behavior for the rest of the country. The primary purpose of this article is to examine historical personal income tax records to determine how well our country's chief executives met the public's expectations for high standards established by the leaders of this country. Other issue that will be briefly addressed in this article is the controversy of confidentiality versus public disclosure of presidential tax return information.

This article provides information about the personal income taxes of various presidents to reveal whether or not U.S. presidents have been paying their fair share of income taxes. This historical information will be categorized into four eras. The first era is the Civil War days, when the U.S. first adopted the income tax. The second era is the period of tax exemption from 1913 to 1932, when presidential salary was exempt from income tax. The third era is from 1933 to 1974, which was the period of confidentiality. Since the middle 1970s, presidents, vice presidents, and most presidential candidates have followed the practice of publicly disclosing information from their income tax returns, and these years comprise the fourth era.

ABRAHAM LINCOLN'S INCOME TAX

The U.S. Congress approved the first personal income tax as part of the Revenue Act of 1861 because the Civil War was creating huge demands for federal revenues. The first tax law imposed a 3% tax on income in excess of \$800. However, this tax turned out to be inadequate, and so it was repealed and replaced by the Revenue Act of 1862, imposing a tax rate of 3% on taxable income of less than \$10,000 and a 5% rate on \$10,000 or more. The first \$800 of exempt income was retained from the first tax law. The 1862 Act also established the Bureau of Internal Revenue, the forerunner of today's Internal Revenue Service.

President Lincoln filed two federal tax returns for the tax year of 1863. He filed a return for his "outside" income (presumably his non-presidential salary income) of \$1,183 and paid a tax of \$17.45. His other tax return showed his presidential salary of \$25,000 plus \$583 of other income (total income of \$25,583), and he paid a tax of \$1,279 (a rate of 5%).

Another interesting fact concerning the new tax law was that the U.S. Supreme Court announced that levying such a tax upon the salaries of court justices would be unconstitutional since the U.S. Constitution prohibited one branch of government from imposing itself upon the power of another branch by reducing official salary. No attempt was made to collect income tax from federal judges. Lincoln could have argued that the executive branch, including him, was also exempt from paying income tax; but he chose not to do so. Most likely he felt that paying income tax was a small sacrifice in the face of the many deaths occurring on the battlefield at that time. He paid the tax without publicity because he believed it was the right thing to do. He carried the "First Taxpayer" label as a role model for future presidents (Samson, 2005).

TAX EXEMPTION OF PRESIDENTIAL SALARY

About 50 years after the Civil War and 40 years after the repeal of the first federal tax, the U.S. Congress reintroduced the income tax in 1913 for individuals, and it became law based on the passage of the Sixteenth Amendment to the U.S. Constitution. The Tax Act of 1913 exempted salaries of federal judges, state and local government officials, and the President.

In preparation for World War I, the U.S. government began relying more on the new income tax to help finance war expenditures. In 1916 income tax rates were increased. The Tax Act of 1916 again exempted the salary of the President from taxation. The 1917 War Revenue Act increased the tax rate drastically. The personal exemption was decreased, and, therefore, many citizens were subject to income tax for the first time. Again the U.S. Congress decided to exempt the president, federal judges, and state and local officials from the tax. Woodrow Wilson won election for a second term and, thus, was exempt from the tax.

The Revenue Act of 1918 sought even greater revenues to pay for the war's huge costs by increasing tax rates again. The 1918 Act also removed the exemption of the president's and federal judges' salaries.

The Revenue Acts of 1921, 1924, and 1928 specifically stated that compensation of the president and federal judges was taxable. Similar provisions

were also provided in the 1932 through 1938 Revenue Acts. While a 1939 U.S. Supreme Court decision was unclear as to whether or not such salaries were constitutional, the court's decision seemed to infer that the compensation was taxable. It is unknown if Presidents Wilson, Harding, Coolidge, or Hoover paid federal income tax on their presidential salaries, but historians doubt that they did. It is also unknown if President Roosevelt was actually taxed on his salary during his four terms. Presidents Roosevelt and Hoover, who were both independently wealthy, most likely were taxed on their non-salary income. Oddly, there was no public outcry concerning the fact that the presidents from 1913 to the 1930s were not paying income tax on their presidential salaries. The lack of protests was possibly due to patriotic fervor that the war effort generated, and the citizens seemed to be willing to contribute to the war effort by paying their taxes (Samson, 2005).

ABUSE OF CONFIDENTIALITY OF TAX RETURNS

Ever since the rebirth of the federal income tax in 1913, confidentiality of tax return information has been generally accepted as a policy for both presidents and other taxpayers. Thus, there is a gap in historical records concerning the taxes of Roosevelt, Truman, Eisenhower, Kennedy, and Johnson. Since little was known about their income taxes, there had been no particular problem; but such lack of information sometimes raised doubt and concern.

The confidentiality of tax return information of some presidents did lead to abuse, at least in the case of President Richard M. Nixon. History did not focus on his tax abuse possibly because the Watergate situation was unraveling at about the same time when his tax returns were being investigated. Perhaps Nixon revealed his tax returns as an attempt to show the public that he was not a crook. The revealing of his tax returns, however, did him no favor. In fact, it caused many citizens to lose confidence in the federal government and to question the fairness of the income tax system.

During Nixon's first term, he asked the IRS to review his tax returns, and the IRS did not challenge anything. Nixon also asked the staff of the Congressional Joint Committee on Internal Revenue Taxation to review the sale in 1968 of his New York apartment (the proceeds was used as the down payment for his "Western White House" in San Clemente, California) to see if he properly deferred the gain on the sale of a principal residence. The Congressional Committee determined that the White House in Washington, D.C., was Nixon's principal residence, not the house in California; thus the gain should be taxable and did not meet the requirements for deferring a gain.

In 1973 Nixon announced that he had just been audited by the IRS for tax years 1971 and 1972 and that no additional tax was owed (Wall Street Journal, 1973). He stated that since no additional tax was assessed, it was implied that the IRS agreed with his treatment of some issues previously undisclosed. In a press conference Nixon disclosed that he had not recognized a gain when he sold part of his San Clemente estate to two of his friends, C.B. Rebozo and Robert Alplanalp. Alplanalp lent Nixon the money for the San Clemente purchase in 1969.

Public concern was raised after Nixon's announcement. In the same year, an investigation of Vice President Spiro T. Agnew for bribery, extortion, and tax fraud was taking place. One month after Nixon's press conference about his tax audit and two months after Agnew's press conference announcing that he was innocent of bribery and tax fraud, Agnew pleaded guilty to one count of tax evasion and resigned from his office as part of a negotiated plea bargain. Agnew was also fined \$10,000 and placed on probation. The judge in the case noted that he usually imposed prison sentences of two to five months as well as fines for tax evasion cases involving lawyers, CPAs, and businessmen, but he agreed with the plea deal because the national interest was so great that Agnew had to be removed from his office quickly.

Following Agnew's resignation, a more aggressive news media started to demand more details concerning Nixon's taxes. In 1973, Zimmerman (1973) revealed that Nixon's tax returns from 1969 to 1972 had the following adjusted gross income and taxes:

<u>Year</u>	<u>Adjusted Gross Income</u>	<u>Federal Income Tax</u>
1969	\$328,161	\$72,682
1970	\$262,942	\$ 792
1971	\$262,384	\$ 878
1972	\$268,777	\$ 4,298

Such unbelievably low taxes were initially attributed to large loan interest deductions (for the loan on the San Clemente estate) and to the charitable contribution of Nixon's papers generated while he was Vice President. At that time the maximum tax rate was 70 percent, and many citizens were amazed that Nixon paid such small amount of taxes. It did not seem fair for the President of the United States to almost completely escape taxation.

On December 10, 1973, Zimmerman (1973) also reported a rumor that the IRS was again auditing Nixon's tax returns, particularly because of questions concerning the legality of his charitable deduction for the donation of his vice presidential papers. The Nixon tax scandal unfolded faster than the revelations from the Watergate investigation. In order to reduce media speculation, criticisms, and public pressure for impeachment, Nixon made a much more complete disclosure of his previous tax returns. Again he asked the Congressional Tax Committee to rule on two of the controversial items on his tax returns: the exclusion of the gain on the sale of a portion of the San Clemente estate and the donation of his vice presidential papers. Incidentally, Nixon's original tax accountant, Arthur Blech, had determined that there was no gain on the sale of the San Clemente property. Nixon later hired Coopers & Lybrand to audit his finances, and the firm came to a conclusion that a capital gain of \$117,370 should have been reported on the 1970 tax return. But ironically, a district director of the IRS, after the 1971 and 1972 audits, had sent Nixon a letter praising him for the care shown in the preparation of his tax returns!

The Joint Committee of Internal Revenue Taxation took a very thorough look at all items on Nixon's tax returns, not just the two items that he had requested. During this investigation, it was discovered that President Nixon had not been

paying income tax to either California or to Washington, D.C. Also Nixon's first accountant had determined that there was no taxable gain on his sale of a portion of his California estate because he allocated much of the cost paid for the entire estate to the portion that was sold, thereby reducing the gain to zero.

It was also discovered that Nixon had been deducting depreciation and maintenance expenses for 25% of his California estate, claiming that 25% represented the portion of time that the property was used for business purposes versus the total time that he spent at that location. In the case of an ordinary taxpayer, the IRS would have required that the percentage be based on the number of business days to a total of 365 days; but IRS had not challenged Nixon's calculations even though other taxpayers with a business deduction in relation to a personal residence would generally be challenged, and the allocation would usually be denied.

From 1970 through 1973, Nixon paid \$22,000 for tax advice while paying less than \$6,000 in income tax (Skigen, 1974). Public outcry became more vehement when people realized that Nixon paid less than \$6,000 in taxes while earning more than \$790,000 for the years 1970 to 1972. This public outcry occurred at the time when many Americans were serving and dying in Vietnam. Skigen stated that Nixon's tax returns were full of items that the IRS should have challenged. The IRS should have definitely challenged the excessive valuation of the donated vice presidential papers. IRS should also have challenged Nixon's exclusion of the \$143,000 gain from the sale of his New York apartment in 1969 since he did not reinvest the proceeds in a principal personal residence within the specified time after the sale. As mentioned before, the sale of the California property should have created a taxable gain. In addition, the business expense deductions for the California office were grossly overstated. Several other errors should have been caught by the IRS. Skigen calculated that Nixon's total tax for 1970-1972 should have been at least \$71,000 (which would have been less than 10% tax rate) rather than just under \$6,000.

On January 3, 1974 (Wall Street Journal, 1974), the IRS announced that it would re-audit some of Nixon's tax returns. The IRS believed that public confidence in the federal tax system was falling drastically, and it hoped that another audit would correct its previous errors and restore public confidence.

The IRS audit seemed to have focused on the \$576,000 deduction for the donation of the vice presidential papers. The deduction exceeded Nixon's 1970 gross income; the deduction, along with other deductions, reduced the taxable income to zero. The unused charitable contribution was carried forward and offset income in 1971 and 1972. The \$792 charged to Nixon for 1970 was the result of a new minimum tax.

Several controversial issues had to do with the deduction of charitable contributions. The first issue was the question of when the transfer of the papers took place. Congress had established July 25, 1969, as the cutoff date for contributions of papers by officeholders because of its concern over abuse of the deduction by previous presidents (especially Lyndon Johnson). Nixon had his lawyers draft the deed to his papers and backdated the deed to indicate that the title

to the papers had been transferred before the cutoff for such deductions. Presidential Aide Edward L. Morgan, a lawyer, prepared and signed the documents. In 1974 Morgan admitted to the Joint Committee investigating Nixon's tax returns that he later believed that he did not have the power of attorney to sign for the President. He lied to the Committee that the paperwork for the transfer of the papers was done in April, 1969 (before the cutoff date). After his testimony, Morgan resigned as assistant treasury secretary, and several months later his lies and falsifying documents cost him a four-month jail sentence.

A second important issue relating to the charitable contribution of the papers was the amount deducted. To many observers, the papers' \$576,000 value seemed to be excessive. Considering that the IRS did not challenge the valuation, many people believed that Nixon received special treatment. A third issue, which seemed to have been ignored, was the question of whether the transfer of Nixon's papers to the National Archives actually constituted a donation since Nixon had stipulated that the papers be transferred to his presidential library after it was built. Because of the stipulation of a later transfer of the papers, it appeared that the National Archives was merely a storage facility for the papers. A later transfer would have been made after the cutoff deadline. A fourth issue, which also was ignored, was the fact that the vice presidential papers came to Nixon because of the office he held. Many people would argue that those papers belonged to the federal government and not to the officeholder. Such an argument would dictate that vice presidential and presidential papers belong to the citizens and not valid charitable contribution deductions as claimed by Lyndon Johnson and Richard Nixon.

The Joint Committee reported its findings in April 1974. It found that Nixon owed \$476,451 for back taxes and interest. The sum of the back taxes was created by the disallowance of \$482,018 of the \$576,000 charitable contribution deduction of the papers; by the \$268,836 gains on the sales of the New York apartment and San Clemente property; by \$92,298 of income from government-paid improvements on the Key Biscayne, Florida, and San Clemente properties (which were primarily for Nixon's personal benefit); and by \$27,015 in income from the use of government planes for transporting family and friends. Other deductions disallowed by the Committee included \$5,391 for the cost of food, beverages, decorations, and rental for Nixon's wife's 1969 masked ball; a \$22 deduction for the cleaning of Mrs. Nixon's bathroom rug; and much of the \$ 85,399 of business-use expenses related to the San Clemente residence's depreciation and maintenance. The committee report also indicated that Nixon should have reported a \$11,617 capital gain on the sale of a Florida lot in 1972.

President Nixon was mainly worried that the two investigations of his tax returns would result in his being charged with fraud (imposing a civil fraud penalty of 50% of the tax deficiency). Strangely, neither the IRS nor the Committee mentioned a possible charge of fraud. However, the House Judiciary Committee, which was considering the possibility of impeachment, stated that it might consider an investigation of possible tax fraud.

Nixon's tax troubles did not stop there. Based on the federal adjustments, California assessed him \$5,303 for back income taxes, penalties, and interest. Also New York's Tax Department began to investigate him for unpaid taxes on the unreported gain on the sale of his New York apartment.

DISCLOSURE OF PRESIDENTIAL TAX RETURNS

Because of the Nixon scandals, public confidence in the federal government was very low. President Gerald Ford began to try to restore citizens' faith in the government. With the beginning of the presidential campaign, Ford disclosed information on his 1975 tax return on April 20, 1976. His tax information was quite a contrast with Nixon's tax returns. Almost all of Ford's income was from his presidential salary and expense allowance with only \$2,000 of income from property. His deductions were modest, and he paid federal income tax of 46.2% of his taxable income. After Ford's disclosure, a White House spokesman challenged all candidates for the presidency to publicize their tax returns. The challenge was primarily aimed at Ronald Reagan, who was running against Ford for the Republican candidacy. Reagan had not made any disclosures about his financial affairs although, during the campaign, it was revealed that his income taxes may have averaged only 17% during several recent years. Ford's voluntary disclosures became institutionalized as each president since Ford has followed his precedent. In addition, public disclosure concerning net worth and federal income tax has spread to most presidential and vice presidential candidates.

A search on <http://taxhistory.org> reveals that for the years when Ford was the President, he paid between 28.7% (1971) and 38.1% (1974) on gross income, and between 36.9% (1971) and 46.2% (1975) on taxable income.

Presidents Carter, Reagan, Bush (George H.W., the senior), and Clinton disclosed some tax information. However, the information they provided for publication was not always as complete or as detailed as they would appear on their actual tax returns. In many cases some key pieces of information were missing. Nevertheless, the disclosures became rather remarkable and did much to restore public confidence in the federal government, and so the self-assessed income tax survived the Nixon scandal.

The Carters in 1976 had adjusted gross income of only \$54,183. Their gross income tax was \$11,675, but the net income tax was zero due to an investment tax credit. For the next three years, the tax rate they paid on gross income (taxable income) were as follows: 1977—25.5% (39.5%), 1978—35.9% (46.3%), 1979—33.5% (46.3%), 1979—33.5% (43.1%) (<http://taxhistory.org>).

The Reagans disclosed their federal income tax information for the years from 1980 through 1987. Most of the details were disclosed except for the taxable income. However, although some information is still missing, more information can be found on <http://taxhistory.org>. For those years when Ronald Reagan was the president, the Reagans had total gross income ranging from \$227,968 (1980) to \$741,253 (1982) and federal income tax paid ranging from \$69,563 (1980) to \$292,616 (1982); and they paid the following tax rates on gross income (taxable income): 1980—30.5%, 1981—39.5% (53.2%), 1982—39.5% (47.7%), 1983—

30.4% (44.0%), 1984—33.6%, 1985—31.1% (42.7%), 1986—27.5% (40.5%), 1987—25.1% (32.4%).

Some unusual events occurred in the 1984 election. George H.W. Bush was running for a second term as vice president on the Reagan ticket. His opponent, Geraldine Ferraro, came under public scrutiny because questions arose about her tax returns (filed jointly with her husband, John Zaccaro). Those questions made Bush worry that the press might uncover his tax problems, and so he revealed publicly that his 1981 tax return had been audited, resulting in an additional \$144,128 for a tax deficiency plus interest and penalty.

One of the 1981 items that were in question related to the sale of the Bush's Houston mansion. The sale created a \$596,101 gain that the Bushes considered to be nontaxable because all of the proceeds were used to purchase a residence (actually, a vacation home) in Kennebunkport, Maine. The IRS determined that the Houston gain should be taxable because the Bushes' principal residence was his Washington, D.C., residence and not the Maine vacation property. Bush should have realized that because the circumstance with the sale of his Texas home was the same as Nixon's sale of his New York apartment thirteen years earlier. Bush's second questionable tax issue involved his keeping of the \$85,000 in excess campaign contributions remaining from the 1980 election. The IRS determined that the \$85,000 was not a tax-free gift, and, therefore, taxable.

Oddly, the attitude of President Bush (H.W.) toward federal income tax changed sharply ten years later as reflected on his 1991 tax return. He could have reduced his income tax significantly by donating the royalty rights for his wife's best-selling children's book directly to charity and, thus, not having to report the \$889,174 gross income. By reporting that amount as income, the Bushes only received a partial deduction (\$654,854) because the charitable contribution deduction was limited to 50% of their adjusted gross income. Their total 1991 contributions amounted to \$927,474. The Bushes paid 21.4% federal income tax on gross income for 1988, 22.20% (28.0% on taxable income) for 1989, 21.9% (27.9%) for 1990, and 15.4% (31.3%) for 1991 (<http://taxhistory.org>).

The next president in line, Bill Clinton, was also questioned about his federal tax returns. The Whitewater investigation of President Clinton's investment activities while he was Governor of Arkansas raised concerns about his tax returns before and after he was elected to the presidency. The tax issue was about the \$58,000 contributed in the investment venture by his partner, James McDougal. The contribution was an obligation of the Clintons to pay. The payment of someone else's debt creates taxable income (forgiveness of indebtedness income). This income was not reported on the Clintons' 1992 tax return, and the \$58,000 would also affect their 1993 tax return because the amount would have affected the basis and gain/loss calculation reported for the Whitewater investment; the Clintons reported a \$1,000 gain on their 1993 tax return on the assumption that the tax basis was all a capital gain.

When Bill Clinton became the president, the Clintons amended their tax returns for the time when Bill Clinton served as a governor. The amended returns caused the Clintons to pay several thousand dollars of additional tax as they

adjusted interest deduction amounts downward by more than \$5,000 and increased gains by more than \$8,000. These adjustments, which were primarily related to commodity transactions, were not required due to the statute of limitations, but the Clintons apparently felt obligated to pay the additional taxes. It is unknown as to whether their tax payment was motivated by moral reasons, to show an example for U.S. taxpayers, or to prevent political criticism.

Even though the percentages of taxable income that were paid by various presidents can sometimes be misleading, it is still of interest to compare them. For instance, from 1992 to 1999, the Clintons paid the following percentages of their gross income (taxable income): 1992—23.6% (27.9%), 1993—21.3% (28.2%), 1994—21.0% (27.4%), 1995—23.9% (28.8%), 1996—18.5% (38.5%), 1997—15.9% (33.9%), 1998—17.7% (28.0%), and 1999—22.1% (27.5%) (an average of 20.5% and 30.0%). The younger Bushes' tax returns from 2000 to 2007 showed that they paid the following percentages of their gross income (taxable income): 2000—26.9% (32.3%), 2001—30.9% (35.2%), 2002—31.4% (34.8%), 2003—27.7% (31.3%), 2004—26.9% (30.8%), 2005—25.4% (30.4%), 2006—24.3% (29.0%), and 2007—23.7% (30.8%). The average was 27.1% (31.6%). The Obamas' tax returns from 2008 to 2014 reflected that they paid the following percentages of their gross income (taxable income): 2008—31.3% (36.5%), 2009—31.9% (36.0%), 2010—25.2% (33.9%), 2011—15.2% (32.3%), 2012—17.0% (33.5%), 2013—19.5% (29.5%), and 2014—18.8% (29.4%), with an average of 23.3% (33.0%) (<http://taxhistory.org>). There was no indication of any mistake nor any item that is contrary to tax laws on the Obamas' tax returns.

The tax rates of other presidential candidates might also be of interest to some. The Romneys released two years of their tax returns during the last presidential campaign: 2010—17.6% and 2011—21.5%. McCain, the presidential candidate before Romney, released two years of his tax returns. He paid 45.0% in 2006 and 45.8% in 2007.

CONCLUSION

From the history of the presidents' tax returns, one can conclude that some presidents have not exactly been like Abraham Lincoln (a person motivated to do the right thing because it is the right way to go but not because of publicity or concern about getting caught). In some cases, confidentiality of tax returns led to an abuse of the position held by a president. The power of the office in overseeing the administration of our tax system places the president in a position of potential conflict of interest. It is possible, but unlikely, that a president could reduce his own taxes by fraudulent means and exert pressure on the IRS, which could lack the will to audit the president properly. In some instances, confidentiality enabled the conflict of interest to develop into abuse. If a president does not pay income tax as he should, the public's faith in the tax system and in the government could be shattered.

During recent years, the practice of public disclosure by presidents as well as some presidential and vice presidential candidates has boosted public confidence and helped restore trust in the federal government. Public disclosure

has helped to allay some fears that only fools pay their share of taxes and that the smart and the powerful will cheat their way out. The knowledge that top government officials pay large amounts of income tax and are as burdened as most citizens has helped increase public confidence in the self-assessed tax system in the U.S. Public scrutiny has definitely dampened any temptations for presidents to cheat on their tax returns, although there have still been some forms of cheating. Generally speaking, since 1975 presidents appeared to have lived up to the public's trust that the nation's leaders pay taxes as other citizens do.

From this brief history of this country's presidents, one might infer that there should continue to be public disclosure and possibly even greater disclosure of tax and financial information from even more leaders. Some would argue that public disclosure should be required for governors, members of the U.S. Congress, state legislators, and federal judges. An extreme view might suggest that federal, state, and local employees should be required to disclose such information. It may not be practical to require so many disclosures; but the more officials who are required to make tax disclosures, the more convincing it may be to regular citizens that the self-assessment system does work and that they are not the fools who pay their share of taxes voluntarily.

Finally, disclosure and scrutiny can be inducements for leaders to live up to their responsibilities of their roles and offices. Presidents and other officials should be role models. As stated by the Justice Department (Hartigan, 1996), "Truthful compliance with the tax laws is a basic duty of all citizens. This is especially important when the taxpayer is a public official. Scheming to beat the IRS cheats every honest taxpayer."

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GENDER, INDOCTRINATION, AND RELIGIOUS EFFECTS ON ETHICAL STAKEHOLDERS: A CASE STUDY OF FINNISH BUSINESS STUDENTS

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ABSTRACT

This research details an investigative study of current Finnish college students and their views on the various ethical stakeholders. In the current project, we surveyed business students (n=119) in the spring of 2014. Finnish students rejected the shareholder approach, strongly favoring a stakeholder approach, with strong support for employees and the environment. We found significant differences between students on their views of the ethical stakeholders based on three demographic factors: gender, year in school, and religion. We found females, experienced students, and Lutherans to be more ethical than their counterpart students. We conclude by discussing the implications for further research in this area.

Key Words: Stakeholder, ethics, Finland, business students, survey

INTRODUCTION

Education is one of the most influential elements in developing moral judgment (McCabe, Dukerich, & Dutton, 1991). However, this influence has not always been a positive. Traditional business schools focused on economic/financial variables as the primary (only) consideration which has had a harmful impact on students' ethical development (Lopez-Navarro & Cipres, 2015). Recently business schools reevaluated their role in ethical education. Lopez-Navarro & Cipres (2015 at 320) argued "Higher education institutions influence the perception that students have of companies and their responsibilities to society." Education's impact cannot be overstated.

The current project examined stakeholder ethical development in Finland. Culturally, Finland is rather unique. Their ethnic makeup is nearly homogeneous (Niemi, Kuusisto, and Kallioniemi, 2014). In Finland, one of the strong socialization forces is the Lutheran Church, which historically was monolithic, and now accounts for 77% of the population (Vogelaar, 2013). With one main ethnic group and one dominant religion, Finland is unique in Europe.

Previous studies on Finland's business students are sparse. This is likely caused by the small population. Finland's current population hovers between 5 and 6 million (Vogelaar, 2013). The current project adds to the knowledge of the discipline by examining this distinct group of future business leaders.

This research details a survey of current Finnish college students and their views on the various ethical stakeholders. In the current project, we surveyed business students (n=119) on one campus in the spring of 2014. We found significant differences between students on their views of the ethical stakeholders based on several demographic factors, including gender, year in school, and religion. We conclude by discussing the implications for further research in this area.

REVIEW OF THE LITERATURE

Business ethics has always been controversial. Academics consider ethics to be the "science of morality" (Nieman & Bennett, 2006). A more cynical viewpoint would claim business ethics is really a pretense so that customers can think the business is doing "the right thing" (Goldman, et al., 2012). Certainly, in the last few decades, businesses have put more emphasis on behaving above what is considered legal. Deegan, Rankin, & Voght (2000) indicated firms are facing increased pressure to behave ethically (not just make a profit).

Is this emphasis succeeding? Are the next generation of business leaders (today's students) concerned about being ethical, or do they view ethics as a marketing ploy from evil-intending business? The motivation for this study is to examine the views of current Finnish business students towards the various stakeholders in business.

STAKEHOLDERS

Economist Milton Friedman developed the classic view on stakeholders. Friedman's (1982) Shareholder theory stated that a firm's only obligation is to the shareholders (owners). The purpose of a business is to make a profit, period. The owners can decide to spend (or not spend) those profits on socially beneficial causes, as they see fit. However, the business entity must make a profit, and without a profit it cannot survive.

A more encompassing view is that a business should consider all stakeholders in making a decision. Who are the stakeholders? Freeman (1984) defined stakeholders as "groups and individuals who can affect or are affected by, the achievement of an organization's mission" (p.52). Stakeholders are a much broader group than just the business owners. Davenport (2000) classified stakeholders into five categories: customers, suppliers, shareholders, employees, and communities. Carroll (1999) divided stakeholders into two categories: primary (directly affected by the organization) and secondary (indirectly affected by the organization). Primary stakeholders would be shareholders, suppliers,

employees, and customers. Secondary stakeholders would include the society, the environment, and the government.

Post, Preston & Sachs (2002) proposed three groups of stakeholders: Core stakeholders (investors and employees); competitive environment stakeholders (business partners and competitors, unions, regulators), and external environmental stakeholders (social and political interests). To fulfill the obligations of corporate social responsibility, the organization must respond to all stakeholders (Shauki, 2011).

Hundreds of studies have long examined American ethical views. Habisch, Patelli, Pedrini, & Schwartz (2011) found U.S. firms are primarily concerned with shareholder needs and the community. Ludlum, Xu, Ramachandran, & Teeman (2015) examined American college students on 3 campuses and found that gender and indoctrination (year in school) had small but statistically significant effects on views of ethical behavior at work. Ludlum, Moskalionov, and Ramachandran (2013) investigated two campuses and found significant differences on students' ethical attitudes based on gender.

Currently, international studies on stakeholder views are flourishing. Goldman et al., (2012) compared South African and Polish business students and found neither thought businesses fulfill an obligation to protect the environment. This is interesting since Polish society is very conservative, based on Catholicism while South Africa's society is more liberal (Goldman et al. 2012). Shauki (2011) found that among Indonesian students, females and older persons with more workplace experience had a greater support for all the stakeholders of the organization. Lopez-Navarro & Cipres (2015) examined the stakeholder views of Spanish business students and found that females have stronger commitments to social and environmental stakeholders than their male counterparts. Further, they found that Spanish students had attitudes closer to the stakeholder model than the shareholder model. Ludlum, Moskalionov, Ramachandran, & Stephenson (2015) examined Russian college students and found strong differences based on gender, indoctrination, and maturity. Ludlum, Moskalionov, & Machiorlatti (2008) surveyed Russian business students based on 17 behaviors involving ethics in the workplace and found that females were significantly more ethical than males. Similar findings were reported among Chinese business students by Ludlum & Ramachandran (2009).

FINNISH RESEARCH

How do these stakeholder views apply in Finland? Which view dominates among business students, the shareholder approach of Friedman or the stakeholder approach? Finnish managers in the workplace and their ethical views have been extensively examined in the literature (Kujala, 2001 and 2010; Lamsa & Takala, 2000; Kujala, Lamsa, and Penttila, 2011; Riivari & Lamsa, 2014; Huhtala, Kangas, Lamsa, & Feldt, 2013; and Vuontisjarvi, 2006). Instead we focused on the next generation of business leaders, the current generation of business students.

Several published studies are similar to the current project. Lamsa, Vehkapera, Puttonen, and Pesonen (2008) examined MBA students (n=217) from two Finnish schools on their views of corporate responsibility. They found that Finnish students support the stakeholder model of corporate responsibility. They found that customers and employees were the most supported stakeholders. In addition, they found that while men and women have different views about corporate responsibility (stronger for women), that these views did not change as a result of business school experience.

Grunbaum (1997) compared Finnish and American business students (n=346). Both American and Finnish students encouraged honesty in business and saw a clear distinction between legal and ethical behavior. Both groups supported cultural relativism. Differences between the groups indicated that Americans more strongly supported relativism. In addition, religion had a stronger impact on Americans' moral decisions.

Maksimainen, Saariluoma, and Jokivuori (2010) examined views of corporate social responsibility of Finnish engineers and architects (n=118). They found that among engineers, older employees and those without children have higher views of corporate social responsibility. Gender, level of training, work hours, and field of study did not have any impact toward their views of corporate social responsibility.

Ludlum, Hongell & Tigerstedt (2013a and 2013b) surveyed Finnish business students (n=74) on their ethical views. The majority of students disagreed with Friedman's shareholder view. The Finnish students showed overwhelming ethical support to care for employees. Finnish business students also demonstrated strong support for stakeholders (the environment and the community). The students did not have a consensus on having the business give money to charitable causes. Students favored strong regulation of industry. Only 14% of the students thought the government should be less involved in regulating business.

CULTURAL DIFFERENCES

Individual values are strongly affected by national cultural beliefs (Hofstede, 1983). Culture is defined as "a set of shared values and beliefs that characterize national, ethnic, moral and other group behavior" (Craig & Douglas, 2006). Barbash & Taylor (1997) stated that culture includes religion, gender, language, class, ethnicity, and sexual orientation.

Hofstede has been the ground-breaking researcher in comparative cultural studies. Hofstede's (1983) theory defined culture into four dimensions: power, uncertainty/avoidance, collectivism, and masculinity/femininity. While these factors are important for sociological studies, Hofstede (1983, 1991, 1993) argued that cultural differences impact conduct in business, communication, and decision-making.

Culture is not the only influence on a person's beliefs. In addition, socialization and training shapes personal values (Hofstede, 1991). Because of the

socialization process, people from one nation are collectively programmed and share a common understanding (Hofstede, 1991 and 1993). International comparisons are important to study. While not a perfect process, a large national sample should be representative of that nation's shared common understanding.

Common understanding from a national system of socialization is another influence, but certainly not the only one. People identify with professional and organizational cultures and social memberships that extend beyond national borders (Bailey & Spicer, 2007). Drazin, Glynn & Kazanjian (1999) explained that people are members of multiple communities, so the influence of any single community only partially explains the individual behavior. For example, each student from our sample was not just a Finnish person but also a member of a gender, a religion, a political party, a family, perhaps even a business workplace. All of these affiliations influenced the person.

As a result, identifying the sole cause of a person's belief structure or behaviors is not simple. Work situations and organizational cultures mold behavior (DiMaggio & Powell, 1983). Culture is a complex phenomenon since it includes beliefs and assumptions from multiple sources (Fey & Denison, 2003).

SURVEY METHODOLOGY

A convenience sample was taken from large business survey classes at Arcada University in Helsinki, Finland in the spring of 2014. The college is public and has over 3,000 students and over 300 faculty and staff (Arcada, 2015). The survey was conducted in English. The students at Arcada University are multilingual (Finnish, Swedish, and English), with several programs taught in English, as well as with English textbooks.

Finland has a long history of being a multilingual country, being part of Sweden from 1809-1917 (Anckar, 2000). In 1917, Finland became independent with two official languages (Anckar, 2000). Currently, when a Finnish student graduates high school, he/she should be fluent in both Finnish and Swedish (Anckar, 2000). University students have the right to have their examinations in either of the native languages (Anckar, 2000). Some colleges such as Arcada also teach classes in English to benefit their international student exchange programs (Anckar, 2000).

Finland's higher education system is large, with 85,000 students (Jauhiainen, et al 2007). All of Finland's twenty universities are state-owned (Anckar, 2000). Business is one of the most popular disciplines for Finnish undergraduate education (Ahola & Kokko, 2001).

Students were asked to complete the questionnaire during class time. The survey instrument was voluntary and anonymous. We were best able to minimize the socially appropriate response bias by using a large group survey, with anonymous results and confidential submissions. A total of 121 surveys resulted. Two surveys were rejected because of incomplete answers, leaving 119 completed surveys. However, some questions had fewer than 119 responses. The complete text of the questions is in the appendix.

Most (85%) of the participants were business majors. The rest was spread across related disciplines. The respondents were in the following academic years: first, 73%; second, 21%; third, 4%; and fourth, 1%. Since these programs are two year degrees, those in the third or fourth year must be part-time students.

In our sample, females strongly outnumbered males 65% to 35%. As of 2000, Finnish college students were over 75% female (Jauhiainen, et al 2007). The group consisted of primarily traditional students. Only 3% were under age 20. Less than 1% were over age thirty. Only 3% of the respondents were married, and only 1 student had children. This contradicts prior research which found a significant number (33%) of Finnish college students were married (Jauhiainen, et al 2007). Tobacco use was reported by 28%. Most students worked while attending school (69%). Prior studies found that the majority (57%) of Finnish college students were employed (Jauhiainen, et al 2007). We found that 44% of these students had a credit card.

Politically, the students were divided, 12% self-identified as conservative or very conservative, 37% as independent, and 47% as liberal or very liberal. In religion, Lutheran was the dominant group with 52%. Other students were spread among all other faiths, with no single group greater than 10%.

We crafted three research hypotheses for the current project. For each we started with a null hypothesis. Those hypotheses are:

1. Gender (male/female) does not affect attitudes towards ethical stakeholders;
2. Indoctrination (year in school) does not affect attitudes towards ethical stakeholders; and
3. Religion (self-identified) does not affect attitudes towards ethical stakeholders.

FINDINGS AND DISCUSSION

We examined Finnish business students on various ethical views. Text of the questions is in Appendix 1. First, we asked whether the student would want to work for a company that had been accused of unethical business practices. Less than 9% wanted to work for an accused company. Students would “vote with their feet”, avoiding firms that they viewed as unethical. Second, we asked whether the government should be more involved in regulating business, less involved, or remain the same? Only 13% supported more involvement. The majority (55%) wanted regulation to remain the same.

We asked seven (7) questions on stakeholders. These questions used a five point Likert scale, from (1) strongly agree, (2) agree, (3) no opinion, (4) disagree, and (5) strongly disagree. We asked students whether everyone should be judged by clear and uniform standards of right and wrong. While 49% agreed, only 27% disagreed.

We also asked whether corporate social responsibility required a corporation to give part of its profits to charity. On this question, no consensus emerged, with 31% that agreed, 27% with no opinion, and 38% disagreed. These

findings were consistent with earlier surveys at the same campus (Ludlum, Hongell, & Tigerstedt, 2013a and 2013b). Additionally, students were asked whether right and wrong depended on individual values and cultural diversity. Most (59%) agreed while 28% disagreed.

We asked students about the Friedman Shareholder view, that a business' only obligation is to its shareholders. Only 14% agreed with the Shareholder view while 46% disagreed. This result was consistent with previous research (Lasma, et al, 2008; and Ludlum Hongell, & Tigerstedt, 2013a and 2013b).

Seeing strong disagreement with the Shareholder view, we asked for students' attitudes towards several specific stakeholders. We asked whether a business has an ethical duty to care for their employees. Nearly all students supported the employees; (53%) strongly agreed, and another 38% agreed. Only 1% disagreed with the support for employees. Next, we asked whether businesses have an ethical duty to care for the environment. A super majority either strongly agreed (45%) or agreed (50%). Only 2% disagreed with environment being a stakeholder. Finally, we asked whether businesses have an ethical duty to care for their community. A dominant majority agreed (72%) while only 3% disagreed.

These findings indicate that Finnish business students do not endorse Friedman's Shareholder view, but instead prefer a stakeholder approach. Finnish business students had strong support for employees, the community, and the environment as important stakeholders. This finding was consistent with previous research (Lasma, et al, 2008).

Obviously, all Finnish people are not alike. Each person is a member of many groups besides their nationality. A person is a member of a gender, a family, a profession, and for students an academic discipline. Each of these societal memberships influenced the person. We wanted to examine these demographic factors to see how each one influenced the results. We compared groups using a chi-squared analysis, goodness of fit test. Only the statistically significant results are discussed.

RESULTS

Hypothesis 1: Gender (male/female) does not affect attitudes towards ethical stakeholders. Four of the seven stakeholder questions found statistically significant results for gender. In these four questions, we found that females were more ethically concerned than their male counterparts. The results are detailed in Table 1.

Table 1. Effects of Gender

Question	Topic	Chi-Square	df	p-value
1	Uniform standards	$\chi^2=8.808$	4	0.066
4	Shareholder obligation	$\chi^2=10.303$	5	0.067
5	Duty to employees	$\chi^2=9.834$	3	0.020
6	Duty to environment	$\chi^2=5.750$	2	0.056

These findings are consistent with many American studies which consistently find females are more ethical than males, or stated another way that gender as a significant factor (Ludlum, Moskalionov, and Ramachandran, 2013). This result was counter to the findings of Maksimainen et al., (2010) which found gender did not have any significant impact.

Hypothesis 2: Indoctrination (year in school) does not affect attitudes towards ethical stakeholders. A student's year in the program is measured, not biological age. For indoctrination, we found slightly stronger support for influence than with gender. In five of the seven questions on stakeholders we found that experienced students were more ethically concerned than new students. The results are detailed in Table 2.

Table 2. Results for Indoctrination.

Question	Topic	Chi-Square	df	p-value
3	Cultural diversity	$\chi^2=24.519$	16	0.079
4	Shareholder obligation	$\chi^2=34.959$	20	0.020
5	Duty to employees	$\chi^2=19.837$	12	0.070
6	Duty to environment	$\chi^2=60.881$	8	0.000
7	Duty to community	$\chi^2=26.015$	16	0.054

These findings are consistent with prior research on the effect of maturity (Ludlum, Moskalionov, and Ramachandran, 2013). However, since maturity is a multidimensional construct, involving more than biological age and year in school, more examination is warranted in this area.

Hypothesis 3: Religion (self-identified) does not affect attitudes towards ethical stakeholders. Religion had the largest impact. We found statistically

significant results on six of the seven questions based on religious views. The results are shown in table 3.

Table 3. Results for Religion.

Question	Topic	Chi-Square	df	p-value
1	Uniform standards	$\chi^2=23.635$	12	0.023
2	Donate to charity	$\chi^2=34.478$	20	0.023
3	Cultural diversity	$\chi^2=38.975$	20	0.007
4	Shareholder obligation	$\chi^2=60.312$	25	0.000
6	Duty to environment	$\chi^2=27.375$	10	0.002
7	Duty to community	$\chi^2=33.280$	20	0.031

The only question without a statistically significant result for religion was the duty to employees, but on that question we had only 1% of the entire sample disagree with the ethical obligation towards employees. Our findings support the conventional wisdom that religion seems to be a proxy for the ethical views of students. For most people, their ethical views develop in conjunction with their religious views.

We need to be cautious about making any broad claims for three reasons. First, it would be over-reaching to claim that one religion is “more ethical” than another. Certainly, this reaffirms that different religions have different ethical obligations to the community, environment, etc. Second, our sample was heavily dominated by one religion, making all the other subgroups very small, and increasing the effect of a single outlier in one of the small religious groups. Third, we cannot be sure which is the cause and which is the effect. In other words, does a person’s ethical view lead to him/her to search out a specific religion which held similar views or does a religion indoctrinate the ethical views of their followers? Such a discussion is better suited for religious philosophy scholars rather than business ethics researchers.

Our overall result, we found strong support for all three research hypotheses. We feel confident in concluding that gender, indoctrination, and religion have statistically significant effects on stakeholder views of students.

IMPLICATIONS FOR FUTHER RESEARCH & CONCLUSION

One limitation of this study is the sample size. A larger sample size could result in more detailed analysis of the sub-groups. For example, a larger sample size could define non-business majors into discipline areas (accounting, tourism, management, etc.) to see if any disciplines had different views. The same distinctions can be made with religion and political affiliation, as the Finnish population is heavily dominated by one religious group, the Lutheran Church. Smaller sub-groups have too few members in the current sample to do a comparison. Finally, the conclusions are time bound, as attitudes are influenced by the economic/political/cultural climate, which are certainly in flux. Clearly, further research on this topic is warranted.

We, as educators, can and should be involved in the moral development of our students. Educators have a vital role in ensuring that individuals with sound morals enter the workplace (Goldman et al., 2012). Business schools in particular influence business success and environmental wellbeing (Lamsa, Vehkaperä, Puttonen, & Pesonen, 2008). Business schools shape the attitudes of tomorrow's leaders toward good business behaviors (Lopez-Navarro & Cipres, 2015). We must all take an active part in influencing the ethical development of our next generation of business managers.

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Appendix One: Survey Questions

THESE QUESTIONS INVOLVE YOUR FEELINGS & ATTITUDES.
THERE ARE NO CORRECT ANSWERS.

These questions all used a five point Likert scale, where

1. Strongly Agree
2. Agree
3. No Opinion
4. Disagree
5. Strongly Disagree

1. Describe your views on the following statement: “There are clear and uniform standards of right and wrong by which everyone should be judged.”

2. Describe your views on the following statement: “Corporate Social Responsibility means that a corporation should give part of its profits to charity.”

3. Describe your views on the following statement: “What is right and wrong depends on individual values and cultural diversity.”

4. Describe your views on the following statement: “A business only has an obligation to its shareholders.”

5. Describe your views on the following statement: “Businesses have an ethical duty to care for their employees.”

6. Describe your views on the following statement: “Businesses have an ethical duty to care for the environment.”

7. Describe your views on the following statement: “Businesses have an ethical duty to care for their community.”

NOTE: There were additional questions which are not part of this research.

ENHANCING CPA EXAM PASS RATES FOR SECOND CAREER STUDENTS

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ABSTRACT: With average CPA exam pass rates typically in the low 50% range for each exam section, a significant number of students struggle to achieve success with the exam. Public accounting firms are increasing pressure for students to complete the exam prior to the start of employment, and this pressure resonates on accounting programs to develop a methodology, which will assist students to successfully pass the exam often during the fifth year of academic study in a 150-hour program. Two challenges faced by accounting programs to achieve this goal are a full curriculum with little room to add exam preparatory assistance that will increase exam success, and a changing demographic of student who is older in age that typically has less success demonstrating mastery through examination. Data does support the fact that CPA exam first time pass rates drop as the age of examinee increases. This paper examines methodology that accounting programs can consider that will provide a more supportive environment for older students to achieve success on the CPA exam.

KEY WORDS: CPA pass rates, performance, non-traditional students

INTRODUCTION

It is no secret that students with an accounting degree rarely have problems seeking employment. *US News Careers* ranks a degree in accounting as #3 for best business jobs, and #16 of the best 100 overall jobs (US News Best Jobs, 2016). The Bureau of Labor Statistics forecasts that 166,700 new accounting jobs will become available between 2015 and 2022. Based on the growth in the profession, many accredited accounting programs routinely have job placement rates near 100 percent leading interested firms that recruit on campus to have more open positions than qualified applicants (Gramling and Rossman, 2009). Enrollments in accounting programs are typically stable or in decline despite the career opportunities available, and accounting programs struggle to meet the demand of employers as a result of the number of courses in the undergraduate major and the requirement of 150 credit hours of academic study in most states (Gramling and Rossman, 2009). Allen and Woodland (2006) and (2012) show that there was a

reduction in the number of college students entering the profession as a result of the 150 hour requirements. Jacob and Murray (2006) showed that when there is an option available students enrolled in programs will move to seek licensure in states or earn education in ways to circumvent the full 150 hour licensing requirements. As a result of the shortage and reduction of traditional college students entering the profession due to the burden of the 150-hour requirement, it can be inferred that there are opportunities for non-traditional students to be attracted to accounting programs and educated through accelerated certificate programs or distance learning options, which allow graduates to meet the 150-hour licensing requirement to sit for the CPA exam in a timeframe significantly shorter than the traditional undergraduate student.

The abundance of job opportunities in the accounting field, combined with above average starting salaries and growth potential make the profession especially attractive to those making a career change, specifically older individuals who would be considered a 'non-traditional student,' entering higher education later in life following a period of other work or military experience. These individuals are often good additions to academic programs, but their status also poses challenges for programs as they attempt to fit into the classroom culture mixed with traditional students. The non-traditional student will learn differently and demonstrate mastery differently as has been clearly established in multiple research outlets. As educators who offer opportunity to non-traditional students, it is the responsibility of the educator to assure that programs are balanced and offer curriculum to meet the needs of both types of learners.

In the accounting field, one significant measure of program success is the ability of program graduates to pass the CPA exam. This statistic is very important to employers and a factor that can potentially influence recruiting efforts of an employer on a particular campus. There is evidence to show that there is a relationship between age of examinee and CPA exam pass rate. This paper briefly looks at the relationship between CPA exam pass rate and average age of examinee by accounting program, and specifically focuses on methods that accounting programs can utilize to more effectively service non traditional students and improve pass rates of these students. Many of the strategies presented within this paper will not only help the non-traditional student with exam success, but also can offer benefit to traditional students at the end of their academic program with the drive to utilize the resources offered. Another potential use of the strategies presented in this paper is to offer CPA preparatory options in conjunction with coursework, but outside of class so that instructors in class can focus more on critical thinking skills in class and not 'teach to the exam,' which is an unpopular technique to many educators, but still not ignore the importance of CPA exam success.

CHANGING DEMOGRAPHIC OF COLLEGE STUDENTS

Many of our modern day classes are not taught within a traditional classroom setting, but are entirely online or through videoconference. The number of students taking at least one online class has significantly increased, by 96

percent over a recent five-year period (Online Course Report, 2015). The increased flexibility in learning options has removed significant barriers of access to many non-traditional students, who are quickly becoming the new majority. Classes taught offsite inside corporations and hotels located near major business centers in many cities away from the college campus also increase access.

Thirty-eight percent of those enrolled in higher education are over the age of 25, and 25 percent are over the age of 30 (Online Course Report, 2015). The proportion of all students who are over age 25 is projected to increase another twenty-three percent by 2019 (Rise of the Adult Student, 2011). The change in demographic presents a significant challenge for not only accounting programs, but most professional programs on college campuses. These older demographic students learn differently, and are not successful with the traditional lecture and exam format used in many programs. These documented differences in learning mean that programs not only must change how they teach and deliver material, but most professional programs have licensing exams, such as the CPA exam. The style of these exams are not consistent with how older demographic students learn or perform to demonstrate mastery, and can be one cause of lower pass rates for older non-traditional students. Within programs, those that will have successful pass rates with older demographic students need to offer innovative ways to prepare these students to be successful with the exam, consistent with research as to how these students learn. This paper will look at the basic principles of adult learning theory, and discuss an innovative way that programs can support older students to prepare for the CPA exam consistent with this learning theory.

LEARNING STYLE OF OLDER STUDENTS

There is considerable research to show that adult learners do not learn in the same ways as a traditional learner. This is true, not only how they learn in a classroom environment, but also how they process and demonstrate learning through assessment vehicles. As professional certification exams have not adapted to reflect the differences in learning styles, as well as demonstration of knowledge utilized by the non-traditional student, exams such as the CPA exam could be shown to be a barrier to entry for many older individuals who have the knowledge and skill set to be successful as a CPA, but are not able to successfully demonstrate the knowledge through an exam such as the Uniform CPA Examination. It is important for an innovative program to understand the basic principles of adult learning so that a program can design an innovative methodology to assist in preparation for the exam and enhance pass rates.

Adult learners have significantly greater amounts of prior experiences than traditional students. Whether the experience is directly in the area of coursework or not, these students will look for ways to learn through application of prior experience to course material. If a student has experience working in retail, the student will look to prior knowledge of former retail employers to apply to the accounting concepts delivered through mental examples. The traditional student may have work experience, but typically will not have enough experience to effectively learn in this manner (Knowles 1984). Additionally, the adult learner

with experience appreciates the importance of teamwork, and is often most used to accomplishing professional duties in a team environment, much more so than a traditional student. To assist the adult learner, designing learning activities that foster group interaction and use of a 'learning community' can allow a significant sharing of experiences, application and learning (Lindeman 1989, Dewey 1938). Use of discussion boards that allow the option for communication and community interaction or technology such as video conferencing software can be highly successful at allowing interaction to communicate and also remove geographic barriers and increase student flexibility to communicate.

Kenner and Weinerman (2011) examine adult learning theory, and its applicability to college students. The authors illustrate how prior work experiences often can be helpful in the classroom, but also might hinder learning and make it difficult for students to learn, as a new student with years of narrow experience might actually lack the same critical thinking skills of a recent high school graduate and be unable to adapt to what is needed to think through and learn concepts. These students require an instructor to understand these differences in thought processes that come into the classroom, and adapt teaching style/methods so a student can learn to think and apply new concepts. When adult learners enter college, they are all coming from vastly different backgrounds. Typically they are either acquiring new skills following a job loss, veterans returning from military service, or students who simply did not attend college outside of school and earned a GED. These students are all vastly different, and how they are mentored from the first course on campus will determine success in later courses, and on assessments such as a professional licensing exam (CPA). Theories in Kenner and Weinerman (2011) stem from Knowles (1974). According to Knowles (1974), all adult learners share four basic characteristics:

1. They are self directed learners and do not want to have requirements imposed on them.
2. Their experiences drive their self-identity, and they will routinely look to use their experiences to apply and relate concepts delivered through coursework. When a student cannot apply the classroom skills to their experiences, learning becomes difficult, and as a result, is a reason for much higher non-retention of this type of student.
3. They want to learn, and will want to engage. At the same time, this can make the student more difficult, as they will become discouraged easier and lead to quicker 'student/faculty issues' if the student is struggling and not performing as intended. This requires significantly more effort by the faculty member to support these students who may struggle.

These challenges are often unrecognized by faculty who predominantly work with traditional students. Additionally, standardized exams such as the CPA exam by design do not consider these common traits of adult learners. As

instructors charged with preparing non-traditional students for these exams, adaptation is necessary, not only to assure that these students can learn the material required to succeed in the profession, in addition accounting faculty need to design experiences with the adult learning theory traits in mind in order to prepare students for the CPA exam, which is significantly more challenging than those experiences that would be needed for the traditional student. Even more complex is the ability to accomplish this without managing courses that stereotypically 'teach to the exam.'

Flemming (2008) looks at attachment theory, often a theory considered part of early childhood development to examine relationships to adult learning of non-traditional students. The author found that many of the same theories of attachment and bonding that assist in the development of young children also could be used to work with non-traditional students at older ages. Developing coursework, and exam preparation materials that encompasses attachment theory can be beneficial to adult student learning and ability to be successful on an exam such as the CPA exam.

Based on the research, adult learners might be more self-motivated than traditional students, but they also may require more hand holding, as they may not have the basic skill set to accomplish the tasks they so badly desire and are willing to work for. For a standardized licensing exam such as the Uniform CPA exam, this means that the adult learner has the drive and motivation to pass the exam is willing to put in the work, and in many cases will be more motivated and self directed than the traditional student. Despite this motivation and self-drive, there are basic skills missing that will make success harder and create frustration much quicker than with a traditional student. The difference in pass rates for different age groups on the CPA is additional evidence supporting this issue. As educators, coursework throughout an academic program, as well as specific review and preparatory materials for the exam need to be designed and integrated into a curriculum that consider the different ways an adult learner learns, provides missing critical thinking skills common to the adult learner and understands how attachment theory provides the support and confidence these students need to be successful. These students are typically qualified and able to be successful, but they just need to express this qualification differently and with a different support structure based on past experiences outside of the classroom.

CURRENT CPA PASS RATES AND AVERAGE AGE OF GRADUATING PROGRAM

The National Association of State Boards of Accountancy (NASBA) 2014 data indicates that there is a relationship between age of examinee and pass rate. This paper does not test for a cause/effect relationship, but it finds schools that have a higher average age of examinee tend to have a lower pass rate and lower average exam score. During 2014, at least one student completed one section of the CPA exam in 1049 colleges or universities. Pass rates of one sitting of a section of the CPA exam at different age classifications by school are summarized in the table below:

Exhibit 1: CPA Pass Rates and Average Scores for Each Section Attempt by School

Average Age	Average Pass Rate	Average Score
Schools with average age below 25	55.7%	73.33
Schools with average age between 25 and 29	45.7%	69.14
Schools with average age above 30	39.9%	66.69

Through a comparison of those schools with an average age below 25, who would be considered traditional students to those schools with an average age above 25, the differences in mean pass rate is statistically significant using a *t-test* at α 1%. For programs with an average age between 25-29 compared to those programs with an average age over 30, the differences in mean pass rate is also statistically significant using a *t-test* at α 1%.

Based on the results, there is a statistically significant indication that those above the age of 25, commonly classified in literature as non-traditional students indeed are less successful at passing a CPA exam part on the first attempt. As examinees age is above 30, pass rates and average scores further decline significantly. This paper infers that differences in learning style and academic preparation of non-traditional students may be a significant cause of this difference. The next section of this paper discusses some educational techniques that may be utilized consistent with adult learning style that may improve pass rates for non-traditional students.

EDUCATIONAL TECHNIQUES FOR OLDER LEARNERS FOR

Adult learners are shown to be self-directed learners, as supported by Knowles (1974), and prefer to work at an independent pace. Support provided to help the adult learner achieve success on the CPA exam should encompass the principles of Knowles (1974) as well as Flemming (2008). It is proposed in this paper that programs develop a CPA review opportunity outside of required coursework for these students that is not part of the standard curriculum, but that delivers content in such a way that a student can learn from it in a self directed manner. This program could encompass many of the principles of the flipped classroom.

Flipping the classroom, a heavily discussed and debated trend in education involves a reversal of traditional principles of Bloom's Taxonomy as a teaching methodology (Lage MJ, Platt, and Treglia M, 2000). The costs and benefits of the flipped classroom have been heavily debated in both general educational, as well as in research in specific disciplines (e.g. accounting education). In a traditional classroom, inside the classroom lectures typically focus on the lowest levels of Bloom's Taxonomy, which is demonstrating the ability to remember and

understand. Following class, for homework, students are asked to independently work on the higher levels of the hierarchy, which involve application, analyzing, evaluating and creating. Flipping the classroom moves the lowest levels of the hierarchy outside of class, leaving the students to independently remember and understand. Inside of class, the class time is used to work under direct observation of the instructor on the highest levels of the hierarchy to analyze, evaluate and create. In this setting, the class time involves individual and group work on assignments and cases while the instructor provides individual attention to individuals and the group as a 'coach' instead of 'lecturer.'

A flipped classroom supplemental CPA review program can either be custom designed by accounting faculty within a department, or developed in conjunction with a partnership with many of the popular CPA preparation programs and department faculty. Depending on the college policies as well as state regulations, this program may or may not be offered for credit. Consistent with the relationship between adult learner and attachment theory as shown by Flemming (2008), it is crucial that department faculty members with a pattern of strong student relationships play a significant role regardless of program structure. Due to the rapidly changing CPA exam content, it is advised that an accounting programs develop a CPA review course or set of modules in a partnership with a professional CPA exam review program to assure delivery of the most up to date content. A CPA review program designed by an accounting program, independently or through CPA review course partnership for the specific audience would consist of the following elements discussed below.

Online Content Classroom: The online classroom is the primary means of content delivery for exam review materials. Many professional CPA review programs offer an online course, and these can fill the primary need of content materials nicely. One consideration that might cause a school to not partner with a professional CPA review is the high cost to student. The cost may be too high for many accounting programs to cover for students, and for the non-traditional student financial pressures are often greater than the traditional student due to increased personal financial commitments. In some cases, for students with job offers, this cost may be paid for by the firm with the intent to hire upon graduation.

Regardless of source of content, this online classroom should supplement reading material, contain videos to enhance the reading material to explain topics and a considerable volume of practice questions and quizzes as would be standard with any professional CPA review course. The course content needs to be flexible, accessible 24/7 in a format compatible with all computers as well as mobile devices. The course should contain an approximate schedule that students can use as a guide to gauge progress and set an approximate time table to complete materials within the set time period of the course, but offer flexibility for students that may fall behind within reason. As a non-required course option for students in most programs, it is even more crucial than other courses that the content be designed in a manner that is fully consistent with adult learning theory considering factors as presented in Knowles (1974) for student desire to fully engage. If the

course is not inviting and consistent with the style desired by the non-traditional student, a student will not engage and complete requirements. The online course component should carefully consider benefits of the flipped classroom and integrate principles of the flipped classroom in course design. The use of discussion boards should be a significant aspect of the online course for interaction between students to collaborate and the ability to share experiences as shown important by Lindeman (1989) and Dewey (1938) in a manner that considers schedule demands of the non-traditional student.

On Campus Office Hours with Department Faculty: In addition to the research provided by Knowles (1974) on how adult learning theory drives learning of adult students, Flemming (2008) discussed the impact of attachment theory on the adult learner. Consistent with attachment theory, direct involvement of department faculty who have had relationships with the students will assist and enhance learning. At office hour times that are conducive to adult learners, department faculty members should be available to have individual meetings with students registered in the review program. The faculty member should have working knowledge of the exam content, as well as the complete process of exam registration and administration, which is often an area of significant concern to non-traditional students and can lead to significant delays in registration and exam completion. These office hours should be used to assist the student with any area relating to the exam in a sensitive manner to assure the student gains confidence and comfort with the exam process.

Group Workshops Led by Department Faculty: The findings of Kenner and Weinerman (2011) are that non-traditional students learn best by applying content to real-life experience. Faculty led workshops assist this learning style. Also to build attachment theory, these workshops should be held preferably by the same faculty member(s) responsible for the on campus office hours. They also should be full time members of the accounting department who have a significant knowledge and comfort level with students enrolled in the program. The workshops need to be scheduled at a time that should minimize stress on the student, and be inviting as a value added activity to enhance and apply the important topics to appear on the CPA exam. Typically, timed at no longer than one to two hours, on a weekly basis, the workshop should open with discussion of a short exercise due before the class session. The exercise would be assigned and administered through the online component. Based on the results of the exercise, the faculty member can gauge progress of the students and guide assistance as necessary customized to needs of the class. The workshop would additionally be dedicated to student presentation of exam simulation problems, research problems or multiple-choice questions. Based on class size, students should be broken into teams, and each team assigned a practice simulation or series of questions due to be presented in the workshop. Teams should be asked not only to present the answer to the simulation, but also to integrate into the presentation real-life research illustrating the concepts tested on the simulation to practice consistent

with how the adult learns. Though the purpose of these sessions are strictly to prepare one for the CPA exam, the weaving of real life applications into the presentation is crucial to assure the student remembers and absorbs the objective of the simulation. Unlike a traditional students learning style, memorizing a formula to complete a simulation will not be sufficient. The application component of the presentation is consistent with the principles of Knowles (1974) and Kenner and Weinerman (2011), supporting the non-traditional students learning.

CONCLUSION

Significant data supports the fact that the demographic profile of college students has radically changed in recent years. The increase in non-traditional students is due to factors such as changed economic conditions, and increase in post military enrollment. Majors such as accounting have seen a sharper than average increase in the non-traditional student populations due to the promise of job placement and above average earnings potential of graduates. Non-traditional students create challenges in the classroom, as they bring different expectations into the classroom and do not learn in the same manner as traditional students. One significant difference is how these students test on exams, and professional exams such as the CPA Exam have presented a significant challenge for these learners supported by a significantly declining pass rate with increase in age. To increase the success of non-traditional students in the classroom and on exams, it becomes necessary for programs to adjust methods of content delivery and preparation. This paper sets the foundation and describes a process based on research in the field of education can be considered a best practice to improve CPA Exam pass rates for the non-traditional student. The practices presented in this paper often need to be implemented not only in traditional undergraduate and graduate classrooms, but also considered for offerings in a variety of delivery formats, as well as non-degree offerings that schools may offer that may lead a non-traditional student to complete the CPA examination and seek certification.

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A THREE-WAY COST CLASSIFICATION MODEL FOR UNDERSTANDING THE SUPPLY SIDE OF THE FIRM

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ABSTRACT: Effective cost analysis may be enhanced by classifying costs according to three different bases. These three bases are (1) by function, (2) by behavior, and (3) by relevance to decision-making. In this paper each of these three categories will be defined and illustrations of each will be presented. After a description of the model, results of an empirical investigation designed to gather the perceptions of undergraduate and graduate business students will be presented and discussed. It seems that understanding the model and the views of students as reflected in the empirical results will be useful to instructors teaching cost accounting in university courses, CPE seminars, and a variety of teaching forums.

Key Words: Cost classification, Pygmalion, pedagogy

INTRODUCTION

Many accounting students confuse conceptual models of empirical things and events with the things and events themselves. Accountants operate in a world of conceptual models and terms such as revenue, expense, cost, income, and dividends just to name a few. All too often students think of these concepts as something existing in the real, empirical world.

Years ago, the famous physicist, J.L. Synge, commented on the tendency of people to confuse a concept with a something. He called this confusion the Pygmalion Syndrome after the symptoms of the legendary sculptor of Cyprus who carved a statue of such surpassing realism that it came to life and he fell in love with the statue, not the goddess herself. He went on to refer to blurring the distinction between the empirical world with the conceptual world as a disease of the mind called rife. Although Synge may have originated the term Pygmalion Syndrome, the concept itself is not new. It is sometimes called reification from the Latin *res* meaning thing or object. To reify a concept means to speak of the concept as a physical thing or, as John C. Condon, Jr. expresses it, "To reify is to thingify." For example, accountants say over and over management is distributing dividends, distributing dividends, and distributing dividends. This phrase is said so casually and often that the listening brain thinks of the dividends as the something which is being distributed in the real world rather than the real thing, cash.

Some people may not view this problem of reifying a concept as a significant problem. It may be dismissed as simply a matter of semantics.

However, reifying concepts gives rise to communication problems and often leads to faulty reasoning by those attempting to understand the accountant's language. A sharp distinction between concept and thing is of inestimable value in learning accounting as a student and understanding the accounting reports prepared by accountants for management and external users.

The authors have found that it is critically important to clarify this confusion between concept and thing when teaching cost accounting for the supply side of the firm. The purpose of this article is to present a three-way cost classification structure that has been used successfully at both the undergraduate and graduate levels to communicate effectively management accounting topics that otherwise would be slippery and amorphous for the student to grasp.

The introductory session of our managerial cost courses is devoted to explaining the difference between a concept and a something. The reminder that cost is a concept is strongly emphasized. Interestingly, when the comparison of revenue with cash is made to illustrate the difference between a concept versus a thing, the difference between the two seems to be most effectively communicated to students.

The following example is used to contrast revenue, a concept, with cash, a thing: Suppose a taxi company takes a customer to the airport and the driver says the fare is \$50. From the taxi entity perspective, this transaction has dual effects on its financial position. The asset cash is increased \$50 and revenue is increased \$50. The concept of revenue is defined as the market value of goods or services provided to the customer. So the \$50 which the driver is holding is at the same time both cash, a something, and revenue, a concept. An analogy often shared with students at that point is as follows: suppose you are given a golf club as a birthday gift. The golf club is a thing in that it has molecular properties such as length and weight. But a birthday gift, like revenue, is a concept. Giving someone something on their day of birth is called a gift. So the golf club is at the same time a club, thing, and a gift, concept.

Elaboration of how cost like revenue is a concept not a something then continues until it is perceived that this blurred distinction has been removed. As indicated earlier, an entire first session is devoted to this deterrent to learning. Then it is time to introduce the three ways the concept of cost is to be classified during the first half of the course.

COSTS CLASSIFIED BY FUNCTION

One of the most significant learning enhancements from categorizing costs by function is the context in which it places indirect production costs called overhead by accountants. This classification provides a framework to allow one to see clearly that when accountants talk about manufacturing or factory overhead the reference is to only production indirect costs and excludes altogether any costs related to selling and general, administrative activities.

All too often a student comes to a managerial accounting course with the preconceived notion that overhead is a term referring to costs outside the production function. This seems to be the result of how the lay person not having studied accounting formally frequently uses the phrase. Furthermore, many as consumers are more familiar with merchandising firms and hold to the belief that all retail costs other than inventory are overhead. This is the rationale for focusing on manufacturing and service types of business to convey the concept of overhead costs. Again, the reminder must be made that overhead cost is a concept.

Once the student is clear about overhead being a concept, it is a much easier task to communicate the circumstances under which activity-based costing would be preferable to using a single rate. Also by understanding that overhead refers to the indirect production costs only, it eliminates the confusion of including various period costs such as selling and administrative costs.

After removing the blurred distinctions of concept versus thing and product versus period costs, productive time can be used in the classroom to illustrate the conceptual merits of a single rate versus multiple rates in accounting for overhead costs. Typically, the midterm examination will require students to demonstrate their understanding of these two different overhead accounting methods. Informal feedback suggests that our classification model is very helpful in explaining overhead accounting. This led us to gather the empirical data that will be presented later assessing the student's beliefs and attitudes about the three-way cost classification model.

COSTS CLASSIFIED BY BEHAVIOR

CVP analysis is based on a set of underlying assumptions. These assumptions are that the following parameters will remain fixed over a relevant range of output volume: fixed costs in total, price per unit, variable costs per unit, and therefore contribution margin per unit. The CVP model allows management insight into the interrelationships among three important variables: cost structure (C), volume of output (V), and profits (P). Again, the emphasis continues to be placed on the fact that cost is a concept to keep that in the forefront of the students' thinking.

Once the CVP model is estimated based on historical empirical data, it can be used to provide a variety of useful information helpful for short-run management decisions. For example, management can perform “what-if” scenarios to anticipate the consequential effects of a particular change in cost structure or price changes. Additionally, the model allows one to assess the relationship between bottom line profits and top line total revenue. This is known as degree of operating leverage, DOL, which is the percentage change in income given a percentage change in revenue. Furthermore, CVP analysis enables management to know the margin of safety in dollars and in terms of a percentage. This is a risk notion that informs management on the decline in sales that could be sustained before sales reach the breakeven volume and losses are about to be incurred if further sales reduction takes place.

THREE DIFFERENT APPROACHES

A review of management accounting textbooks and other relevant literature reveals three different methodologies for explaining how the CVP model may be used to provide the aforementioned information for management. The authors have used each of these three approaches in both undergraduate and graduate management accounting courses to teach CVP analysis. An integration of these three approaches by the authors is described and published in another journal which is cited in the references. This integrated approach has proven to be the most effective in conveying costs based on behavior and the relationship to the important variables of output volume and profits.

The following labels have been used for each methodological approach for ease in communication:

1. INCOME STATEMENT APPROACH
2. ALGEBRAIC APPROACH
3. GRAPHICAL APPROACH

Income Statement Approach

This approach uses the contribution margin format as illustrated below:

TOTAL REVENUE
-TOTAL VARIABLE COSTS
CONTRIBUTION MARGIN
-TOTAL FIXED COSTS
NET INCOME

Algebraic Approach

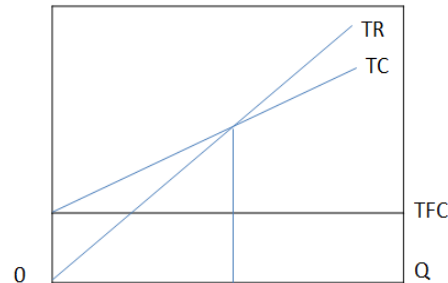
This approach expresses the same formula as the income statement but does so in a horizontal equation allowing mathematical manipulation using familiar algebraic principles.

$$\text{TOTAL REVENUE} = \text{TOTAL COST} + \text{TARGET PROFIT}$$

$$pQ = \text{TFC} + vQ + \text{Target Profit}$$

Graphical Approach

GRAPHICAL APPROACH



Any mathematical equation can be expressed in graph form. Especially when it is a two-dimension graph and linear relationships among the variables exists. The CVP graphical model is illustrated above. This approach seems to be preferred by the self-described, visual thinkers.

A Fourth Integrated Approach

By not limiting focus on one particular approach but interrelating all three approaches a student can quickly understand the important concept that change in contribution margin is equal to a change in net income. The integrated approach underscores the notion that total fixed costs are constant. However, it also becomes evident quickly to the student that you can use each of the following approaches to determine any target profit. Additionally it has been effective for students' grasp of this topic to use all three approaches for "what-if scenarios" in presenting the likely consequences if we change C, the cost structure, and/or price. The values of parameters are simply changed and one works through the three approaches .

It has also been discovered that the integration of these three approaches facilitates the teaching of degree of operating leverage, DOL, and the margin of safety percentage, MS%, concepts.

Students have observed repeatedly that the three-way classification, broad framework combined with the clarification that cost is a concept, not a something, has been so helpful in grasping the CVP model and the useful information it provides management for decision-making.

COSTS CLASSIFIED BY RELEVANCE

The last basis for classification of costs is according to the costs that make a difference in decision-making. Students are encouraged to forget about whether the cost relates to production or not and how it behaves to changes in output volume. Instead, the focus is now placed on which costs

are different between two courses of action. Four fundamental decisions required by management in most industries are used as examples to illustrate the relevant costs. This type of analysis is known as incremental analysis or differential analysis. There are multiple terms for relevant costs: incremental, differential, marginal, and avoidable.

Anecdotal evidence suggests that graduate students seem to favor the term avoidable for relevant costs when performing incremental analysis. They also seem to prefer emphasizing those costs that are not relevant such as sunk costs, and common allocated costs that are not different between the two options.

While it is not a synonym for incremental, differential, marginal, or avoidable an opportunity cost is a real relevant economic cost in managerial decision-making. Students are reminded that they have an opportunity cost of being in class on any given day and that is the best alternative use of their time. Defining opportunity cost as a concept and not an out of pocket distribution of cash seems particularly effective in explaining the Pygmalion Syndrome.

The four, management, binary decisions studied are: continue or discontinue a losing segment, outsource or insource a component part, accept or reject a special order, and process further or not process. Each of these is a binary decision in that only two courses of action are considered. Both empirical examples and textbook cases are used to illustrate relevant costs to be considered for each of these four decisions.

After the student has been exposed to costs classified by behavior and the CVP model, it is an easy transition to this particular decision. That is because it is easier to demonstrate that if you eliminate a product or service you will forego the contribution margin. So the question becomes are the avoidable fixed costs more or less than the contribution margin lost. In this decision as in the other three, those fixed costs which are sunk or will be the same whether you continue or discontinue the segment are not relevant to the decision. Since they are the same for both courses of action it makes no impact on the choice.

Outsource (Buy) or Insource (Make)

This decision seems to lend itself more than the other three to explaining the concept of opportunity cost. Understandability of

opportunity costs seems to be enhanced when it is mentioned that if you outsource you may free up resources that may be used to launch another profitable venture. Therefore, if you continue to insource by making your component product, you forego these profits on another prospective venture. Again, the understanding that these foregone profits, an opportunity cost, is a concept not a something is more effectively realized by the listener.

Likewise, the importance of considering variables that cannot be quantified as a cost but relevant to the decision is made clear in the discussion of this decision. For example, students quickly understand that you would want to know such intangible variables as: the quality of the outside supplier's product, is this supplier reliable, and would vendor be able to provide you additional product if demand increased.

Accept or Reject Special Order

A beginning question when this decision is introduced seems to be especially effective in communicating the concept of relevant costs. The question that is raised is suppose you sell your product through regular channels at \$100 per unit and you get an order for 10,000 units but the potential buyer wants to pay only \$85 dollar per unit; would you accept this order? Immediately, the usual response is you want your accountant to tell you if you can fill this order for less than \$85. That leads to a discussion regarding full capacity and idle capacity. If the firm is operating at 10,000 or more units below capacity, then it is clear that the incremental, relevant costs are the variable costs to produce and deliver the product. On countless occasions, students will approach after class to say with such satisfaction that discussion of this particular decision clarified so well the notion of differential costs. The context of a lower price makes it clearer to a student that the accountant needs only to provide management with those costs that bear on the choice of accepting the order.

Process Further or Not to Process

A variety of examples are used for this last binary decision. By this point in the course, students have begun to see the common thread that runs throughout these four decisions. And that commonality is if some cost is the same between the two alternative courses of action, then it does not matter. Why clutter managers' thinking with data that make no difference to the decision? If management buys a raw material and processes it up to a point they could sell it, but are faced with the option to process further and

generate additional revenue, once again it becomes clear to the learner that those costs incurred to get to the first saleable product will be the same if you stop there and sell or if you process further. Again it is underscored that it is only the additional processing costs that are different and relevant to the decision to go forward or not. Furthermore, learning the concept of common costs is facilitated because it can be communicated that the initial costs of getting to first product are common to both that first product and the one created by processing further.

EMPIRICAL FINDINGS

To gather empirical data to assess the learning methodology described above a measurement instrument with one question was designed as presented below:

Research Question: The following 3-way, cost as a concept, classification model facilitated my learning this semester by bringing a structural framework that was helpful:

Costs classified by **Function**
 Costs classified by **Behavior**
 Costs classified by **Relevance**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

Care was taken to convince the students that their response would in no way influence their grade in the course. The instrument was not to be signed and assistants were used to administer the data gathering process. The research question was asked to 264 students. This sample size consisted of 162 undergraduate and 102 graduate students.

Table 1
 Frequency Distribution of Responses
 Total Respondents
N= 264

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5
17%	55%	24%	3%	1%

Table 2
Frequency Distribution of Responses
Undergraduate Business Students
N= 162

Strongly Agree 1	Agree 2	Neutral 3	Disagree 4	Strongly Disagree 5
9%	51%	33%	5%	2%

Table 3
Frequency Distribution of Responses
Graduate MBA Students
N= 102

Strongly Agree 1	Agree 2	Neutral 3	Disagree 4	Strongly Disagree 5
29%	61%	10%	0%	0%

Table 4
Central Tendency of Responses

	Mode	Median	Mean
Total Students	2	2	2.16
Undergraduate Students	2	2	2.39
Graduate MBA Students	2	2	1.80

Some of the more **meaningful narrative comments** that the respondents wrote on the questionnaire are presented below:

“I had gotten through accounting through sheer memorization until I took this course and the Pygmalion Syndrome of confusing a concept and thing was so clearly described. Furthermore, the 3-way classification of cost concepts was so effective that I could not misunderstand the cost analysis we performed”.

“This approach should be taken in the beginning courses in accounting”.

“When I showed my notes to my dad, a CPA, he said I wished I had been taught with this methodology”.

“This 3 way cost classification model, like anything else, seems obvious after someone has worked through the principles and summarized them in such a cogent manner”.

“Without a background in accounting or business, this was a godsend. Every cost accounting textbook should take this approach!”.

“A terrific learning method”.

Perhaps the most striking result observed of the student sample is that seventy-two percent of all respondents either agreed or strongly agreed that the learning methodology was effective. Clearly the graduate students were more in favor of the learning methodology with ninety percent either agreeing or strongly agreeing compared to sixty percent of undergraduate students responding in these categories. This differential between graduate and undergraduate attitudes is also reflected in the different mean scores. Mean score of graduates was 1.80 compared to 2.39 for undergraduates. The modal and median score was 2 for both sets of students.

It is important to note that none of the graduate students disagreed or strongly disagreed with the effectiveness of the learning methodology. Five percent of undergraduates expressed disagreement while only two percent strongly disagreed. Just one percent of all respondents strongly disagreed with the methodology used in the classroom.

CONCLUSION

The selection of pedagogy may be one of the most challenging decisions to be made by instructors when designing a course curriculum. Our review of the literature took us back to

the 1930s. Emphasis was given to cost information systems, analytical models, global aspects in management accounting, decision models, nontraditional accounting systems, and other specialized cost topics. Contemporary issues/problems in cost accounting were considered in the context of the modern business environment.

The Pygmalion Syndrome was perhaps the catalyst for the creation of our 3-way classification model. Experience in the classroom reflected repeatedly that failure to understand cost as a concept was the critical hurdle

to cross. This deterrent to learning has to be removed before knowledge of cost accounting systems can be effectively transmitted. Thus our 3-way cost classification model was born.

The empirical findings suggest that accounting students overwhelming support this learning methodology. Furthermore, graduate students seem to appreciate its pedagogical significance more than undergraduates. With MBA graduate students coming from a variety of academic, undergraduate fields of study, the structure provided by this learning model may be more appreciated than the homogenous sample of undergraduate business majors.

This 3-way learning methodology provides the student with an opportunity to apply conceptual and empirical knowledge within a decision framework. This is achieved in large part by the concentrated effort to augment student awareness of a concept versus an empirical something.

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BUSY DIRECTORS AND CORPORATE INNOVATION

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ABSTRACT: There are two competing views on busy directors, the “reputational view” which argues that busy directors are better advisors and the “busyness view” which argues that busy directors are ineffective monitors. We expect the effects of busy directors also depend on firms’ characteristics, especially firms need for more advising versus monitoring. For firms which need more advising than monitoring, the reputation view will dominate, and vice versa. We expect a positive relationship between busy directors and innovation because innovative firms need more advising than monitoring. Innovative firms require more advising because innovation projects are exploratory in nature with unpredictable obstacles and outcomes. On the other hand, stringent monitoring from board of directors may not be optimal for innovative firms. Using patent and citation data from the NBER patent citation database, we find evidence that busy directors promote corporate innovation as measured by R&D over sales or total assets, the number of patents granted, and the number of citations per patent. The results are robust after controlling for potential endogeneity using instrumental variable regression.

Keywords: Corporate governance, board of directors, independent directors, innovation

INTRODUCTION

According to Solow (1957), Romer (1986) and Hall et al. (2005), corporate innovation is a key factor in driving up business value and economic growth. How to promote innovation becomes an increasingly important question for corporations. An extensive literature also investigates the effects of various factors on firms’ innovation behavior. For example, the effects of equity market factors on corporate innovation are examined by Aghion et al. (2013), Chemmanur et al. (2014), He and Tian (2013), Nanda and Rhodes-Kropt (2013). Gu et al. (2014) examined the effect of debt market and creditor interventions on firms’ innovation.

Board of directors plays a critical function in public firms, advising and monitoring the management. Extant studies on board of directors are focused on the determinants of the size and the independence of the board and the effects of these board characteristics on firm value and firm behaviors (Hermalin and Weisbach 1988; Yermack 1996; Hermalin and Weisbach 1998; Coles et al. 2008). Recently, researchers have begun to look at the effect of “busy” or “over-

boarded” directors (directors serving on multiple boards) on firm value (Ferris et al. 2003; Fich and Shivdasani 2006; Field et al. 2013; Elyasiani and Zhang 2015). There are two conflicting views about busy board of directors. Under the “reputational view”, busy directors will provide superior advising to the management because of their quality, experience and their business connections. The competing “busyness view” instead argues that busy directors may be too busy to provide effective monitoring. We argue that the effects of busy directors on firm value and firm behaviors may also depends on firms’ characteristics, and their needs for more advising versus monitoring. For example, for firms which need more monitoring than advising, the “busyness view” may dominate so we will see a negative relationship between busy directors and firm value. However, for firms which need more advising than monitoring, the reputational view may be more relevant. Thus a positive relationship between busy directors and firm value is expected.

Based on the above arguments, we expect a positive relationship between busy directors and corporate innovation, because innovation firms need more advising than monitoring. Innovative firms require more advising because innovation projects are exploratory in nature with unpredictable obstacles and outcomes. Busy directors with more business connections, experiences and expertise are expected to provide better advising to the management. On the other hand, stringent monitoring from board of directors may not be optimal for innovative firms. With intensive monitoring, managers are left with limited discretion and flexibility, which may have unfavorable effects on corporate innovation. To our knowledge, we are the first paper to empirically study the relationship between busy directors and corporate innovation.

To measure innovation, we use patent and citation data from the NBER patent citation database, which covers information for all utility patents granted by the US Patent and Trademark Office (USPTO) over the period of 1976-2006. We then supplement the patent count information over the period of 2007-2010 using Kogan et al. (2012)’s dataset and the patent citations information over the same period using the Harvard Business School (HBS) patent and inventor database. We obtain the accounting data from Compustat and institutional holdings data from 13f database. Data on board of directors are obtained from Institutional Shareholder Services (ISS). We define busy directors as directors with three or more directorships following the literature (Ferris et al. 2003; Fich and Shivdasani 2006). Our final sample is composed to 16,382 firm-year observations.

Our paper contributes to the literature in at least three ways. First, we are the first to study the association between busy boards and corporate innovation. We find that busy directors promote innovation inputs and outputs. Innovation inputs are measured by R&D expenses over sales or total assets. Innovation outputs are measured by the number of patents and number of citations per patent, which are indicators of the quantity and quality of innovation outcomes. Second, we find the beneficial effect of busy directors on innovation are more significant for busy directors with similar industry experiences as the innovative firm. The

finding provides further evidence that the benefit of busy directors on innovation comes from the experiences and expertise of busy directors. Third, we also find that busy directors with experience and knowledge in innovative industry are more beneficial to corporate innovation.

RELATED LITERATURE AND TESTABLE HYPOTHESES

Boards of directors perform two main functions: monitoring and advising. There are extensive studies on how the size and independence of the board affects board functions (Hermalin and Weisbach 1988; Booth and Deli 1996; Hermalin and Weisbach 1998; Dalton *et al.* 1999; Boone *et al.* 2007; Coles *et al.* 2008; Harris and Raviv 2008). Recently, researchers have begun to examine the appointments of “busy” or “over-boarded” directors (directors serving on multiple boards) and its impact on firm value (Ferris *et al.* 2003; Fich and Shivdasani 2006; Field *et al.* 2013; Elyasiani and Zhang 2015).

There are two conflicting views about busy board of directors. The “reputational view” argues that the busyness of directors signals the quality of the directors. For example, Fama and Jensen (1983) argues that higher quality directors are more likely to hold multiple directorships. Coles and Hoi (2003), Brickley *et al.* (1999), Fich and Shivadasani (2007), and Bugeja *et al.* (2009) all find evidence that better directors are more likely to sit on more boards. Under the reputational view, busy board of directors will provide superior advising to the management because of their quality, experience and their business connections. The “busyness view” about busy board of directors argues that busy board of directors may be too busy to provide effective monitoring. Under this view, facing the constraints of limited time and energy, busy board of directors may shirk their board responsibilities such as skipping board meetings. Therefore, busy directors may reduce the effectiveness of board monitoring.

Coles *et al.* (2008) challenged the convention wisdom that small and independent boards are optimal for all firms from the perspective of corporate governance. They find that the effect of board size and independence on firm value depends on firms’ needs for more advising versus monitoring. They find that firms which need more advising from their board of directors, namely diversified firms and firms with higher leverage have larger boards, and a larger board increases firm value as measured by Tobin’s Q. They also find that Tobin’s Q increases with the fractions of insiders in firms where firm-specific knowledge of insiders is relatively more important, for example, R&D intensive firms. Their research findings illustrate the importance that effect of board size and independence also depends on firm characteristics, especially firms’ needs for more advising or monitoring.

Similarly, we argue that the effect of busy board of directors on firm value and firm behaviors may also depends on firms’ characteristics, and their needs for more advising versus monitoring. For example, for firms which need more monitoring than advising, the “busyness view” concerning busy directors may dominate and the concern that busy directors will shirk their responsibilities

because they are too busy may outweigh the benefits of their superior advising. However, for firms which need more advising compared to monitoring, the reputational view may be more relevant. Busy directors may provide better advising to the management because they have more experience, and more business connections.

The empirical evidence so far supports our argument. For example, Fich and Shivadasani (2006) finds a negative relationship between busy board of directors and firm value for Forbes 500 firms. The Forbes 500 firms are large established firm which presumably needs more monitoring. So the “busyness view” of board of directors dominates and explains the relationship. However, Field et al. (2013) finds that busy directors are common in IPO firms and they contribute positively to firm value. The finding can be explained by the fact that IPO firms have great advising needs from their board of directors, because they have minimal experience with public markets. On the other side, they argue that the demand for monitoring from directors in IPO firms may be mitigated by the fact that management of newly public firms typically owns a higher percentage of the firm than their counterparts in mature firms. Venture capitalists involved in IPO firms also provide some monitoring. Within the context, busy directors who are superior advisors but ineffective monitors will be beneficial to IPO firms and help increase IPO firm values. Elyasiani and Zhang (2015) studies the effect of busy board of directors on bank holding companies. They argue that busy directors can bring in more valuable skills, connections, and knowledge to provide better advising to bank holding companies. Busy directors who possess knowledge about different industries may also help banks make more profitable loans and reduce the occurrence of bad loans. The complexity and opacity of banking business indicate that banks require more advising from their boards. They also argue that busy directors in bank holding companies are less likely to shirk their responsibilities because busy directors are under stricter scrutiny of bank regulators. Consistent with above arguments, they find that busy board of directors help bank holding companies to reduce risk and improve performance. The positive relationship between busy board of directors and bank holding companies performance and risk reduction can be explained by the fact that bank holding companies require more advising but less monitoring from their directors. So the benefits of having busy directors outweigh its costs.

Innovative firms require more advising because innovation projects are exploratory in nature with unpredictable obstacles and outcomes. During the innovation process, advising from the directors are greatly needed to solve the unknown problems and increase the chance of success. Busy board of directors with more business connections, experiences and expertise are expected to provide better advising to the management during the innovation process. On the other hand, stringent monitoring from board of directors may not be optimal for innovative firms. With intensive monitoring, managers are left with limited discretion and flexibility, which may have unfavorable effects on corporate innovation. Managers with limited discretion may be discouraged to engage in innovation because they feel they are lacking the freedom to adapt during the

innovation process. Moreover, managers under intensive monitoring may be afraid to take on innovation projects due to their career concern. If the innovation fails, managers are more likely to be fired under effective board monitoring (Weisbach, 1988). Thus, innovative firms require more advising but less monitoring in order to promote innovation. Therefore, we expect there is a positive relationship between innovation and busy directors who are better advisors and less effective monitors. Based on the above arguments, we propose the following hypothesis:

Testable hypothesis: Busy directors are positively related to corporate innovation.

DATA AND SUMMARY STATISTICS

In this section, we describe our data and measures of innovation, and present summary statistics.

We use information from Compustat with all non-financial firm-year observations. To obtain data on the directors of each firm, we merge the data with ISS dataset from 1996 through 2010. 1996 is chosen as the start year due to data availability in ISS. To measure innovation, we collect patent and citation data from the NBER Patent Citation database. This database covers information for all utility patents granted by the US Patent and Trademark Office (USPTO) prior to 2006. To supplement the patent count information over the period of 2007-2010, we utilize Kogan et al. (2012)'s dataset. And the patent citations information over the same period is collected from the Harvard Business School (HBS) patent and inventor database. We obtain other firm characteristics data from Compustat.

Following existing literature, we measure innovation inputs by R&D expenditures. In particular, we use the ratio of R&D expenditures to asset and the ratio of R&D expenditures to total sales in our tests. To measure innovation output, we follow existing literature (e.g., Aghion et al. 2013; Nanda and Rhodes-Kropf, 2013) and use the number of patents and citations per patent based on the patent applications filed by the firm that are eventually granted. As suggested by Hall et al. (2005), we use the application year instead of grant year because the actual timing of the patented innovation is closer to the application year. The first measure, number of patents for a firm each year measures the quantity of innovation. However, some patents might be more important and more valuable than others. Patent count does not distinguish important innovations from incremental findings. Therefore, we measure the quality of patent using the second measure of innovation output by counting the total number of citations each patent receives in subsequent years.

In the patent dataset, we only observe patents that are eventually granted, but some patents applied (and eventually will be granted) in the last several years in our sample period may not be granted yet. Similarly, we observe patent citations received up to 2010 at best, but some citations can arrive over a long period of time. Following Hall et al. (2001, 2005), we mitigate these truncation

problems by adjusting the patent and citation data using the “weight factors” computed from the empirical distribution of application-grant and by estimating the distribution of citation-lag, respectively. Moreover, we drop the observations from last two years of patent data (2009-2010) to deal with truncation problems as most patents are granted within two years (Hall et al., 2001). If firm-year observations from Compustat database are not matched to NBER or HBS patent database, we set the patent and citation counts to zero.

Because the distributions of both patent grants and citations per patent are highly right skewed, we use the natural logarithm of patent counts ($\ln(1+Pat)$) and the natural logarithm of the number of citations per patent ($\ln(1+Cit)$) as our innovation output measures. We add one to both patent counts and citations per patent to avoid losing observations when taking logarithm of zero patent or zero citations per patent. To mitigate the effect of large outliers, we also winsorize these variables at the 1st and 99th percentiles in the sample.

Table 1. Summary Statistics

Variable	N	Mean	S.D.	P25	Median	P75
<u>Innovation Variables</u>						
Patent	16328	10.58	24.75	0	0	5
Citation/Patent	16328	5.31	11.14	0	0	6.22
R&D/Sale	16328	0.08	1.95	0	0	0.04
R&D/Asset	16328	0.03	0.06	0	0	0.04
<u>Board Characteristics</u>						
Number of busy directors	16328	0.82	1.26	0	0	1
Board size	16328	9.16	2.47	7	9	11
Mean No. of directorships	16328	1.72	0.64	1.15	1.63	2.11
<u>Other characteristics</u>						
Ln(Sale)	16328	7.25	1.44	6.28	7.19	8.25
Tangibility	16328	0.31	0.23	0.13	0.25	0.46
HHI	16328	0.21	0.17	0.09	0.16	0.28
Book leverage	16328	0.24	0.19	0.08	0.24	0.36
ROA	16328	0.13	0.11	0.09	0.13	0.19
Ln(Firm age)	16328	3.09	0.7	2.48	3.14	3.76
Cash holding	16328	0.13	0.17	0.02	0.06	0.18
Q	16319	1.97	1.67	1.14	1.51	2.2

The board composition information is obtained from ISS. To measure board busyness, we construct two variables: (1) *Number of busy directors*, the number of directors with three or more directorships, and (2) *Mean No. of directorships*, the average number of directorships held by the directors. Following the innovation and board of director literature, we control for a set of firm and industry characteristics that might affect a firm’s future innovation output. In the baseline regressions, the control variables include board size, *Board size*, measured by the number of directors on the board; firm size, *Ln(Sale)*, measured by the natural logarithm of sales; asset tangibility, *Tangibility*,

measured by net property, plant and equipment divided by total assets; industry concentration, *HHI*, measured by the Herfindahl index based on annual sales; *Book Leverage*, the ratio of total debt to book value of asset; profitability, *ROA*, measured by the ratio of earnings before interest, taxes, depreciation, and amortization to book value of assets; *Ln(Firm age)*, measured by the natural logarithm of the number of years listed on Compustat; *Cash holding*, the ratio of cash and short-term investments to total assets. We also control the squared Herfindahl index to mitigate the non-linear effect of product market competition on innovation (Aghion et al., 2005).

Table 1 presents the summary statistics of the main variables in a sample of U.S. non-financial firms from 1996 to 2008. On average, the boards in our sample have 9.16 directors. Over average, each director holds about 1.72 directorships. The patent counts in our sample exhibit significant positive skewness with a mean of 10.58 patents, a median of 0 patent and a standard deviation of 24.75. The variable “Cit” shows similar distribution as the patent count, with a mean of 5.31 citations per patent, a median of 0 and a standard deviation of 11.14. The average R&D-to-sales (R&D-to-assets) ratio is 8% (3%). The companies in our sample have the average ROA of 13% and Tobin’s Q of 1.9.

MODEL SPECIFICATION

In the primary specification, we test the cross-sectional relation between busy board and corporate innovation, and various control measures. We use a fixed effect model for our regression analysis, controlling for dummy variables for each year of the sample and dummy variables for each Fama-French 49 industry code. In particular, we run the following regression:

*Innovation Variables*_{*i,t*}

$$= \beta_0 + \beta_1 \times \text{Number of busy directors}_{i,t} (\text{Mean No. of directorships})_{i,t} \\ + \gamma' \times \text{Controls}_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t} \quad (1)$$

where *i* indexes the firm, *t* indexes the time. The dependent variables are *Ln(1+Pat)*_{*i,t*}, *Ln(1+Cit)*_{*i,t*}, *R&D/Sale*_{*i,t*}, and *R&D/Asset*_{*i,t*}, where *Ln(1+Pat)*_{*i,t*} is the natural logarithm of one plus total number of patents filed (and eventually granted). *Ln(1+Cit)*_{*i,t*} is the natural logarithm of one plus the number of citations received per patent. *R&D/Sale*_{*i,t*} is the ratio of R&D expenses to total sales. *R&D/Asset*_{*i,t*} is the ratio of R&D expenses to total assets. The first two dependent variables measure the quantity and quality of innovation. The last two dependent variables measure the input of innovation as the R&D expenses over sales or assets. The dependent variables are widely used in the innovation literature as measures of innovation input and outcomes (e.g., Chemmanur, et al, 2014). *Number of busy directors*_{*i,t*} is the number of directors with three or more directorships. *Mean No. of directorships*_{*i,t*} is the average number of directorships held by the directors. Our principal concern in the analysis is the busy board coefficient estimate, β_1 . A positive coefficient would provide support for the

hypothesis that busy board promotes corporate innovation. The control variables in the above regression model are selected based on the innovation and board of directors literature and include board size, firm size, tangibility, industry concentration, leverage, profitability, firm age and cash holding. Detailed definitions of the control variables are available in the variable construction section. Industry fixed effects and year fixed effects are used in all models.

Our analysis potentially suffers from an endogeneity problem; specifically, the issue is whether busy directors improve firm innovation or strong innovation prompts busy directors to maintain their positions. Busy directors, because of their connections and reputation, arguably have information advantages over the firm's other directors or shareholders. As such, busy directors can better assess the firm's future prospects, indicating they retain positions to only those business with strong innovation potentials. As such, we conduct robust test based on the instrumental variable (IV), two-stage least square (2SLS) regression estimates. Specifically, we regress our innovation measure on the predicted value of number of busy directors and other control variables. Following Field et al. (2013), two instrumental variables are used: the number of busy directors three years earlier and the number of independent directors over 60 years of age.

RESULTS AND DISCUSSIONS

The effects of busy directors on innovation activities are reported in Table 2. Year fixed effects and industry fixed effects are included in all the regression models. Columns (1)-(4) report the regression results when the number of busy directors is used as the main independent variable. The two independent variables are the most commonly used measures of board busyness in the literature. All the coefficients of the variables measuring board busyness are positive and significant, indicating that busy directors are positively related to corporate innovation. According to column (1), busy directors significantly increase the number of patents innovative firms obtain, which is an indication of the quantity of innovation output. The coefficient of busy directors in column (2) is also positive and significant, where the dependent variable is the number of citation per patent. The dependent variable measures the quality of innovation output. A higher number of citations per patent indicates the importance of the patent. So the results show that busy directors also increase the quality of patents filed by innovative firms. Column (3) and (4) report the effect of busy board of directors on innovation inputs as measured by R&D expenses over sales or assets. The results indicate that busy directors are positively related to firms' innovation inputs. In untabulated regressions, we use average number of directorships of directors as the measure of board busyness and the results are very similar (results are available upon request). In summary, the regression results reported in table 2 provide evidence that busy directors are beneficial to corporate innovation, which is consistent with our hypothesis.

Table 2: Corporate innovation and busy directors

	(1) Ln(1+Pat)	(2) Ln(1+Cit)	(3) R&D/Sale	(4) R&D/Asset
Number of busy directors	0.086*** (0.000)	0.055*** (0.000)	0.034*** (0.010)	0.002*** (0.000)
Board size	0.008* (0.075)	0.003 (0.507)	0.032* (0.099)	-0.000 (0.882)
Ln(Sale)	0.397*** (0.000)	0.180*** (0.000)	-0.147* (0.091)	-0.002*** (0.000)
Tangibility	-0.135** (0.024)	-0.161*** (0.005)	0.427* (0.074)	0.012*** (0.000)
HHI	-1.391*** (0.000)	-0.605*** (0.000)	0.850 (0.115)	-0.058*** (0.000)
HHI ²	1.596*** (0.000)	0.749*** (0.000)	-0.750 (0.121)	0.055*** (0.000)
Book Leverage	-0.197*** (0.000)	-0.225*** (0.000)	-0.036 (0.701)	-0.015*** (0.000)
ROA	-0.175* (0.054)	-0.144 (0.152)	-2.078*** (0.003)	-0.139*** (0.000)
Ln(Firm age)	0.067*** (0.000)	0.019 (0.170)	0.057 (0.249)	-0.003*** (0.000)
Cash holding	1.178*** (0.000)	0.848*** (0.000)	0.564*** (0.000)	0.076*** (0.000)
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Observations	16,328	16,328	16,328	16,328
Adjusted R ²	0.503	0.392	0.030	0.513

***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

The main benefit of having busy directors on board is that busy directors can bring in valuable experience and knowledge to provide better advising to the management in the innovation process. We expect the benefits will be greater if busy directors have relevant industry experience with specific knowledge accumulated from their other board appointment. To examine the effect, we study the effect of the number of busy directors who serve on at least one other firm within the same industry. The regression results are reported in Table 3 Panel A. The two independent variables of interest are the number of busy directors who serve on at least one other firm within the same industry and the number of busy directors who do not have other board appointments in the same industry. The different effects of these two types of busy directors on innovation as measured by the number of patents, the number of citations per patent, R&D over sales, and R&D over assets are reported in Panel A. According to the results, the positive effects of advising by busy directors are more significant for busy directors with same industry experience as shown by the statistical difference between the corresponding coefficients. The only exception is the effect of busy directors on R&D over sales. No statistical difference is documented between the number of busy directors with same industry experience and the number of busy

directors without same industry experience. Overall, the results provide evidence that the benefits of busy directors indeed come from their experience of their board appointments.

Table 3: Director's skill and firm innovation
Panel A: Same industry experience

	(1) Ln(1+Pat)	(2) Ln(1+Cit)	(3) R&D/Sale	(4) R&D/Asset
Number of busy directors with same industry expertise (β_1)	0.241*** (0.000)	0.155*** (0.000)	-0.009 (0.780)	0.005*** (0.000)
Number of busy directors without same industry expertise (β_2)	0.070*** (0.000)	0.045*** (0.000)	0.038** (0.025)	0.002*** (0.000)
Control variables	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Test: $\beta_1 = \beta_2$				
$\beta_1 - \beta_2$	0.171*** (0.000)	0.110*** (0.000)	-0.047 (0.315)	0.003*** (0.004)
P value				
Observations	16,328	16,328	16,328	16,328
Adjusted R ²	0.505	0.393	0.030	0.513

Panel B: Innovative industry experience

	(1) Ln(1+Pat)	(2) Ln(1+Cit)	(3) R&D/Sale	(4) R&D/Asset
Number of busy directors with innovative industry experience (β_1)	0.159*** (0.000)	0.073*** (0.000)	0.042*** (0.009)	0.002*** (0.000)
Number of busy directors without innovative industry experience (β_2)	-0.022* (0.065)	0.028** (0.015)	0.021** (0.029)	0.002*** (0.000)
Control variables	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Test: $\beta_1 = \beta_2$				
$\beta_1 - \beta_2$	0.181*** (0.000)	0.045*** (0.002)	0.021** (0.021)	0.000 (0.317)
P value				
Observations	16,328	16,328	16,328	16,328
Adjusted R ²	0.507	0.392	0.030	0.513

***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

We also study the effect of busy directors with experience in innovative industries on corporate innovation. An industry is defined as an innovative industry if the average citation per patent for the industry is greater than the average citation count across all industries. We expect the benefits of having busy directors with experience in innovative industries will be greater than the benefits that will be brought in by busy directors without experience in innovative industries. Busy directors with experience in innovative industries can bring in valuable experience and expertise about innovation and provide better

advising for firms in the innovation process when unpredictable obstacles occur. The regression results are provided in Table 3 Panel B. The coefficients of the number of busy directors with experience in innovative industries are greater in magnitude than the corresponding coefficients of the number of busy directors without experience in innovative industries. The difference is statistically significant. The results show that the benefits of having busy directors with experience in innovative industries are greater because they can bring in valuable knowledge and experience and provide firms with better advising in innovation process.

One potential problem with the research design in the main result section is the existence of endogeneity. It is possible that certain characteristics of innovative firms attract busy directors that will blur the causality between busy directors and corporate innovation. To deal with the endogeneity concern, we adopt a two-stage least square regression technique with instrumental variables. Following Field et al. (2013), two instrumental variables are used: (1) the number of busy directors three years ago, and (2) the number of independent directors over 60 years of age. The regression results obtained using the instrumental variable approach are consistent with the main results reported above (results are available upon request). It provides robustness to our main regression results.

CONCLUSIONS

There are two competing views concerning busy board of directors. The “reputation view” argues that busy directors will be beneficial because busy directors are usually directors of high quality and they provide better advising because of their knowledge and experience accumulated with board appointments. The competing “busyness view” argues that busy directors will be detrimental to firm value because busy directors are ineffective monitors who may shirk their responsibilities because they are too busy with so many board appointments. Empirical evidence regarding these two views of busy directors is mixed. We argue and present evidence that the impact of busy directors on firm value and firm behavior also depends on firms’ characteristics, specifically firms’ needs of more advising versus monitoring. We argue that for firms that need more advising and less monitoring, the reputation view of busy directors will be dominant and busy directors will be beneficial.

Consistent with the argument, we find that busy directors are positively related to corporate innovation, because innovation requires more advising but less monitoring. Innovation projects are exploratory in nature which require multiple attempts and trials. During the process, advising is greatly needed to solve any problems or obstacles. However, extensive monitoring is not required because they may be detrimental to the innovation process. With extensive monitoring, managers may lack the flexibility and discretion to deal with the unexpected problems in the innovation process. Also managers may be discouraged to take innovation projects under intensive monitoring because they

are afraid they may be fired if the innovation projects fails. Our regression results provide evidence that busy directors are positively related to innovation as measured by the number of patent, the number of citations per patent, R&D over sales, and R&D over assets.

We also further study the experience of busy directors by examining the effect of busy directors with same industry experience. We find that the positive effect of busy directors with same industry experience is much greater and significant than the effect of busy directors without same industry experience. The results provide further evidence that the benefit of busy directors is derived from their experience and knowledge accumulated in the board appointment in the same industry.

Along the same arguments, busy directors with experience in innovative industries are expected to provide better advising for firms in the innovation process. Supporting evidences are provided in the paper. The positive effect of busy directors with experience in innovative industries on corporate innovation is greater than the corresponding effect of busy directors without experience in innovative industries.

Our paper highlights the beneficial effect of busy directors on corporate innovation. It suggests that policies restricting the number of directorships may not be ideal for innovative firms and may have unintended impact on corporate innovation.

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THE IMPACT OF SEX-RELATED HEALTHCARE MESSAGE FRAMING IN DIABETES MELLITUS TYPE 2 PREVENTION ON ATTITUDES AND INTENTIONS

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ABSTRACT: This study investigates the effect of message framing (gain-framed vs. loss-framed) on consumers' attitudes and intentions toward DM2 prevention. It focuses on messages that highlight *why*, rather than *how*, to prevent DM2 emphasizing sex-related complications. Furthermore, it samples people who have not yet developed diabetes, thereby examining the effect of message framing on DM2 prevention, rather than on DM2 complication prevention. It also takes potential gender differences into account when the messages target subjects' own versus the opposite gender. The results reveal that messages that highlight consequences of ignoring DM2 prevention (i.e., loss-framed messages) are more effective than messages that highlight advantages of preventing DM2 (i.e., gain-framed messages). Perceived fear was found to constitute the underlying reason for this relationship. The results reveal further a gender effect such that female vs. male consumers have more favorable attitudes and stronger DM2 prevention intentions than men. The findings of this study suggest that healthcare marketers use messages that focus on sex-related negative consequences and arouse some fear when promoting DM2 prevention.

Key Words: Diabetes Mellitus Type 2 (DM2) Prevention, Message Framing, Healthcare Marketing, Gender Effect

1. INTRODUCTION

Promoting a healthy lifestyle has long been a prominent goal among healthcare marketers. Therefore, healthcare marketers have examined how to effectively frame health-related messages to empower non-diseased consumers to prevent diseases, such as breast cancer, skin cancer, HIV, and cardiovascular diseases (Latimer et al. 2005). While prior research has investigated the effect of message framing on disease prevention in various disease contexts, mostly by adopting prospect theory (Kahneman and Tversky 1979), it has not examined yet the effect of message framing on Diabetes Mellitus Type 2 (DM2) prevention. This is surprising given that DM2 is the seventh leading cause of death in the U.S. and that it is highly preventable but still rising, even among young adults (ADA 2007; CDC 2013a; Gungor et al. 2005).

In addition, prior research on DM2 in general has primarily focused on consumers who have already developed diabetes and examined *how* to prevent or delay DM2 complications (e.g., heart disease, blindness, amputation) through

exercise and diet (Gungor et al. 2005). Therefore, healthcare marketers have used messages such as “exercise regularly” and “eat healthy” to promote healthy lifestyles and prevent diabetes (ADA 2013a; Jack et al. 1999; Nothwehr and Stump 2000; Persell et al. 2004). While such research has resulted in valuable findings, it neglects the fact that it is not easy for people to change their eating and exercising habits as this requires adjustments to their lifestyles (Ajzen and Manstead 2007; Dooley et al. 2010; Schwarzer 2008). In addition, it neglects the fact that DM2 is a highly preventive disease that can be avoided in the first place. Consequently, healthcare marketers have called for the investigation of alternative messages in the context of DM2 prevention and for a focus on non-diabetics (Gregg et al. 2007; Pearson 2007).

A highly successful smoking campaign in Australia and the U.K. provides insights into a possible alternative DM2 prevention message strategy. The campaign used messages that highlighted *why* it is important to stop smoking (e.g., erectile dysfunction; Chapman 2008; DOH 2005; Meyrick 2010) rather than *how* to stop smoking. Such messages were effective because (1) smokers were not aware of sexual implications due to smoking (Lam et al. 2006), and (2) most adults, including smokers, care about their attractiveness to the opposite sex (DOH 2005). The latter is particularly true when the symptom of erectile dysfunction might show in only a short period of time (rather than some time in the future) and the outcome is rather visible (versus invisible, such as cancer; Chapman 2008; Corona et al., 2004; DOH 2005). Given these insights, providing consumers with reasons *why* they should prevent DM2 in the first place – for example by mentioning advantages of DM2 prevention (gain-framed) or consequences of ignoring DM2 prevention (loss-framed) – using sex-related messages might prove an effective way to reduce the overall number of diabetics in the U.S. and the rapid increase of diabetes among the younger generations (Gungor et al. 2005; Powers et al. 2006).

Moreover, prior research in the DM2 prevention context has not yet examined whether message framing (e.g., gain-framed versus loss-framed) affects consumers’ attitude toward the message and their intentions toward DM2 prevention differently when the message is targeted toward their own gender (same-gender message) or their opposite gender (opposite-gender message). However, such an examination is important, as messages that highlight sexual dysfunctions (e.g., erectile dysfunction, complications during pregnancy) are often targeted toward either male or female consumers, but can be read by both genders. The fact that prior research has found that women and men process message information differently (Benyamini et al. 2000; Meyers-Levy and Sternthal 1991; Toll et al. 2008) further highlights the importance of examining gender differences in the current context.

Given these shortcomings and the insights from the Australian and U.K. smoking cessation campaign, this research aims to examine the effect of message framing on non-diabetics’ evaluation of sex-related DM2 prevention messages and their intentions toward DM2 prevention when the messages are targeted toward their own and their opposite gender. By doing so, we contribute to the existing literature in that we (1) investigate for the first time the effect of message framing

(gain, positive: advantages of preventing DM2 vs. loss, negative: consequences of ignoring DM2 prevention) on consumers' attitude toward the message and their intentions to prevent DM2; (2) focus on consumers who have not yet developed diabetes thereby examining the effect of message framing on DM2 prevention, rather than on DM2 complication prevention; (3) examine the effect of messages that highlight *why*, rather than *how*, to prevent DM2 from developing and emphasize highly relevant and personal consequences (i.e., sexual dysfunction); and (4) examine whether a message that is framed in terms of advantages of preventing DM2 versus consequences of ignoring DM2 prevention affects both genders differently when the message targets their own versus the opposite gender.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Message Framing in the Healthcare Context: Message framing has been adopted in the healthcare context to better understand consumers' preference for health-related messages (Daryanto et al. 2010). The ultimate goal is to find ways to empower consumers in their health-related decision-making processes. The theory that has been applied most widely to examine message framing in the healthcare context is Prospect Theory (Jones 2007; Kim 2006; Latimer et al. 2007; O'Keefe and Jensen 2007). Prospect theory explains how people make decisions under risk or uncertainty (Kahneman and Tversky 1979; Tversky and Kahneman 1981, 2004). The underlying concept of the theory is that people's decision-making is due to values, which are assigned to gains or losses rather than absolute numbers or assets, and probabilities, which are replaced by decision weights. Any individual sets a reference point based on for example the current monetary wealth. Relative decrements are considered losses while relative increments are considered gains (Treadwell and Lenert 1999). The value function is S-shaped and represents a convex curve for losses and a concave curve for gains. This curve is usually steeper for losses than for gains.

Research on message framing in the healthcare context can be divided into research focused on disease detection and research focused on disease prevention. Prior research on disease *detection* has found that a loss-framed message (e.g., "not using sunscreen causes skin cancer") is generally more effective than a gain-framed message (e.g., Abood et al. 2002; Block and Kellter 1995; Salovey and Williams-Piehota 2004; Zimmermann et al. 2000). Researchers argue that this outcome is due to the relatively high-perceived uncertainty and psychological risk involved in disease detection (Apanovitch et al. 2003; Banks et al. 1995). In contrast, prior research on disease *prevention* has predominantly found that people prefer gain-framed ("using sunscreen helps prevent skin cancer") versus loss-framed messages (see Apanovitch et al. 2003; Banks et al. 1995; Detweiler et al. 1999, Maheswaran and Meyers-Levy 1990; Tsai and Tsai 2006). The reason for this is that *prevention* behavior involves relatively little psychological risks and perceived uncertainty, and is usually considered a safe and risk averse choice (Salovey and William-Piehota 2004; see also O'Keefe and Jensen 2007 for their meta analysis).

However, prior research in both contexts has shown that findings are not always in line with predictions based on prospect theory due to possible complexity regarding health-related issues (Abhyankar et al. 2008; Gerend et al. 2008; O'Connor et al. 2005; Tsai and Tsai 2006). In fact, while the context of the current research is disease prevention, sex-related messages as used in this current research are expected to cause psychological risk and perceived uncertainty and might therefore be more in line with the findings of the disease detection literature.

2.2 The Effect of Message Framing on Attitudes and Intentions toward DM2 Prevention: The focus of this research is on disease prevention, more specifically on Diabetes Mellitus Type 2 (DM2) prevention using sex-related messages. The question arises how sex-related messages that emphasize either salient advantages of preventing DM2 (gains; e.g., normal sex life, healthy pregnancy) or consequences of ignoring DM2 prevention (losses; e.g., erectile dysfunction, complications during pregnancy) affect people's attitudes toward the message and their intentions to prevent DM2.

Consistent with prior research, it is possible that people form more favorable attitudes toward a message and toward preventing a certain disease when the message is framed in terms of gains versus losses (e.g., Detweiler et al. 1999; Salovey and Williams-Piehota 2004; Scott and Curbow 2006). However, the opposite is also possible in the context of DM2 prevention using sex-related messages. Because sex-related messages are likely to be perceived as highly relevant and not too distant from people's personal lives, it is possible that loss-framed messages are more successful than gain-framed messages in the current context. The psychological risk involved with sex-related messages (e.g., erectile dysfunction) might be so significant to cause people to favor loss-framed message over gain-framed messages. This is in line with research that has found that loss-framed messages are more favorable in the healthcare context in general (e.g., Abhyankar et al. 2008; Gerend et al. 2008).

As prior healthcare (e.g., Apanovitch et al. 2003; Detweiler et al. 1999) and marketing (e.g., Barone et al. 2000) research has found a direct relationship between message, attitude, and intentions (e.g., Detweiler et al. 1999), it is likely that a message that emphasizes consequences of preventing DM2 will elicit greater intentions to prevent DM2 than a message that emphasizes advantages of ignoring DM2 prevention. Hence, we predict the following main effect for message type (H1):

H1: When the message highlights consequences of DM2 prevention vs. advantages of ignoring DM2 prevention, subjects of both genders will show (a) more favorable *attitudes* toward the message and (b) stronger *intentions* toward DM2 prevention.

Prior research has further found that fear affects people's attitudes and intentions (see e.g., Pechmann et al. 2003; Plotnikoff and Higginbotham 2002; Tanner et al. 1989). Moreover, prior research has found that a negatively framed message that highlights negative consequences generates fear (Tanner et al. 1989).

Given these results, it is possible that a loss-framed message is more successful than a gain-framed message in the DM2 prevention context when sex-related messages are used because it generates greater fear than a gain-framed message. In return, greater fear in the loss-framed condition might result in more favorable attitudes and greater intentions. Consequently, it might be possible that fear *mediates* the relationship between message type and subjects' attitudes toward the message about DM2 prevention and their intentions to prevent DM2 from developing in the first place.

H2: Perceived fear mediates (a) the relationship between message type and subjects' attitudes toward the DM2 prevention message and (b) the relationship between message type and subjects' intentions to prevent DM2.

2.3 The Effect of Same-Gender and Cross-Genera Message Framing on Attitudes and Intentions toward DM2 Prevention: Gender has long been used as a potential segmentation variable to identify groups that are similar regarding their attitudes and purchase intentions (Armstrong and Kotler 2013). It is not surprising, therefore, that prior research has acknowledged that gender differences exist regarding people's attitudes and intentions (e.g., Darley and Smith 1995; Putrevu 2002, 2004). Just as gender differences are important for marketing managers to properly segment a market, so might gender differences be important when promoting health-related messages that focus on sexual dysfunctions.

Prior research has often examined general effects of message framing on people's attitudes toward health-related behavior without discussing gender differences. The reason for this is that prior research has mostly used messages that are gender-neutral (i.e., using sunscreen against skin cancer; Abood et al. 2002; O'Connor et al. 2005). In the current research context, however, we expect gender differences such that female participants will evaluate more favorably and show greater DM2 prevention intentions than male participants, irrespective of the message type. The reason for this is that throughout evolution women have become significantly more sensitive towards protecting themselves and their loved ones (particularly against illness) than men, making them more likely to appreciate all types of information (i.e., advantages of DM2 prevention and consequences or disadvantages of ignoring DM2 prevention) whether targeted toward their own gender or the opposite gender (Gutiérrez, Oh, and Gillmore 2000; O'Connor et al. 2005). This in turn is likely to result in more favorable attitudes and greater intentions toward DM2 prevention when exposed to both same-gender message types (Wingood and DiClemente 2000). Consequently, their greater sensitivity will results in female subjects being more reactive to a same-gender message than men subjects.

H3: When the message targets their own gender, female vs. male subjects will show (a) more favorable *attitudes* towards both message types and (b) stronger *intentions* toward DM2 prevention for both message types.

Regarding messages that are targeted toward one gender but read by the opposite gender (i.e., cross-gender message; for example, a message that highlights pregnancy complications is targeted toward women but might be read by men as well), it is helpful to understand that women and men differ from each other in terms of how they process messages (Darley and Smith 1995). Men tend to use *selective judgment* (i.e., they use heuristic cues as surrogates for more detailed processing) and scrutinize the information that is only relevant to them. On the other hand, women tend to use *comprehensive judgment* (i.e., holistic, more thorough attribute-by-attribute processing) and use all available information as a basis for judgment that is relevant not only to them and but also to others (e.g., Meyers-Levy 1988a, 1988b; Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991; Putrevu 2002). Similar results were found in the cause-related marketing context where men (women) evaluated advertisements that communicated “help-yourself” (“help-others”) more favorably (Brunel and Nelson 2000). Collectively, these findings suggest that women are likely to evaluate cross-gender messages more favorably than men due to their more comprehensive and holistic way of looking at the world, irrespective of whether the message highlights advantages of preventing DM2 or consequences of ignoring DM2 prevention.

Regarding possible gender-differences for cross-gender conditions for intentions to prevent DM2, Ho (1998) examined social risk to predict health behavior. Social risk describes the social pressure that people experience and includes perceived severity and vulnerability of social disapproval. Ho (1998) and Pechmann et al. (2003) emphasize that social risk perceptions have the potential to motivate people and increase people’s intentions toward preventive behavior. The reason for this is that people tend to avoid social risk to maintain social approval from others including friends and family. Staying externally and internally attractive for the opposite gender and maintaining conflict-free relationships with others matters (Pechman et al. 2003). Consequently, it seems likely that people care about messages that are targeted toward the opposite gender and hence form intentions to prevent a certain disease. Given that gender differences exist with regard to message processing (Darley and Smith 1995), it seems likely that women are more sensitive to social risk than men, resulting in greater intentions to prevent DM2 when exposed to a cross-gender message.

Further support for this reasoning can be found in prior literature highlighting that women are more empathetic than men. For example, Eisenberg and Lennon (1983) found that men usually maintain an instrumental role (e.g., serve as a liaison between family and society), while women maintain an excessive role (e.g., facilitate interpersonal harmony within the family unit). Eisenberg and Lennon (1983) suggest that due to the roles that women have developed in a family context, they have become more nurturing, sympathetic, empathic, and caring for others to fulfill their role functions. Umberson’s (1992) findings also support this view. The author points out that married women versus men are more likely to control others’ (their husbands’) health and feel more responsible about the health of others. As a result, it is possible that women pay more attention to and formulate

greater intentions toward DM2 prevention when exposed to a cross-gender message.

H4: When the message targets the opposite gender, female vs. male subject will show (a) more favorable *attitudes* towards both message types and (b) stronger *intentions* toward DM2 prevention for both message types.

3. METHOD

3.1 Study Design: A 2 x 2 x 2 between-subjects factorial design was employed to test the hypotheses, with type of message framing (message type: gain-framed/ advantages of preventing DM2 vs. loss-framed/ consequences of ignoring DM2 prevention) and message gender (female vs. male) as the two between-subjects factors and target gender (female vs. male) as the individual difference variable. The message for female subjects highlighted healthy pregnancy versus pregnancy complications and the message for male subjects highlighted normal sex function versus sexual dysfunction (i.e., erectile dysfunction). Each of these four conditions was formulated for both female and male subjects as the target gender, resulting in a total of eight conditions. Subjects were randomly assigned to one of these eight conditions.

3.2 Stimuli: The stimuli were simulated messages. Sources published by the American Diabetes Association [ADA] (2007, 2008, 2013a, 2013b), the Center for Disease Control and Prevention [CDC] (2005, 2012, 2013b, 2013c), and National Diabetes Care Program (2009) were summarized to fit the focus of this research. These summaries constituted the content for the message manipulations. Each message started with an eye catcher (“Did you know that there is no cure for Diabetes? That’s why it is so important to prevent it in the first place!”), followed by one rhetorical question and three sentences that provided information about advantages to prevent DM2 or consequences of ignoring DM2 prevention. The respective rhetorical question and accompanying sentences constituted the message manipulations. They were identical across conditions except for the respective manipulations.

3.3 Measurements: Two dependent variables (attitudes and intentions) and seven independent variables (level of fear, perceived severity, perceived susceptibility, perceived susceptibility of social disapproval risk, response efficacy, and self efficacy) were adopted from prior research (Ajzen 2006; Block and Keller 1995; Greening 1997; Helmes 2004; Maheswaran and Meyers-Levy 1990; Martin et al. 2007; Pechman et al. 2003; Qin and Brown 2007; Shiv et al. 1997). Attitude toward the message was assessed with three items (very unfavorable/very favorable, not at all important/extremely important, not at all persuasive/very persuasive) on a 7-point scale ($\alpha = .85$). Intention toward DM2 prevention was assessed by means of two items (how would you rate your intention, starting now, to prevent diabetes from developing? To what extent did the message that you just read motivate you, starting now, to prevent diabetes from developing?) on a 7-point scale (1=not at

all/very unlikely; 7=very much so/very likely; $\alpha = .85$). All of the independent variables were adopted straight from prior research. The Cronbach Alpha Coefficient for all independent measures was above the suggested minimum of .75. Finally, to control if subjects perceived the messages as desired, we included two manipulation checks using 7-point Likert scales.

3.4 Procedure: Subjects first received a consent form emphasizing confidentiality and the importance of honest and sincere responses. Subjects were informed that participation was voluntary and that they could stop at any time. Next, subjects went through the questionnaire at their own pace. The questionnaire contained two booklets. The first booklet provided the message stimuli/ manipulations and related dependent and independent variables. The second booklet asked for demographic information and potential moderating and mediating variables. The survey took approximately 10 minutes to complete.

3.5 Sample: Subjects for the pre-test and the main study were recruited from a major university in the western U.S. Fifty-eight students participated in the pre-test. Their average age was 21 ($SD = 3.0$), 57% were female, and 98% were single. Two hundred sixty four (264) students participated in the main study, of which the average age was 21 ($SD = 2.7$), 56% were female, and 97% were single. Other demographic questions were included in the main study, such as whether subjects (1) have a significant other (Yes = 46.6 %), (2) have immediate family members who have been diagnosed with diabetes (Yes = 27.3%), (3) know somebody outside their family who has DM2 (Yes = 40.9%), (4) have ever been diagnosed with diabetes (Yes = 1.5%), (5) want to have their own children in the future (Yes = 89.8%), and (6) their Body Mass Index, if available.

4. RESULTS

4.1. Pre-Test: A pre-test was conducted to ensure that the manipulations of the messages were perceived as expected. Both manipulation checks revealed that subjects perceived the message content as expected. Most importantly, mean comparisons revealed that subjects who received the message that highlighted advantages of preventing diabetes ($N=30$; $M=2.7$) and the message that highlighted consequences of ignoring diabetes prevention ($N=28$; $M=5.9$) understood their respective messages as intended ($t(56)=-6.7$, $p < .01$; message type manipulation check). In addition, subjects agreed significantly more with the statement that was consistent with their message than with the statement that was inconsistent with their message (message gender manipulation check; all comparisons $p < .05$; second manipulation check).

4.2. Main Study: The message type manipulations and message gender manipulations were perceived in the desired directions (all mean comparisons were $p < .01$). To test the hypotheses, we conducted 2 (message type: gain-framed vs. loss-framed) x 2 (gender: female vs. male) between-subjects Analyses of Variance

(ANOVAs). H1 predicted a message main effect for subjects' attitudes and intentions. As expected, the analysis revealed a significant main effect for message type on subjects' attitude ($M_{\text{Gain-Framed}} = 5.03$, $M_{\text{Loss-Framed}} = 5.41$; $F(1, 260) = 5.81$, $p < .05$) and intention ($M_{\text{Gain-Framed}} = 4.57$, $M_{\text{Loss-Framed}} = 4.97$; $F(1, 260) = 4.42$, $p < .05$). An observation of the mean scores indicated that subjects of both genders evaluated more favorably the message that highlighted *consequences of ignoring DM2 prevention* than *advantages of preventing DM2* (Attitude: Female: $M_{\text{Gain-Framed}} = 5.18$, $M_{\text{Loss-Framed}} = 5.45$; Male: $M_{\text{Gain-Framed}} = 4.82$, $M_{\text{Loss-Framed}} = 5.35$; Intention: Female: $M_{\text{Gain-Framed}} = 4.69$, $M_{\text{Loss-Framed}} = 5.23$; Male: $M_{\text{Gain-Framed}} = 4.40$, $M_{\text{Loss-Framed}} = 4.64$; all $p < .05$). Consequently, H1a and H1b were supported.

H2 predicted that fear moderates the relationship between message type and outcome variables. To test the possibility that fear constitutes a mediating variable, a series of regression analyses were conducted separately for both dependent variables (Baron and Kenny 1986). A significant relationship between the antecedent variable, message type, and the outcome variable, attitude/ intention, was found ($p < .05$). The regressions of message type on the mediator (fear) and of the mediator on attitude/ intention were also significant (both $p < .05$). However, when message type and fear were simultaneously regressed on attitude/intention, the message type coefficient was no longer significant while the coefficient of fear remained significant (see Table 1). Therefore, the results provide evidence of a full mediation effect for both dependent variables: attitude and intentions. Hence, H2a and H2b were supported.

Table 1: Mediation Analysis Results (H2)

Model	Variable	Unstandardized β	p
<i>Hypothesis 2a:</i>			
MT* \rightarrow Attitude toward message	MT	.38	<.05
MT \rightarrow Fear	MT	.53	<.05
Fear \rightarrow Attitude	Fear	.20	<.05
MT \rightarrow Fear \rightarrow Attitude toward message	Fear	.19	<.05
	MT	.29	>.05
<i>Hypothesis 2b:</i>			
MT* \rightarrow Intention toward DM2 prevention	MT	.40	<.05
MT \rightarrow Fear	MT	.53	<.05
Fear \rightarrow Intention toward DM2 prevention	Fear	.27	<.05
MT \rightarrow Fear \rightarrow Intention toward DM2 prevention	Fear	.26	<.05
	MT	.29	>.05

*MT = Message Type (Consequences of Ignoring DM2 prevention vs. Advantages of DM2 prevention)

H3 predicted that there is a gender effect for both dependent variables for the *same-gender message conditions*. The between-subjects ANOVA for only the same-gender conditions showed that there was a significant gender effect for both attitude ($M_{\text{Female}} = 5.61$ vs. $M_{\text{Male}} = 5.02$; $F(1, 128) = 7.34$, $p < .01$) and intention

($M_{\text{Female}} = 5.23$ vs. $M_{\text{Male}} = 4.78$, $F(1,128) = 3.36$, $p < .01$). Post hoc mean comparisons indicated that female subjects evaluated the message that highlighted *consequences of ignoring DM2 prevention* (Attitude: $M_{\text{Female}} = 5.78$ vs. $M_{\text{Male}} = 5.22$; $t(64) = 1.858$, $p < .05$; Intention: $M_{\text{Female}} = 5.35$ vs. $M_{\text{Male}} = 4.70$; $t(64) = 1.818$, $p < .05$) and *advantages of DM2 prevention* (Attitude: $M_{\text{Female}} = 5.45$ vs. $M_{\text{Male}} = 4.80$; $t(64) = 1.974$, $p < .05$; Intention: $M_{\text{Female}} = 5.13$ vs. $M_{\text{Male}} = 4.87$; n.s.) significantly more positively than male participants (tests are all one-tailed). Overall, the data supported H3a and H3b.

Finally, H4 predicted a main effect for gender (female vs. male) for both attitude and intention for subjects' *opposite-gender message* conditions. The between-subjects ANOVAs revealed that there was no gender main effect on subjects' attitude toward the message ($M_{\text{Female}} = 5.01$ vs. $M_{\text{Male}} = 5.16$) and intention toward DM2 prevention ($M_{\text{Female}} = 4.68$ vs. $M_{\text{Male}} = 4.27$). However, when controlling for relevancy of the issue of DM2 prevention, a significant gender effect was observed ($F(1, 127) = 4.32$, $p < .05$) for the intention dependent variable. Mean comparisons revealed that female (vs. male) subjects elicited significantly greater intentions toward DM2 prevention when they were exposed to the cross-gender message that highlighted consequences of ignoring DM2 prevention (i.e., loss-framed cross-gender message: $M_{\text{Female}} = 5.13$ vs. $M_{\text{Male}} = 4.57$, $t(62) = 1.704$, $p < .05$, one-tailed). The results were the same when ANCOVAs were conducted with relevancy of the issue of DM2 prevention as a control variable. Overall, only H4b was supported for the loss-framed cross-gender condition.

5. DISCUSSION, MANAGERIAL IMPLICATIONS, AND LIMITATIONS

The findings reveal that loss-framed messages in the DM2 prevention context using sex-related messages are more successful than gain-framed messages. These findings are interesting as they are more in line with the disease detection literature than the disease prevention literature (e.g., Abood et al. 2002). A possible explanation might be that sex-related DM2 prevention messages – as used in this current research (e.g., erectile dysfunction) – cause psychological risk and perceived uncertainty, something that was more associated with disease detection scenarios (Salovey and Williams-Piehot 2004). The finding that fear mediated the relationship between message type and attitude/intentions supports this notion. However, research might want to examine this in greater detail in the future.

The findings reveal further that female vs. male subjects showed greater attitudes and DM2 prevention intentions towards DM2 prevention messages that were targeted toward their own gender. For DM2 prevention messages that targeted the opposite gender, however, the findings were not as clear, in particular for the attitude measure. Therefore, it is possible female and male subjects are more sensitive to message content that is addressed to their own versus the opposite gender. This reasoning is in line with research that suggests that people evaluate messages more favorably or show more favorable purchase intentions when their

involvement is higher (Becker, McMahan, Etnier et al. 2002; Bian and Mountinho 2008; Um 2008). Given a same-gender versus opposite-gender message, it is plausible that subjects exposed to a same-gender message are more involved than participants exposed to an opposite-gender message. Future research might want to look into this in greater detail.

The findings of the current study provide valuable implications for healthcare professionals. First, the finding that subjects expressed more favorable attitudes and showed greater intentions to DM2 prevention when exposed to a loss-framed prevention message (i.e., negative consequences) than a gain-framed prevention message (i.e., advantages) suggests that there is not one prevention communication approach that fits all prevention contexts (as previous research has mostly shown that the opposite is true). Therefore, healthcare professionals should carefully test their DM2 prevention messages prior to running their campaign to ensure that the framing of their prevention messages results in the most effective outcome. Specifically, healthcare professionals need to understand that, under certain conditions (e.g., if the message highlights sex-related consequences and if reasons are provided *why* disease prevention is important), it might be more beneficial to frame their DM2 prevention messages by highlighting negative consequences. Similarly, it is important for healthcare professionals and marketers to understand the conditions (e.g., if the message highlights non-sex-related consequences and if guidelines are provided that highlight *how* to prevent a disease) under which it might be more beneficial to frame their prevention messages in terms of gains.

Second, the findings also reveal – for the same-gender conditions – that female participants showed more favorable attitudes toward the prevention message and elicited greater intentions toward DM2 prevention than male participants, irrespective of the message type used (i.e., gain-framed vs. loss-framed message). This finding suggests that it might be important for healthcare professionals to identify the target audience of the prevention messages (gender segmentation) and develop strategies and formulate such messages for this identified target audience instead of relying on less effective disease prevention campaigns that are based on a mass marketing approach. That is, the female segment should be targeted with a message that highlights female-related consequences. Similarly, the male segment should be targeted with a message that highlights male-related consequences. In addition, the gender differences found in the same-gender message conditions suggest that healthcare marketers should carefully identify the proper media (e.g., TV, magazines) when promoting disease prevention messages to reach the female and male population, respectively, because female consumers consume different media than male consumers.

Finally, the findings show no gender differences for DM2 prevention messages that were targeted toward the other gender (opposite-gender message) for the attitude outcome measure (and for the intention outcome variable only after controlling for potential confounding variables). This finding might suggest for situations where there exist opposite-gender messages that healthcare marketers might want to consider using a more cost-effective mass marketing approach (i.e.,

no distinction between different market segments) for their DM2 prevention campaign.

In addition to the usual caveats associated with the selection of student subjects and experimental conditions, this study has several limitations that call for further investigations. First, regarding the *content* of the DM2 prevention message, this study focused only on messages that highlighted sex-related issues for DM2 prevention, targeting female and male consumers. We found that fear arousal due to negative consequences (e.g., pregnancy complications) resulted in more favorable attitudes and greater intentions. Future research should be conducted to examine whether the findings from this research hold true if the DM2 prevention message highlighted heart attack, blindness, or amputation as the disease consequences. In addition, further analysis should also investigate the combined effect of sex-related issues and other consequences such as heart attack.

Second, regarding the *method* of communicating the DM2 prevention messages, this study focused on the prevention message alone without the use of an endorser. It would be interesting to examine whether the results hold true if a (physician) endorser is used to promote DM2 prevention (Carcaise-Edinboro et al. 2008). Similarly, it is important to examine the effect of a non-celebrity endorser on people's attitudes and intentions (LifeScan, Inc. 2009, 2013). The use of an everyday person (i.e., a non-celebrity endorser) seems to increase the realness of the issue at hand.

Third, regarding the *medium* used to communicate the DM2 prevention message, this study limited its investigation to a written (i.e., text-based) message. Since DM2 prevention messages, or disease prevention messages in general, can be promoted with different media (e.g., TV, Internet, radio, brochures) and in different formats (e.g., text-based message only, picture(s) only, oral message (narrations) only, any combination of several formats), more research is necessary to examine the effectiveness of the DM2 prevention messages developed in this study when a different medium and format is used.

Finally, this study used attitudes toward the prevention message and intentions toward DM2 prevention as the dependent variables. Investigating people's intentions and attitudes helps understand the short-term effects of message framing. While such short-term effects constitute good predictors for future behavior (Smith and Berger 1998; Tulloch, Reida, D'Angelo et al. 2009), more research is necessary that investigates subjects' *actual behavior* (i.e., whether they intent to prevent DM2 and whether they actually engage in behavior that helps them prevent DM2). Therefore, future research should conduct longitudinal studies that track subjects' attitudes and intentions as well as their actual behavior. Such studies will provide insights into the short-term and long-term effects of the prevention messages.

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MIND MAPPING AS A TOOL TO IMPROVE AUDIT EDUCATION

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ABSTRACT: The use of mind maps to capture ideas and structure information about topics has been the subject of a great deal of interest in recent years. The techniques involved in mind mapping are detailed in works by Tony Buzan, who is credited with creating the concept of mind mapping. Mind mapping involves the placement of an image in the center of a map, with branches representing main ideas connected to the central image. Key words or phrases are associated with the branches, leading to a detailed pictorial representation of the important concepts surrounding the topic being mapped. Recent research has shown that the use of mind maps increases undergraduate student satisfaction with learning, and earlier studies have shown that mind maps can improve student satisfaction and learning in certain accounting contexts. This presentation offers an overview of the concept of mind mapping and the specifics of its implementation in teaching an introductory auditing course, and outlines an approach designed to improve student learning satisfaction and achievement with regard to the major topics covered. The concept is, however, applicable to any accounting course, whether undergraduate or graduate. Student feedback on the efficacy of the approach is also provided.

Key Words: Mind mapping, mind manager, audit course

INTRODUCTION

The use of mind maps as a means of capturing ideas and structuring information about topics has been the subject of a great deal of interest in recent years (Nesbit and Adesope, 2006, offers a summary). The techniques involved in mind mapping are detailed in works by Tony Buzan, who is credited with creating the concept of mind mapping (Buzan and Buzan, 2010, Buzan and Griffiths, 2010, Buzan, Griffiths and Harrison, 2012). Mind mapping involves the placement of an image in the center of a map, with branches representing main ideas connected to the central image. Key words or phrases are associated with the branches, leading to a detailed pictorial representation of the important concepts surrounding the topic being mapped. Recent research has shown that the use of mind maps

increases undergraduate student satisfaction with learning (e.g., Jones et al., 2012), and earlier studies have shown that mind maps can improve student satisfaction and learning in certain accounting contexts (Maas and Leauby, 2005; Chiou, 2008).

This paper offers an overview of the concept of mind mapping and the specifics of its implementation in an introductory upper-level auditing class. It then provides several examples of how to use the concept in this setting, and outlines an approach designed to improve student learning satisfaction and achievement with regard to the major topics covered in the introductory undergraduate auditing course. This involves a combination of instructor-provided maps and individually-generated student maps. Student evaluation data on the usefulness of mind mapping in improving audit education are also presented.

MIND MAPPING

As noted previously, a mind map involves placing an idea or theme at the center of a drawing. Multiple branches are then connected to the central image, and each of these branches can have sub-branches of its own. The central image is the focal point of the concept being mapped, with each successive layer of branch providing information on subtopics and how they relate to the central image. Sub-branches provide additional detail about the branch to which they relate. The use of multiple colors and artistic creativity is strongly encouraged. A generic example of this is provided in Exhibit 1 below. The use of mind maps has been found to increase conceptual understanding and practical learning over conventional study techniques (Abi-el-Mona and Adb-El-Khalick, 2008). Similar findings were also obtained by Budd (2004), Goodnough and Long (2002). and Nada et. al (2009). Commonly available books presenting and summarizing the area include Buzan and Buzan (2010), Buzan and Griffiths (2010), Buzan, Grffiths and Randall (2012), Randall (2012), and Rustler (2012).

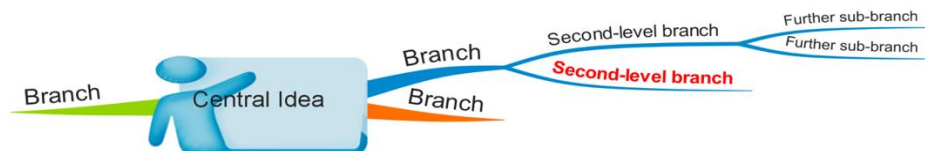


Exhibit 1: Generic Example of a Mind Map

USE IN AUDITING COURSE

Students in an undergraduate auditing course were distributed weekly summary copies of mind maps outlining the topical content of each chapter covered in the course. An example is provided in Exhibit 2. Students were encouraged to use the maps to literally ‘see the whole picture’ of what was being covered in a given chapter. The importance of the mind maps were underscored by its being projected onto a screen and referred to as coverage of each chapter progresses. These mind maps were prepared using software called iMindMap, though there are other commercially available options (e.g., MindManager, X Mind), and freeware options exist as well. Another possibility for those so inclined is to draw the mind maps freehand on a sheet of, with colored markers. This option was not chosen for the summary maps distributed to students because the software-generated maps look far more professional (and legible).

As part of their course homework assignments, students were required to generate mind maps of their own for each chapter covered. The intent was not for their map to mirror the one already generated by the instructor, but rather to take a first-order branch from the summary chapter map and then ‘drill that down’ to a finer level of detail. The summary maps distributed for each chapter were very general and in higher-level outline form, as seen in Exhibit 2. The assignments gave the students an opportunity to think about the material in a visual, spatial manner, one quite different from the ordinary, linear note-taking approach so common to college and university students (and particularly accounting majors).

There was generally a high degree of student satisfaction with the use of mind maps in the introductory auditing course (see numerical summary in Table 3), with the majority of students choosing to draw the mind maps freehand with markers or colored pens, while others were more proactive and downloaded mind-mapping software to develop their maps. Interestingly, although student satisfaction generally ranged around 70% for most of the questions, slightly fewer than half of the students planned to use mind mapping in other courses. It may well be that many students are unwilling to engage in course-related activities that are not required by the instructor. Table 1 summarizes results of a survey on student learning using mind mapping.

Exhibit 2: Sample of Mind Map Given to Auditing Students

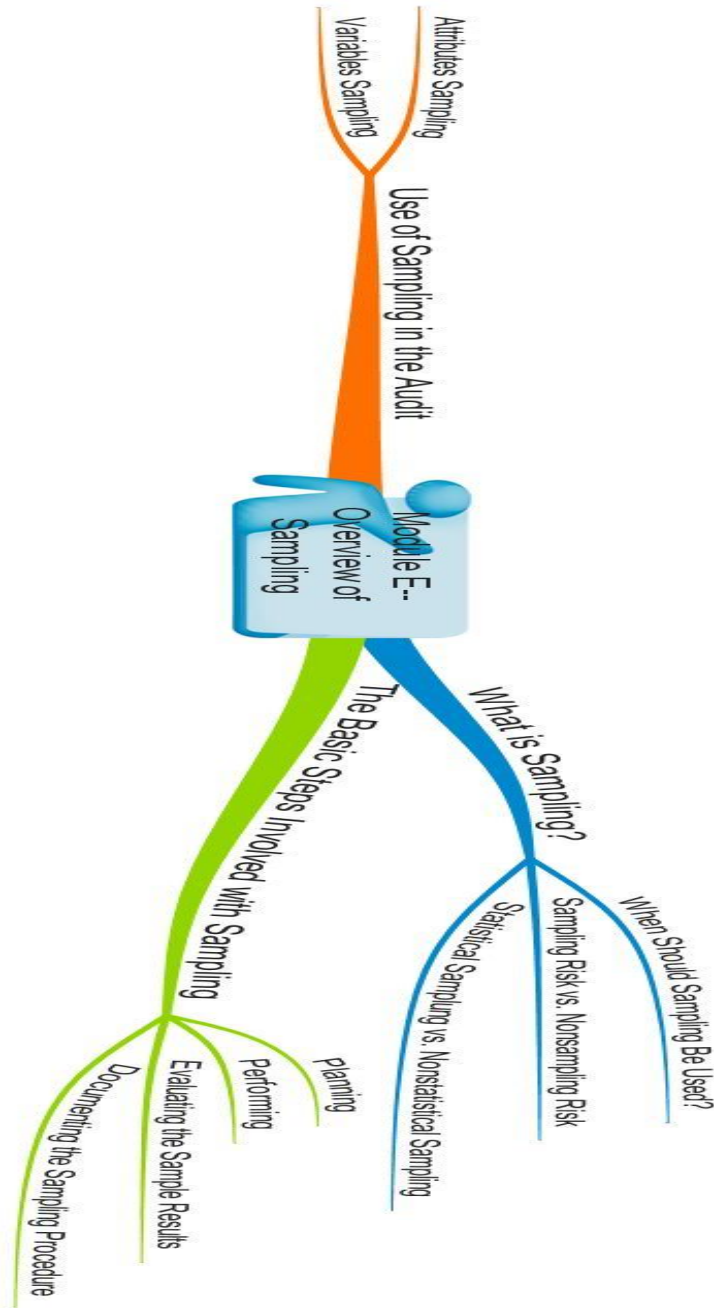


TABLE 1

STUDENT LEARNING RESPONSES (N=29)

Question	# Yes	%Yes
1) Mind mapping helped me to learn auditing.	20	69%
2) Mind mapping helped me to integrate and clarify the interrelationships among course materials.	22	76%
3) Mind mapping as a strategy stimulated me to learn and think independently.	19	66%
4) Mind mapping helped me reduce the barriers and enhanced my interest in learning auditing.	18	62%
5) Mind mapping can be a new accounting and auditing teaching and learning approach	22	76%
6) I think that mind mapping can easily be used in other courses.	21	72%
7) I will consider using the mind mapping learning strategy in other courses.	14	48%
8) I was satisfied using mind mapping in auditing.	21	72%
9) I liked using mind mapping to assist me in learning auditing.	20	69%
10) I found it easier to create mind maps as I gained practice with making them.	25	86%

SUMMARY AND CONCLUSION

On balance, the use of mind mapping appears to be an additional tool in the kit of an audit instructor. Preparation of the summary map for each textbook chapter helped to more effectively organize lecture material and contents. Student satisfaction on all questions showed that a strong majority of the students felt that viewing and preparing the maps increased their understanding of course material. While mind mapping may not be as useful for more procedural courses such as intermediate financial accounting, it did serve well in the introductory audit course.

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UNDERSTANDING BUSINESS CONCEPTS THROUGH APPLICATION: THE PEDAGOGY OF COMMUNITY- ENGAGED LEARNING

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Abstract: Business management is a set of skills that are developed and honed through experience. To develop these skills, educators use several different pedagogical tools to augment lectures in the classroom. These activities are meant to replicate real-life business situations to let students apply the theories they learned in class to solve business problems presented. This paper explores and analyzes community engaged learning as a teaching method to facilitate student learning and understanding of business concepts through application of the lessons learned in the classroom to address real problems in the community. The research intends to investigate how community engaged learning can foster experiential learning and also to identify critical elements that need to be considered when integrating community engaged learning into business courses.

Key Words: Community Engaged Learning, Curriculum Design, Business Courses

INTRODUCTION

Management is an applied field and it has been established that knowledge acquisition is best done by doing and learning. Business management is a skill that is developed and honed through experience and the key to understanding business concepts is through effective applications of theories in real-life situations. Community engaged learning (CEL) is a partnership between academic programs, students, faculty with community organizations (Community Engagement Collaborative, 2012) that aims to enhance student learning by engaging them in addressing key community issues. This mode of experiential learning can be integrated within many types of disciplines.

In recent years, CEL has slowly become an accepted pedagogy as more and more stakeholders in the society call for academic institutions to engage in the real world beyond the campus boundaries. At San Jose State University, community engaged learning as a teaching method is commonly used in the social sciences, education,

humanities, engineering and even health-related courses as seen in the programs offered (SJSU Community Engagement Programs/Projects, 2012). However, community engaged learning has yet to find a wider acceptance within the business courses. The purpose of this research is to create awareness for, and establish community engaged learning as an effective supplemental teaching method for understanding the application of business concepts and theories within the context of the community setting.

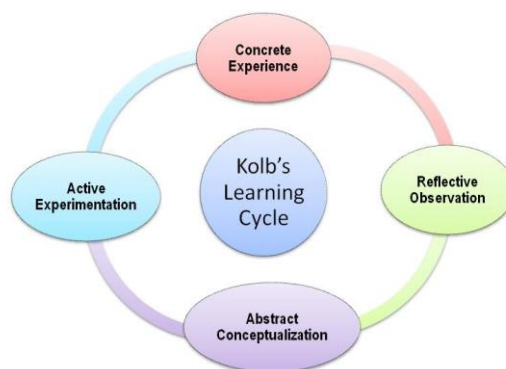
REVIEW OF LITERATURE

Experiential learning activities are perceived to be educational and engaging. It provides an opportunity for students to get immersed within a given environment and directs the participants to “learn-by-doing”. There are several publications over the past decades asserting the effectiveness of experiential learning (Kolb & Kolb, 2005; Kenworthy-U’Ren, 2008; Harrison and Knight, 2015; Ritchie and McCorriston, 2015). and some of the most commonly cited advantages of this learning method include (Devasagayam et al, 2012; Clark, 2017):

- Helping students understand the value of teamwork
- Honing students’ strategic planning and critical thinking skills
- Aiding educators teach “real-life” analytical techniques
- Encouraging active learning and participation
- Helping students live and experience the theories and concepts that they learn in class

David Kolb’s (1984) theory on experiential learning suggests that effective learning takes place when the learner is able to complete a cycle of concrete experience, reflective observation, abstract conceptualization and active experimentation (Fig. 1).

Figure 1: Kolb's Learning Model (1984)



Business is one of the more popular fields of study in higher education. Past studies have highlighted the narrowness and the indifference of the business school curriculum to the external environment of business (Rishi, 2007) because the inordinate emphasis on learning and mastering business management theories and concepts at the expense of the practical application of these knowledge and skills. The result are groups of business graduates who do not have an idea on how to practically apply concepts they have learned while in school (Ayers, *et al.*, 2010). This presents a dilemma to business students, educators and administrators, as well as the employers of business graduates who are interested in hiring students that possess “analytical, problem-solving and evaluative skills” (Brzovic & Matz, 2009).

Community engaged Learning (CEL) is a form of experiential learning of which the practice can be traced back to several precursor activities including the “action research model” initially promoted by Kurt Lewin in the 1940s (Dallimore *et al.*, 2010) and the more recent practices of “participatory research” (Benson *et al.*, 2007). A comprehensive study spanning two decades discussed community engaged learning as a powerful pedagogical tool to enhance the common good (Zlotkowski & Duffy, 2010). In this same study, Zlotkowski and Duffy (2010) pointed out the increasing interest in this pedagogical method by highlighting the volumes of published academic resources related to CEL. Although community engaged learning seems to have been embraced in various fields, there is a gap in the literature in terms of integration into business courses. In fact, published articles suggest that the use of experiential learning, specifically CEL, in business education is still in the nascent stages (Brzovic & Matz, 2009; Hynes *et al.*, 2011; Devasagayam *et al.*, 2012), where business faculty have just begun to explore the possibilities of engaging their students with

the community. Hynes *et al*, (2011) discussed the value of designing programs that would include CEL components within the business curriculum, and Devasagayam *et al*, (2012) underscored the value of attaining “learning outcomes achieved through the use of innovative pedagogical techniques”, one of which is CEL.

In light of the gap in the literature concerning the application of CEL as a pedagogical method for understanding business concepts, this research aims to answer the following questions:

- (1) How does community engaged learning as a teaching method foster experiential learning in the business context?
- (2) What are the critical factors to consider making community engaged learning an effective pedagogy in business courses?

RESEARCH METHODOLOGY

Data for this study was gathered primarily through in-depth interviews and field observations. The main participants in the research were business students who have been involved in community engaged learning projects. Each student went through two sets of in-depth interviews, a pre-project interview and a post-project interview. The interviews lasted for about forty-five minutes per session. These two sets of interviews were necessary to conduct to find out the students’ perceptions of community engaged learning prior to their involvement in a CEL project and also to hear about their experiences after they have gone through the projects. Each student was asked to answer identical interview questions with some slight variations to account for the individual probing.

Field observations were conducted during the CEL orientation sessions to record student reactions to CEL based on the way the information is presented to them. Additional field observations were conducted to witness and analyze students in action during community activities. There were about 26 hours of field observations conducted for this research project. As soon as the field notes were transcribed, comments were appended onto the information to capture the thought process and initial analysis of the data.

RESULTS

It seemed like there are varying conceptions and understanding about CEL during the pre-project phase. Most of the participants are not really aware of what is community engaged learning and its purpose. This was evident in the answers to the question: “What is your understanding of the term community engaged learning?” during the pre-project phase. Most students equated community

engaged learning to community service or volunteering. Some indicated that this is the first time they heard about the term.

Students were interviewed after the project and results indicated a marked change in the students' understanding of CEL. Most students provided a greater understanding of the link between community engagement and learning. While some students indicated that this was their first experience in the community, all agreed that the experience was positive. Most students perceived CEL to be an effective tool to help them better understand the concepts learned in class. In terms of student workload and time commitments, all respondents indicated that there is a lot of either work or time needed to get involved in CEL.

During the in-depth interviews, many respondents raised some concerns on the workload and time commitment required to get engaged in a CEL project. It was interesting to note that some students are already doing some community work in the past and seem to like it. There are those who choose not to engage in community work because they feel that there are more important things to do than getting involved in the community. The results of the research pointed out to some changes in the students' attitudes towards CEL after they have participated in the program. Some indicated positive experiences and some not so. Overall, the dynamism of the CEL environment could be considered as a contributing factor to the development of the students' critical and analytical skills.

DISCUSSION

The following themes emerged from the research:

- (1) **Understanding the concept of CEL itself involves having the student immersed in the community experience.** Based on the student responses, there seemed to be a disconnection between the concepts of "community engaged" and "learning" from the students' own perspective. In general, students perceived CEL to be some sort of community service that they get involved in to "help" the community become a better place. As far as students are concerned, CEL is one-way process where they perform a service to the community, and they do not get anything in return. This predominant conceptual definition about CEL offers an explanation of why CEL is still in its nascent stages in business education and the scarcity of literature discussion this mode of learning. These misunderstandings about CEL could present problems when calling for student and faculty volunteers to work on CEL projects. Responses during the post-project interview indicate a trend towards a better understanding of the application of business concepts through involvement in a CEL project. It seems that students

developed an understanding about the pedagogical value of CEL only *after* they have been immersed in it. The CEL project in itself proved to be a powerful transformational tool and validates the two-decade comprehensive study conducted by Zlotkowski and Duffy (2010). For some students, they did not even expect that they would learn from the experience.

- (2) **Concern for time and work commitments.** Another emerging theme is the concern with the amount of time needed to get involved in the CEL program. This theme can be closely tied to understanding CEL. Some students who were not too clear about the purpose and the learning benefits of CEL might dismiss the project as a useless exercise that takes up too much time and involves a lot of work. Unless students understand the learning value of the CEL project, they are unlikely to be willing to devote the time to participate in it.

The concern for time commitments could be due to the demographic profile of the students at San Jose State University's College of Business. The university is known to be a commuter university where 86 per cent of the students live off-campus or commute to campus (SJSU Office of Institutional Research, 2012). Given these circumstances, students have a legitimate concern about balancing their time between work, school and family commitments. For most students, the main objective is to pass a course and move on the next course until they graduate. Hence, there is no point in getting involved in a CEL project that takes up more time, unless they see the value of the project in their learning.

- (3) **Attitudes toward community involvement as a determinant to learning.** One of the critical information that came out of the research is the role of the affective determinant in effective learning. This is true from the perspectives of both the faculty and the student (Rishi, 2007; Ritchie and McCorriston, 2015). During the field observations, there appeared to be a causal relationship manifested between the affective determinants and the level of learning. However, the results of the research do not establish either a positive or negative correlation between the two.
- (4) **Linking learning and doing through experiential learning.** A common factor gleaned from the interviews is the apparent preference for hands-on class activities in applying business concepts. Based on the initial responses of the students, the interactive hands-on activities conducted in class (e.g., case studies, role-playing and group class exercises) seem to be more effective in getting them to learn about

business concepts. This exhibits Kolb's learning model in action and affirms the theory that "effective learning" takes place when a learner is able go through the full cycle of learning (Kolb & Kolb, 2005).

The following section addresses these questions and examines how the results of the research contribute to the body of knowledge in these two areas:

Research Question 1: How does community engaged learning as a teaching method foster experiential learning in the business context? Understanding business concepts and knowing how to apply them have to go beyond lectures and discussions in the classroom. Based on the responses from the participants, there seems to be a preference for these types of experiential learning where students can immerse themselves in make-believe situations. Students tend to learn and understand the concepts better if they are able to apply it to a real-world setting. Immersion in a CEL project helps hone the students' strategic planning and critical thinking skills. Students have to figure out by themselves what is the best thing to do, given very specific situations. Students may have knowledge of certain business concepts, but unless they get to apply this in a real-life context, they find it difficult to make the connection between the business concept and the application. Without experiential learning, conceptual understanding is limited to the superficial definition of terms and abstract understandings of its application.

Another important learning point for students is learning how to work in teams. Based on the responses of the participants, CEL projects rarely allow students to work individually and this setup encourages students to work with their team mates, thus understanding and learning the value of teamwork. CEL is a good way to foster team work among students because out in an unfamiliar territory, students do not have any options but to rely on each other to work through the project. Continuing to teach through the conventional classroom method inhibits the possibility for students to learn from experience and apply the theories that they have learned. Engaging in a CEL project provides students with an immediate concrete experience that they can relate to and this could provide the basis for reflective learning. Examples of these skills include: ability to work in groups, communication and interpersonal skills, ability to solve problems and make decisions, among others.

Research Question 2: What are the critical factors to consider making community engaged learning an effective learning method in business courses?

There are several factors that need to be considered in making CEL an effective learning method in business courses.

First is the student and faculty preparation. Students need to have a clear cognitive understanding of CEL as a learning method from their perspective. The results of

the research indicated that most students have misconceptions about CEL and concerns about time commitments. These could easily lead to some resistance to the idea of participating in a CEL project. If students do not perceive the CEL project to be of value to their learning, they will treat this as a worthless exercise that is simply a waste of their time as stated several times by students. Likewise, business educators who do not understand the purpose of CEL are not able to appreciate its pedagogical value. It is critical that both the faculty and student understand the learning opportunity afforded by a CEL project before they get engaged. At times, it is effective to cite relevant employer statistics on what skills are necessary for students to get hired after graduation. Once students realize that involvement with the CEL project can hone their “employable” skills, and that this is something that they will directly gain out of investing their time in an experiential project, this could be a strong driver to get them engaged. On the part of the faculty, assessment of student outcomes should be conducted for them to recognize the pedagogical value of the CEL project.

Second is the design of the CEL project. Faculty should make sure that CEL projects are aligned with the course learning outcomes and content. A good alignment between the CEL project and the course material can serve as a form of support in that the students’ knowledge can provide a framework through which students can process and make sense of what they are experiencing while they are immersed in the CEL project. The course materials can provide insights that can help students construct new ways of learning. Careful thought has to be given to learning activities that would integrate conceptual and experiential learning. Otherwise, the students will not perceive the connection between what they are learning in class and what they need to apply in the community. This may not lead to an ineffective learning experience.

Third is the application of the right mix of relevant activities that can be realistically accomplished within a reasonable time frame and setting up the optimal mix of student teams. The CEL activities should provide the right type of challenge to the students, but at the same time consider the workload and time commitments needed to accomplish the tasks. Working with collaborative team members creates a support system that will enhance the learning experiences of the students. With this in mind, careful consideration of the composition of the group working on CEL projects has to be done by the faculty lead.

Fourth is the required reflective activities, exercises or opportunities that would enable the students to process their experiences. This could be in a form of a write-up, a reflective report or even a discussion with the faculty or with peers. Reflection on their experiences help the students develop an understanding of what they went through and what they learned from the experience (Schön, 1983).

CONCLUSION

Community Engaged Learning (CEL) provides opportunities for teachers to achieve their goals of educating students while meeting the needs of the real world, represented by the community. By engaging in a partnership with the community and designing learning activities that create alignments between the course learning outcomes and the community partners' needs, CEL could be an effective vehicle for reciprocal learning. The preliminary results of this research showed the effectiveness of CEL as a teaching method and the way it has created high-impact learning among the participants. There are four main following critical elements identified from the study that need to be considered in designing the CEL project for business courses: (1) Student and faculty preparation; (2) Design of the CEL project; (3) Application of the right mix of relevant activities; and (4) Provision of reflective activities or exercises.

A three-point structured approach is recommended to put the elements discussed in place:

- (1) Conduct CEL orientation sessions for both faculty and students and showcase successful CEL projects. The orientation sessions will help faculty and students understand the concept and purpose of CEL. Seeing actual CEL projects that worked and talking to the people who got involved will not only help dispel misconceptions about what a CEL project entails, but also stimulate the audience's interest in similar projects.
- (2) Identify appropriate CEL projects that match the learning outcomes of the course. Depending on the needs of the community, CEL projects offer different types of learning experiences. Faculty should select projects that will enable students to practice what they have learned in class. The learning activities should be designed in such a way that learning outcome of the course could be achieved.
- (3) Assessment of learning outcomes. At the end of the CEL projects, the faculty should assess student learning to determine if the CEL project was effective in helping students understand the business concepts through application in a community setting. This will help faculty evaluate the effectiveness of CEL as a pedagogical tool.

CEL can be a powerful pedagogical tool in understanding the application of business concepts. However, it would take some time for this teaching method to gain sufficient traction in business education unless some practices are in place to ease the adoption of this pedagogical model. Future research in this area can include the perspective of the business faculty in terms of adapting CEL in their courses.

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QUANTITATIVE ASSOCIATION RULES FOR ACCOUNTING EDUCATIONAL ASSESSMENT

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ABSTRACT

This paper employs Association Rules as an alternative approach to standard statistical measures in demonstrating assurance of learning. Students answer exam questions in the traditional objective format across four major accounting areas: Accounts Receivable, Liabilities, Statement of Cash Flows (SCF), and Financial Analysis. The use of Association Rules to analyze student performance reveals quantitative relationships among questions and learning objectives across the accounting areas that would be unlikely detected under traditional statistical methods. In this way, Association Rules offer a broader approach to assessment, allowing the data to speak and offer insights regarding curriculum and courses.

Keywords: Assessment, Learning Outcomes, Association Rules, Pedagogy

INTRODUCTION

The Association to Advance Collegiate Schools of Business (AACSB) requires its member institutions to assess the impact of the curricula on learning (Standard 8, 2013). Data for this assessment should include both direct and indirect measures of learning outcomes. In general, direct measures show what students have actually learned while indirect measures reflect perceptions of learning from the viewpoint of students, employers, and academic advisors (Palomba and Banta, 1999). Direct measures typically use examinations that cover specific learning goals, or the application of structured rubrics to student presentations, writing, or other assignments. Indirect measures include employer or student surveys, placement or graduation rates, etc. (AACSB White Paper, (2007)).

A cornucopia of analytical procedures can be used to evaluate both measures; however, extracting meaningful educational implications from that data can be problematic. Basic statistical analysis of frequently missed questions can provide useful information, but often fails to capture interrelationships between various learning deficiencies. Moreover, subtle patterns between different learning deficiencies cannot be observed or evaluated in a systematic way. Knowing these patterns may provide insight into evaluating the effectiveness of current pedagogy or the learning environment (Merceron and Yacef, 2004).

Data mining techniques enable educators to view assessment data from a richer perspective than what is provided by traditional statistical methods (Romero

and Ventura, 2007). The branch of data mining known as Association Rules (AR) is particularly applicable to evaluating educational assessment data because it provides easily understandable antecedent-consequent statements (i.e., if A, then B) in probabilistic terms that could have meaningful implications. This article examines AR as an educational assessment mechanism for evaluating basic financial accounting skills at an AACSB accredited college of business in the Midwest. Recommendations are provided for developing specific accounting educational assessment models with AR and Bloom's Taxonomy. The contribution of this study rests in the presentation of a methodology that can view both categorical and numerical assessment data through a type of "kaleidoscope," and thereby display patterns and relationships that are otherwise invisible.

ASSESSMENT AND TRADITIONAL STATISTICAL METHODS

Bayesian and classical statistics are ideal evaluation tools in testing specific educational hypotheses if assessment exams or projects have been constructed as true (or quasi-) experimental designs since traditional statistical methods yield precise p-values for rejecting or failing to reject the null hypothesis. Bayesian methods have the advantage of taking into account *subjective priors*, but can lead to significantly different conclusions even when researchers are analyzing the same data. Classical statistics will always yield the same conclusions (p-values) from different researchers provided that they are analyzing the same data. If the analyst has high quality subjective priors, then Bayesian methods are superior; otherwise, classical methods are better. Most scientists used classical statistics so that their results will be directly comparable across individual researchers and experiments.

Aside from the need for specific educational hypothesis to test, Bayesian and classical statistics suffer from the need to satisfy the assumptions (normality, factor independency, continuous data, constant variance, and linearity) of the parametric statistical model. While some of the more advanced methods, such as ANOVA, are fairly robust with respect to minor departures from these assumptions, major violations can result in clearly incorrect conclusions (see Berk, 2004 for an extensive critique). Moreover, most educational assessment data is categorical or discrete in nature, and has the potential to contain significant nonlinear relationships.

In the 1980s, statisticians began developing alternatives to the classic parametric model in order to better capture nonlinear relationships. Methods were developed that did not rely on distributional assumptions or linearity (e.g., neural networks and decision trees). In the 1990s, these methods and mathematical algorithms coalesced into a new science known as Data Mining or Knowledge Discovery in Databases (Nisbet, 2009). In brief, data mining techniques are designed to locate faint patterns or relationships in large data sets that are understandable and potentially useful (Fayyad et al., 1996). Unlike classical methods, which are deductive and based on a predefined set of hypothesis, data mining is inductive, and can be used when there is no *ex ante* expectation of a

given result. The three primary data mining processes are prediction of an outcome, the clustering of data into organized groups, and the discovery of AR. Prediction is frequently a supervised technique where human judgment is needed in building the model. Clustering and AR are unsupervised and require no human assistance.

ASSOCIATION RULES

AR identifies relationships between categorical variables in large data sets. The pioneering work for AR was done by Agrawal et al. (1993) in the development of their *a priori* algorithm. They considered the problem of determining which items are commonly purchased together at a supermarket where literally tens of thousands of products are for sale. Normal statistical methods such as a correlation matrix or ANOVA would be useless because of the vast number of possible combinations of categorical variables. One could examine the total sales of individual items in a given time period, but there was no way to systematically determine which products tended to be purchased in unison.

The *a priori* algorithm structures the above problem as a large data matrix, where there is one column for each product and one row for each transaction (shopping cart). The algorithm then finds all possible combinations of items that are purchased together with a specified frequency and confidence level. The result is an association rule structured as an if-then statement with a specified probability. For example, if a customer purchases bread and butter, then there is a 90% probability that she will also buy milk. The practicality of AR is obvious for marketing techniques, and many online retailers (e.g., Amazon.com) have applied this methodology with great effect. A customer making a purchase will also see related merchandise that has been purchased in conjunction with this item in the past -- sales are therefore increased.

A logical extension of AR to the issue of educational assessment would envision each student as a "customer" who is selecting examination answers. Answering a particular question incorrectly would be considered a "purchase," and AR would enable the instructor to find combinations of mistakes that are often made together. The primary advantage of AR in this context concerns its ability to find all possible combinations of missed questions that meet a given confidence level. Accordingly, subtle relationships that would be missed in traditional correlation and statistical methods would be easily discovered with AR. Instructors could then probe for possible explanations by examining material coverage and pedagogy (Romero, et al., 2002).

Another advantage of AR for educational data mining is its straightforward methodology (Merceron and Yacef, 2007). There is only one core algorithm which will yield consistent results across different educational environments. Thus, the same AR will always be generated for a given set of predefined confidence levels. Such is not the case with clustering or prediction algorithms which can yield widely differing results based on a host of subjective starting parameters. The success of the AR process is also its greatest weakness. Literally thousands of rules can be generated by the algorithm when there is an

improper application of screening parameters (defined below). In such situations, educators would find it difficult to separate the interesting rules from those that had no value.

Educational environments generally provide ideal settings for AR data collection (Hamalainen and Vinni, 2006). The speed of algorithmic performance is not an issue because the data sets are relatively small, clean, and do not contain extraneous noise from measurement errors (e.g., the questions are right or wrong), in sharp contrast to commercial market-basket applications where classification ambiguities can cloud results. Data can be collected automatically through computerized learning or examination modules or can be coded with appropriate tags to indicate categorical variables such as Bloom's Taxonomy.

In computerized learning environments, sequence tags can be applied to the data, enabling AR to examine relationships between the order of occurrences of problematic learning tasks. The sequence tags themselves become variables and can provide insights into student behavioral patterns demonstrating performance as a function of the sequence of steps used to solve a given problem, which could be valuable for pedagogical delivery or identification of student interaction sequences that lead to incorrect results (Kay, et al., 2006).

One paradox of AR analysis for educational data mining concerns the notion that strong AR are not necessarily interesting (Tan, et al., 2001). If an exam contained clusters of abnormally difficult or ambiguous questions, then the confidence level for incorrectly answering these questions would be high; however, there is little educational significance to the observed relationship other than possibly identifying bad exam questions. Conversely, subtle associations between groups of seemingly unrelated questions can reveal educational strengths or weaknesses that would not be otherwise observed as indicated in the AR data contained here. The most interesting rules are generally those which are unexpected; yet, with reflection, the user can identify possible explanations for the paradox (Liu, 2000). These observations can form a logical basis for further investigation of curriculum and/or pedagogy.

The understandability of the extracted rules is also a significant issue. A deep familiarity with the subject matter and learning environment is necessary for proper interpretation. Accordingly, discussions and feedback from faculty teaching the relevant courses is essential in arriving at the correct conclusions regarding the meaning of observed rules. It may be desirable to restructure the data with familiar semantic categorical descriptions rather than presenting the mathematical output of the rule generating process (Dougherty, et al, 1995). In e-learning systems, transitional variables, such as sources consulted or number of attempts for success and time required, can be created to improve the comprehensibility of the data (Brase and Nejd, 2003).

BASIC AR DEFINITIONS

Rather than present mathematical theory, the authors provide a simple example to illustrate the key definitions and concepts of AR. Readers who desire a more

rigorous presentation should consult Agrawal, et al. (1993). Table 1 shows a simple 2 X 3 matrix of cross-classified student errors with the two rows reflecting type of error (factual versus understanding) and the three columns representing the three basic financial statements.

Table 1. Illustration of Financial Statement Errors

	B/S	I/S	SCF	Total
Factual	1	3	5	9
Understanding	7	11	13	31
Totals	8	14	18	40

Simple probabilities can be calculated from Table 1. For example, the probability that an error will be factual in nature is 9/40; the probability that an error will involve the SCF is 18/40, etc.

The three primary definitions in AR are support, confidence, and lift. Support is the likelihood of a row and column combination occurring together. For example, the support that an error will be factual and involve the SCF is 5/40; the support that an error will involve understanding the Income Statement is 11/40, etc. Thus, support is a joint probability and measures the relative frequency of a row and column combination occurring together. It is a measurement of pervasiveness in the data set. Confidence, however, is a conditional probability which provides the likelihood of an error occurring given that the analysis is restricted to a specified row or column. For example, the confidence for an error being classified as factual given that the question involves the SCF is 5/18; the confidence for an error being classified as an error in understanding given that the question involves the Balance Sheet is 7/8. Accordingly, confidence is a measurement of rule strength: the higher the level of confidence, the greater the certainty that the if-then rule will be correct.

The concept of lift is a little more difficult to understand. It is a measurement of how much more successful you will be in finding a certain type of error if you search in a specific column rather than the entire data set. Mathematically, the lift for identifying a factual error while knowing the question involves the SCF would be the confidence level divided by the likelihood of a factual error: $(5/18) / (9/40) = 1.23$. Lift is analogous to the statistical concept of correlation except that it is not scaled to the interval -1 to +1. If lift is equal to one, then the likelihood for given type of error occurring is exactly the same for a column (financial statement) as it is in the entire data set. If lift is greater than one, then there is a greater likelihood of finding the specified type of error in a column than in the entire data set. The converse would also be true. In the above example, a lift value of 1.23 implies there is a 23% greater likelihood of finding a factual error on questions involving the SCF than in finding a factual error in the entire data set of 40 questions. Lift thereby measures rule importance.

AR are always structured in the format of *Body implies Head* or $(B \rightarrow H)$. Each $B \rightarrow H$ combination has a stated support and confidence level. If an educator wanted to consider a very large number of rules she would set support and

confidence at very low levels. This means every cell with a number would have a rule. As support is increased, the number of rules would decrease as only more frequently occurring error combinations would be considered. Similarly, as confidence level is increased, the number of rules would decrease because only very strong associations would be considered. Support is always symmetrical: support for Balance Sheet \rightarrow understanding error = support for understanding error \rightarrow Balance Sheet = 7/40. Conversely, confidence can be, but is probably not, symmetrical: confidence for Balance Sheet \rightarrow understanding error = 7/8; confidence for understanding error \rightarrow Balance Sheet = 7/31.

One of the major advantages of AR is also somewhat problematic: setting support and confidence levels. Educators can choose whatever parameters they wish, but this wide choice of settings can make finding useful rules more difficult. If support and confidence are set to high levels, only the most obvious rules will be discovered. Conversely, setting support and confidence at low levels will generate literally tens of thousands of rules. In the context of this study, the authors have chosen to set minimal support at 1.5 times the data set average (2.5%) and minimal confidence at 80%. These settings will eliminate the vast majority of uninteresting rules while still capturing subtle patterns in the data. Nevertheless, some Type I errors will occur (especially in relatively small data sets), and some of the rules extracted will lack a meaningful interpretation. Accordingly, the application of AR to educational environments is to be regarded as more of an elevated "brainstorming" technique for educational improvement rather than a clear evidential statement that change is warranted. Further investigation is needed along with additional supporting evidence before educational changes are implemented.

AR FOR ACCOUNTING EDUCATIONAL ASSESSMENT

The following example illustrates the practical application of AR to accounting educational assessment. A cluster sample of 47 business juniors and seniors was selected across three different courses at an AACSB accredited college of business in the Midwest. A committee of three faculty members constructed a 72 question multiple-choice examination covering the following learning goals: receivables, liabilities, the SCF and financial analysis (18 questions for each goal). Each of the four groups of 18 questions was further divided into three subgroups of six questions that related to an even finer partition of the learning goals. The question pool was further partitioned according to the revised version of Bloom's Taxonomy: cognition (remembering versus understanding) and knowledge (factual, conceptual, and procedural). Each question was also tagged with a macro (financial statements and account balances) or a micro (individual transactions) designation. The questions were further screened for importance, clarity, non-duplication, and a relatively uniform level of difficulty. Student demographic data was also collected in the form of gender, age, grade point average, and major. This particular data set was chosen for illustrative purposes and clarity. Many educational institutions, however, would be applying the methodology to e-

learning or computerized educational environments where data collection of student behavioral patterns is automatic. The survey instrument is available upon request.

Regression analysis showed highly significant results in the demographic data for grade point average (positive) and major (accounting). Residuals were calculated from the regression model to eliminate these potentially confounding effects, and all further calculations were done using the residuals. The residuals were grouped by question performance into quartiles for classification purposes.

The investigation began with a broad overview of the data using the previously identified categorical variables. AR using the *a priori* algorithm were calculated at the individual question level with learning goal, Bloom's Taxonomy, and macro/micro designation as grouping variables. Minimal support was set at 2.5% and minimal confidence at 80%. Table 2 shows the extracted rules ranked according to confidence level.

Table 2. Association Rules by Goal x Bloom x Macro/Micro x Quartile

Body	Head	Support	Conf.	Lift
Understand, Conceptual, Macro, SCF	1st	3.92	94.12	3.77
Understand, Conceptual, SCF	1st	3.92	94.12	3.77
Conceptual, SCF	1st	3.92	94.12	3.77
Conceptual, Macro, SCF	1st	3.92	94.12	3.77
Financial Analysis, Remember, Factual	1st	5.00	90.02	3.60
Financial Analysis, Remember, Macro, Factual	1st	3.46	83.19	3.33
Understand, Micro, Conceptual, Accts Rec	4th	2.73	98.19	3.92
Understand, Conceptual, Accts Rec	4th	4.77	85.92	3.44
Micro, Conceptual, Accts Rec	4th	3.52	84.56	3.38

The rules generated and shown in Table 2 indicate clear strength in student understanding of the SCF and financial analysis (factual). Lift values for the SCF are 3.77, which means students are nearly 4 times more likely to score in the first quartile on questions regarding the SCF than in the overall examination. Their depth of understanding is confirmed along both the conceptual and understanding levels. In a prior assessment cycle, the SCF was identified as a weakness, and the faculty devoted significant effort towards improving this area of accounting knowledge. On the negative side, student understanding of accounts receivable appears weak (4th quartile), with similar lift values.

Having identified the SCF and Accounts Receivable as potentially interesting assessment variables, a subset of the original data was prepared which includes only these variables. The *a priori* algorithm was again run on the revised data set using the previously identified subgoals for the SCF and Accounts Receivable. The results are shown in Table 3.

Table 3. Association Rules by Sub-Goal x Bloom x Macro/Micro x Quartile

Body	Head	Support	Confidence	Lift
Understand, Conceptual, Macro, Op-Inv-Fin	1st	2.75	98.79	3.86
Understand, Conceptual, Op-Inv-Fin	1st	2.75	98.79	3.86
Conceptual, Op-Inv-Fin	1st	2.75	98.79	3.86
Conceptual, Macro, Op-Inv-Fin	1st	2.75	98.79	3.86
Conceptual, Macro, A/R Disposition	1st	2.54	91.18	3.55
Conceptual, Remember, Macro, A/R Disposition	1st	2.54	91.18	3.55
Understand, Conceptual, Macro, Purpose of SCF	1st	2.43	87.39	3.41
Understand, Conceptual, Purpose of SCF	1st	2.43	87.39	3.41
Conceptual, Purpose of SCF	1st	2.43	87.39	3.41
Conceptual, Macro, Purpose of SCF	1st	2.43	87.39	3.41
Conceptual, Micro, A/R Valuation	4th	2.54	91.18	3.64
Understand, Conceptual, Micro, A/R Valuation	4th	2.54	91.18	3.64
Understand, Conceptual, Micro	4th	5.07	91.18	3.64
A/R Recognition, Understand, Conceptual, Micro	4th	2.54	91.18	3.64
A/R Recognition, Conceptual, Micro	4th	2.54	91.18	3.64
A/R Recognition, Understand, Conceptual	4th	2.54	91.18	3.64

The drill down shown in Table 3 clarifies several issues. First, the displayed strength in the SCF occurs at the macro level (overall financial statement level) rather than at the micro level (detailed procedures). Second, the previously identified weakness in Accounts Receivable is not present in their disposition (1st quartile performance), but is rather concentrated in the areas of valuation and recognition. Third, there is a clear indication that overall micro or individual transaction performance is a weakness in both receivables and the SCF since the "understand, conceptual, micro" body implies 4th quartile performance irrespective of the learning goal. The overall implication is twofold: further work is needed in the recognition and valuation areas of Accounts Receivable along with greater emphasis in individual transaction analysis for both goals.

One could argue that the above observations could be gleaned just as easily through the General Linear Model with GPA and major as covariates. While this is true in a simplified setting, factorial ANOVA in the General Linear Model is clearly limited in terms of the number of factors or independent variables. The *a priori* algorithm, along with its variants, has a nearly unlimited capacity for analyzing categorical variables. This provides a special dimension to AR analysis

that is not available with classical statistical methods. Moreover, the granularity of the data for AR analysis is virtually unlimited.

CONCLUSION

Accrediting bodies are demanding ever higher standards with respect to the direct measurement of learning. Purely summative examinations are insufficient because they fail to provide proper insight into the causes of educational deficiencies. While classical statistical methods are a valuable tool for evaluating assessment data, they fail to provide adequate insights outside of controlled experiments or *ex post* correlational studies. Data mining techniques, and AR in particular, offer an added dimension for assessment analysis. Educators can evaluate student data across a broad variety of categorical or numerical variables without running into the factor limitations imposed by the General Linear Model.

This study has demonstrated an accounting application of AR in a simplified setting using traditional learning taxonomies. Educators can examine hypothetical cause-effect relationships in structured settings such as Bloom's Taxonomy. The value of AR over classical statistical methods lies in its ability to examine every possible combination of a large number of factors – even individual questions. Educators can evaluate large chunks of data categorized according to their own specifications, or they can literally sift through the grains of sand to try and find original and unexpected results. As with all statistical methods, type I errors will occur, and confirmation and further investigation is needed before educational changes are made based on the observed rules.

The real potential, however, of AR lies in its ability to process very large data sets as would be generated by e-learning systems. Such systems can not only automatically tabulate correct responses to online homework and exercises, but they can record the time used, resources viewed, and the sequence of student behavior. The richness of this data for educational purposes is highly significant both from both an assessment and a pedagogical point of view. The authors plan to employ AR in assessing the e-learning methodology in the near future.

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HOW TO APPROACH TEACHING PHILOSOPHY STATEMENTS AS CAREER MISSION STATEMENTS

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ABSTRACT

This article examines Teaching Philosophy Statements (TPS) as central devices that capture an academic's thoughts and beliefs on the instructional needs of students. The article examines the necessity for obtaining an in-depth understanding of organizational issues prior to writing a TPS in order to understand the importance of context in teaching and learning. Focusing on student learning, the teaching philosophy is a measured document that highlights a faculty member's best practices in achieving optimal experiential and learning outcomes for students. The article focuses on the reality that there are (environmental) issues that affect TPS development as they have a direct effect on an individual's teaching mission and vision which is communicated through the TPS. A proposed framework of pre-considerations for teaching philosophy construction is presented: the personal mission for teaching (the how and why I teach), the vision the faculty member has for teaching (who I am striving to be as a teacher), and the development of one's teaching style (the best practices and individualized approach as a teacher). By examining this framework, the authors posit as a cyclical teaching philosophy continuum, where teaching skills, mission, and vision all improve course development, leading to positive student outcomes. The article adds to the body of knowledge by emphasizing that prior to writing a TPS there are issues which must be considered that will in turn assist in the development of a better TPS.

Keywords: Teaching Philosophy Statement, teaching development, course development

INTRODUCTION

The theme of this article is to highlight the growth of teaching philosophy statement development as a tool to assist in productive teaching which yields positive results for students. It is the hope of these authors that upon reading this article faculty who are broaching this topic of self-alignment for the first time will have an understanding of its origins, its purpose, and come away with the awareness that teaching philosophy statements help us stay true to our original vocation as professors and help us to evolve and improve our teaching over the

course of our academic career. Consequently, it becomes our North Star in the development of our teaching style and the compass by which we constantly adjust to stay on course.

The authors propose that teaching philosophies should be based on what students need, not what faculty want; after all it is about educating students. Faculty should then work in reverse to make their style fit what the desired result of teaching should be. And ever-present is the fact that faculty are employed to teach specific material and to ensure to the best of their ability that learning is taking place (Drolet, 2013).

The authors also seek to gain an understanding of why the TPS has become required at many universities and why it has taken it so long to become mainstream as a method of improvement in instruction. The changing climate in education which emphasizes accountability of faculty and value returned to students for tuition paid has ushered in an era of self-evaluation and assessment (Jenkins, 2011). And this has occurred in a tenure-focused industry where previous evaluation was deemed impossible. The unthreatening tenet of teaching philosophies has facilitated faculty at all levels in looking inward to examine their approach in the delivery of knowledge and learning. If anything, this ability to encourage faculty to self-evaluate rather than require evaluation must be heralded as a breakthrough in teaching improvement. The subtlety of it does not involve anything other than simply asking faculty to identify the reasons they engage in teaching and the results of that teaching which they would like to see in their students.

However, a pitfall is that many colleges now require new faculty to write a teaching philosophy as part of their hiring process. Although at face value this seems to be proactive in getting junior faculty to focus on the direction of their teaching it also leaves them open to the whims and opinions of those in a position of hiring who may have their own views on teaching. A contradiction of views could result in an offer not being made or offers being made only to individuals whose teaching style closely mirrors those of the hiring committee. If handled correctly the widespread use of encouraging college professors to develop a teaching philosophy could result in a new direction for improved performance in the classroom as well as unearthing new ways of teaching and learning. However, if required and used as a condition of employment it could also serve to alienate and quiet those who take a different approach to teaching. Throughout the article, the authors describe professors in their role as teachers; we use the word “professor” and “teacher” interchangeably.

BACKGROUND

While the area of teaching philosophies has been around for decades, it remains that research over the past ten years serves best to inform about the future within this domain. An article that speaks best to teaching philosophies is one that speaks rather to the topic of student involvement. Alexander Astin (1999) asserts that students have a better educational experience when they are actively involved

– involved in on-campus organizations, included in faculty research, involved in on-campus jobs, and so on. Therefore by learning in a way that actively includes students in the learning process promotes better material retention. This inclusion of the student in the classroom as a learning ‘partner’ consequently leads to a more actively involved and engaged student. Astin points the way to the ideal classroom setting and therefore also gives us the starting blocks upon which to build our teaching philosophy: the desired student experience. Research by Prince (2004) also supports cooperative learning but suggests that whole courses should not adopt such an approach when dealing with theoretical information such as that found in the teaching of engineering, for example. In the realm of active learning, research by Mazur (1997) draws attention to the benefits of peer instruction where students meet to discuss topics prior to class so as to better facilitate in-class discussion. Subsequent research by Miir, Matsisko, and Mazur (2014) shows that feedback and support between learners produces a positive learning outcome. Freeman et al (2014) conducted research which emphasized the importance of student input in developing better approaches to teaching and learning; their research proposes collaborative educational development to improve an institution’s overall quality of teaching.

Worley (2001) argues that much of what we implement stems from our own positive experiences of other professors. However, while Worley discusses how these experiences shape us, we must also remember that negative experiences also drive our style of teaching. Such discussions of these negative forces appear to be in absentia in the available literature. Taking a step further back, Wlodkowski (1985) claims that in the area of andragogy, that is, the teaching of adults, stimulation is key in sustaining learning in adults. Knowle’s (1995) work on adult learning theory affirms that active engagement is key in the learning process. Building upon this, Akande and Jegede (2004) maintain that andragogy is a new science or approach to education which has garnered much momentum. Of most importance in discussing andragogy (and its relevance to teaching philosophies) is that this area of research has grown out of practice and therefore has credibility in informing the direction of teacher improvement (Henschke & Cooper, 2006). While Astin examines student’s involvement and andragogy considers optimal ways to teach adults, what connects both areas of research is the notion that they are student focused. The development of a teaching philosophy statement must therefore take its cues from these areas of research by recognizing that the end result of an effective TPS is one that informs teaching practices with the purpose of improving quality learning for students. In terms of teaching practices, the pattern of such teaching results in the emergence of a teaching style. A study by Snyder (2006) shows that with 10 plus years of teaching experience there is no difference between an individual’s teaching style and teaching philosophy as the teaching style has been calibrated to conform to the governing teaching philosophy. Titus and Thien (2003) posit that to really be effective, faculty must not only have knowledge on how to teach but also be very much aware of how people learn. Thus a comprehensive understanding of both teaching and learning

must accompany any truly effective attempt at the development of a TPS (Licklider, 2004).

The authors, therefore, propose that the development of teaching philosophy statements involve the commitment to proven best practice teaching methods to achieve optimal experiential and learning outcomes for students (Gremier, 2010). Our research has uncovered many articles on this topic but they all appear to fall into the following categories: the purpose of it, the structure of it, and how to actually write it. Nothing we have found refers to the end result which drives it – that students learn material (not that you enjoy your teaching). Course development topics speak to this issue but as such we feel there is a need to marry course development and the TPS, which evolve together over a career. Essentially, the TPS must serve students; it must be student focused not teacher focused. This appears to be absent in most of the available literature. We therefore seek to inform on the environmental issues which should affect the pairing of the TPS to the student population which in turn informs course development. A TPS is not a vision of utopia in teaching but rather the optimal matching of teaching to the existing student body. Simply put, it is a realistic document of understanding outlining where one is striving to take their teaching within the parameters of their specific teaching environment.

FRAMEWORK FOR TEACHING PHILOSOPHY APPLICATION

We now offer a sequencing of considerations which will and should affect the construction of the TPS. We firstly discuss the importance of having organizational knowledge so as to make the TPS organization appropriate. This, in turn, realistically informs the teaching mission and vision. Then, from this context, we look to where faculty would like to take their teaching. And finally this culminates in course development which is teacher/organization compatible.

Organizational Considerations. We propose that an initial approach in framing one's TPS is to first consider external variables which will affect how one must present/teach material. Subsequently, the professor should conduct an internal self-examination of the teaching style best suited to the population. Here the foundations are being laid to become the best professor students need. Once these issues have been addressed the resulting TPS, regardless of structure and appearance will have helped an individual on their path to becoming a better professor.

Although the very construction of a TPS helps focus the learning goals faculty have in mind, a number of other issues should also be considered. Student population, context, subject matter, organizational structure, and accountability all combine to inform, shape, and direct the appropriate development of a meaningful teaching philosophy. We now propose to lay the groundwork in framing the type of statement that best serves faculty. To this end we feel an external environmental focus enables faculty to understand 'who' the TPS serves. While the statement is indeed personal in nature it is nonetheless a tool which helps educators design and

implement their professional craft. Consequently, faculty should first look outward for an understanding of the following:

- Institution type – public, private, location.
- Institution mission – what are the core values of the organization?
- Available faculty support – from department chairs, colleagues, and technology support.
- Population descriptors – age, level, class size, and skill level.
- Learning outcome requirements – are they required? Are there licensure examinations or accreditation requirements?

By looking at these factors faculty actually begin to form a better understanding of their academic environment and begin to engage in a process of re-engineering their teaching methods. By achieving environmental awareness faculty already place themselves in a better position to formulate a teaching philosophy well before the first key stroke has been taken. This helps clarify the difference between a teaching utopia and the realities of what is faced in the classroom. Thus, the preparation that takes place prior to formulating the philosophy already creates the opportunity to write a better piece than if one merely chooses to sit and write spontaneously. And while these listed organizational factors may seem obvious they are nonetheless in absentia in the minds of many faculty who have written a TPS (which can be observed by simply reading a selection of TPSs).

Mission and Vision. While the purpose of teaching should be consistent with the overall organizational mission (Hazen, Cavanagh, & Bossman, 2004), the individual's mission in the imparting of knowledge to promote learning is a personal issue. This personal mission, or reason for teaching, strives to achieve a vision of what the faculty member would like to become as a professor. And this vision in turn is quite often derived from personal experience which seeks to emulate the style of a previous professor. This can all be set in juxtaposition to required standards for accreditation for educational institutions as set out by accreditation bodies (Jantzen, 2000). And it further bolsters the notion that the development of a TPS and derived teaching style is an open process influenced by outside best practices as experienced by the professor.

Mission and vision are interconnected elements which impact teaching and as such they are part of an on-going evolutionary process in teaching style. Figure 1 illustrates how mission and vision are part of a cyclical process which guide faculty members' teaching throughout their career. Mission encompasses an individual's purpose for teaching while vision points to the ideal type of teacher (and where the journey of teaching development should lead). These in turn inform the teaching style, and this process repeats over the course of one's teaching career with incremental changes over a period of years as a faculty member refines their teaching.

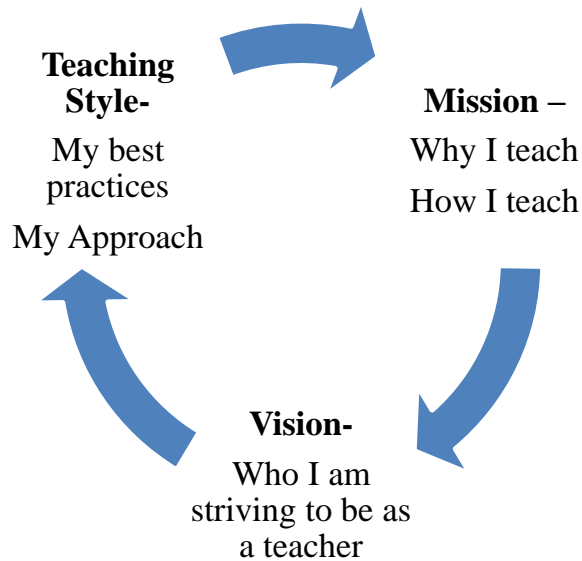


Figure 1.

Teaching Development Considerations. We propose that writing a teaching philosophy statement should not be a spontaneous endeavor and that by engaging in pre-thinking and self-examination the resultant effort will be one that is unique to that faculty member, true to their strengths, and sincere in the individual’s vision of where they would like to take their teaching. There is no ‘best methods’ way of constructing a TPS; it is a unique endeavor. Obvious considerations include Bloom’s taxonomy as well as a definition of learning and methods of student motivation. However, brevity should be observed (1-2 pages) in order to force the writer to focus on the main tenets that need to be conveyed. Ideally this is done within the following spatial framework:

The ‘Now’

Understanding who I am teaching
How I like to teach
The effect of my teaching

The ‘Future’

Understanding who I will be teaching
How I would like to teach
The desired effect of my teaching

Understanding the student population is of paramount importance in terms of how they like and need to learn. The purpose of teaching is not to engage in teaching itself but rather to facilitate or help others to learn. If no learning is taking place, which is evidenced from poor test performance and student evaluations for example, then the professor who states they “like to teach” needs to adjust their internal compass with regard to their professional purpose which is to ensure students learn. In this period of accountability in higher education, faculties have

to demonstrate that they are committed and driven professionals in the classroom and the TPS is the fluid document which encourages that through self-reflection with the end goal of self-improvement.

While Eirman (2008) discusses the importance of effective TPS writing for applicants to faculty positions, we feel that the TPS has relevance to all faculty regardless of their career point because it focuses the professor to not lose sight of the reason for teaching – helping others learn. And it is this focus which mandates that the faculty member stay current with the student population.

At the epicenter of the creation of a TPS is its fundamental purpose which is to help faculty become better professors. It is not an exercise in constructing a document which “looks good” when others read it. It has at its very core the intent of inspiring self-reflection with the end goal of self-improvement in the craft of imparting knowledge to others. And for faculty who maintain a website it should also feature so as to better prepare for new technology and introduce future students to the ideological framework which will be utilized in teaching.

Course Development. Once a faculty member understands the background of the student population and has a clear understanding of their own best approach to teaching this population, the development of courses can occur. This development will cater to the teaching style of the faculty member and the learning style of the student population. While course development is not something that is typically addressed in a TPS, if the faculty member intends to evolve their teaching over time then so too will their course development evolve. For this reason we believe that a commitment to course development is an integral part of the evolution of a faculty member’s teaching style. Consequently one’s teaching philosophy informs course development. The desired result being that material is always kept fresh, current, and speaks to students in a manner which is easily absorbed. While this elicits positive development, it is set against a backdrop in which many new college professors receive little or no preparation in teaching (Utecht & Tullous, 2009). Therefore, it comes with the realization that course development is hampered and delayed by teaching development which must be mastered prior to confident and knowledgeable course development.

With course development also comes the realization of the increased use of technology in both teaching and training. Poncela (2013) advocates that future course development may not be dichotomous - just on-line or in-classroom, but rather take a form of blended learning encompassing both tracks of instruction and that this ultimately may be the future of teaching, which must be planned and prepared for. While most of the available research on course development seems to focus on online course development tools, Das and Das (2002) advise that active learning must become mainstay in teaching through the use of case studies, problem solving, and presentations which encourage critical thinking. Courses must therefore move from the professor/student lecture format to collaborator/problem solver format.

These researchers posit that all teaching and course development reflect the needs of industry dictating the required skills students should have upon

graduating. Consequently this necessitates a periodic shift in teaching, which mirrors learner needs. However, such paradigm shifts occur over periods of time and not overnight, thereby allowing professors enough time to explore, learn, and modify teaching practices employed. But a commitment from the professor to accept change and design courses accordingly must be reflected in the TPS so as to oblige the professor to remain loyal to their mission in teaching which should be student centered.

Since the introduction of the term Scholarship of Teaching and Learning (SoTL) in 1990 by Boyer there has been a conscious attempt at scholarship which improves pedagogy and teaching effectiveness. This has been echoed by Servage (2009) with the added emphasis that teaching and learning occurs in a social context in that it is impacted by society, students, and industry. This increased awareness of the need to research as a discipline how we teach has steered faculty toward an understanding that teaching is a skill and by simply reviewing available research in this area we can improve learning outcomes. Furthermore, with pressure from online education, adult education courses, and corporate universities, it is imperative that universities in particular look internally at the quality of teaching.

While course development dovetails with TPS development we propose that the net result must be improved teaching which benefits the learner. However, this sheds light on what may be considered to benefit the learner. For example, what are the parameters we impose on what benefits the learner – high grades, retention on key constructs as opposed to subject matter, or simply a positive learning experience? We have not uncovered any scholarship which speaks to the measurement of better teaching but we readily accept that such measurement would be an arduous endeavor across disciplines. We consequently propose that learning outcomes should be derived from a combination of faculty, student, and industry input and that in turn be used as tool to develop courses which are consistent with the teaching mission and vision (Pryor, Sloan, & Amobi, 2007). These ingredients combined serve to better educate the student in a way that is comfortable for the educator charged with said knowledge transfer.

Recommendations. In this article, we have deliberately refrained from illustration of what a TPS looks like, how it should be structured, and what specific topics it should cover as there are numerous sources for such mechanics (see Sankey & Foster 2012; Glaser, 2005). Our purpose here was to offer what we term a ‘geo-view’ of what the ethos of the TPS should be and what the major pull and drag features are which impact it over a multi-decade teaching career. This transcendent view of teaching and learning is intended to illuminate the path to where faculty would like their teaching to go and to highlight the prominent issues which will serve as guide posts. From these, faculty with a clear understanding of purpose can delve deeper into the individual issues which serve to impact and shape their unique TPS. This cyclical process is shown as follows in what we term the *Teaching Philosophy Continuum*: Teaching Skills → Mission → Vision → Course Development → Positive Student Outcomes.

We refer to this process as being cyclical because we are cognizant of the fact that change is inherent in everything. Not to change is in fact unnatural. As the above continuum changes the result is that the TPS which is informed from it also changes. Although it is a cyclical process of improvement we believe the use of 'continuum' better illustrates the process as one that moves into the future as opposed to 'cyclical' which may connote repetition, a term we strongly wish to distance from this topic. All this is therefore considered to be a process of continuous improvement in teaching and learning. As the scholarship of teaching and learning continues to develop, focus needs to be afforded to the TPS as the ground spring of development in this area. The need to establish foundational values in terms of teaching is vital as a vehicle of direction in the realm of teaching improvement and the return in terms of learning and teaching satisfaction immeasurable.

CONCLUSION

The purpose of this article was to position the TPS as a manuscript which its writer views as the beacon of their personal vocation as a professor. It serves as the North Star which guides the teaching vessel toward the destination of positive student outcomes. It is hoped that the TPS promotes commitment to self-evaluation and indeed an ethical responsibility to teach others in a way that best prepares them for whatever endeavors build upon what should have been learned. This commitment to self and others translates into a commitment to societal improvement. While it would be easy to wax philosophically about personal missions in teaching, the reality that beckons is one where professors have a contractual employment obligation to teach to the best of their ability and to also seek to improve that ability throughout the course of a professional teaching career. Of paramount emphasis in this article is that the TPS must suit the institution and relate to its student population. Under this context one can then more accurately develop a realistic TPS which can inform a teaching mission and vision. And as faculty are essentially alone in the classroom without the benefit of daily feedback from a supervisor as one may have in a regular job, the TPS serves as the mentor to the professor who is essentially a lone employee throughout their career. The willingness of faculty to voluntarily engage in TPS development, as opposed to being required as a tool of accountability, illustrates that they view themselves as stakeholders in the learning process and hold themselves accountable through an ethical commitment to the betterment of others. And it is in this vocation to improved teaching throughout a career that we find infinite possibilities of reward to both the professor and the learner.

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STRATEGIES FOR CERTIFICATIONS INTEGRATED THROUGHOUT THE EDUCATIONAL EXPERIENCE

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ABSTRACT: This paper describes several different accounting-related professional certifications and suggests a strategy for educators to use in order to provide opportunities for students to achieve success with the certification exams as they pursue their academic education. The strategies presented will benefit educators, students, and the educational institutions that seek external assessment measures for assurance of learning.

Key Words: Professional certification, strategies, assessment, AACSB

INTRODUCTION

careers as well as when they take professional certification exams. In recent years, the AACSB has emphasized assurance of learning as well as assessment as part of the educational accreditation process. A difficulty faced by schools is identifying instruments to use for assessment. Professional certifications offer an objective method of assessing academic credentials. Certifications and passing certification exams can also provide evidence that students possess a level of knowledge and skills that potential employers and/or graduate schools can use to evaluate students who do not attend well known universities. Some common certifications in the accounting field that will be discussed are the Certified Public Accountant (CPA), Microsoft Office (MOS) certifications, the Certified Internal Auditor (CIA), the Certified Management Accountant (CMA), the Certified Fraud Examiner (CFE), and the Certified Government Financial Manager (CGFM).

In addition to providing evidence of knowledge and skills in different areas of accounting, the certification exams provide students with experience in taking high stakes exams. Professional exam review courses often spend time preparing students for the logistics of taking the exam as well as the content of the exam. They may also provide instruction in general study skills and test-taking skills. These skills can benefit students as they progress through their academic

The purpose of this paper is to outline a strategy educators can suggest to students so that the students can document their skills beyond their grades

in college courses. Students can obtain Microsoft Office certifications at any time during their academic career. Students can take the CMA certification exam before graduating with a baccalaureate degree. Generally, to take the exams for CIA, CFE or CGFM, a student must have completed an undergraduate degree. However, students may be allowed to take the exams early in certain circumstances. The CIA, CFE, and CGFM exams could be taken after students have completed the undergraduate degree and while the students are obtaining the 150 hours to become eligible to take the CPA exam if a CPA license is their final objective.

LITERATURE REVIEW

Coe, et al (2008) note that the employment of accountants and auditors is expected to grow through the year 2016 and there is an increasingly global business environment creating the demand for accounting and finance professionals with advanced skills and up-to-date knowledge. They assert that earning a certification is valuable for an accounting student's career advancement and that integrating the academic learning outcomes related to certifications is a way to ensure that the accounting curricula are providing students with the skills and knowledge they will need in the business world.

Brooks and Johnson (2002) investigated the impact of governmental accounting certifications on government finance officers' salaries. They found that the CGFM (Certified Government Financial Manager) was the certification with the most impact and that governmental certifications are positively correlated with increased compensation.

Atkinson (2003) conducted comparison/contrast research with the Certified Information System Auditor (CISA), Certified Information Technology Professional (CITP), and Certified Information Systems Security Professional (CISSP). She described the certifications in terms of the "common body of knowledge" often required for professional certification. This paper extends the current literature by suggesting a strategy to help educators create opportunities for students to take and pass professional certification exams as they pursue their academic careers. Some of the certification exams can be taken before the students complete their baccalaureate programs. The certifications discussed are the Microsoft Office Specialist (MOS), the Certified Management Accountant (CMA), the Certified Internal Auditor (CIA), the Certified Information Systems Auditor (CISA), the Certified Fraud Examiner (CFE), the Certified Government Financial Manager (CGFM) and the Certified Public Accountant (CPA).

DESCRIPTION OF THE CERTIFICATION OPPORTUNITIES

While there are numerous professional certifications available, the CPA certification is the only one that provides a legal privilege associated with the ability to provide an audit opinion on financial statements presented by third parties (AICPA). Therefore, most people consider it to be the most valuable certification. The CPA designation (license) is conferred by state boards of public accountancy and candidates must pass a four-part examination administered by the American Institute of Certified Public Accountants as well as fulfill an experience requirement. The CPA designation was first conferred in 1916 and is the oldest accounting certification available. A problem for students in terms of practicality is that in some states there is a 150-credit-hour educational requirement before students are eligible to take the exam. Students may spend an extra year in college and incur additional expense before even being allowed to take the CPA exam. Students may take other certifications exams which have fewer credit hour requirements so that they can gain experience in taking a high stakes exam and in preparing for such exams. Students who take professional exams can also get an idea of the level of academic rigor that is expected on such exams.

The CPA exam must be completed within an 18-month period and has four parts:

- Business Environment and Concepts
- Regulation
- Auditing and Attestation
- Financial Accounting and Reporting

The Microsoft Office Specialist (MOS) certifications offer the least expensive and shortest exam opportunities for the students. Since Microsoft Office is widely used in the business community, expertise in the use of the Office programs can provide students important skills they will use in the workplace. A MOS certification provides evidence of expertise and allows students to set themselves apart from other applicants with whom they are competing for jobs.

While the early MOS certification exams required students to complete brief tasks, MOS 2013 and later exams provide more real-world testing with a short project that students must complete (Microsoft). Most of the MOS exams take up to 90 minutes and can be taken in different languages. The testing results are displayed on the screen immediately and successful candidates receive an official certificate in about three weeks. Some of the certifications available are:

- Word
- Excel
- Access
- PowerPoint
- Outlook

The Institute of Management Accountants (IMA) offers the opportunity to take the Certified Management Accountant (CMA) exam before the students graduate with their baccalaureate degree. The CMA exam is an excellent introductory opportunity for students to experience the academic rigors of an accounting certification exam before they continue with their 5th year of accounting education. The CMA exam was first administered in 1972 and is the most international accounting certification now. The CMA exam (IMA, 2016) is organized into two parts that can be taken in any order. Each part allows students four hours to complete and includes 100 multiple-choice questions as well as two 30-minute essays. Candidates must pass both exam parts within 3 years. The parts are as follows:

- Financial Reporting, Planning, Performance, and Control
- Financial Decision Making

The Institute of Internal Auditors (IIA) also offers accounting students the opportunity to take the Certified Internal Auditor exam before a typical 4-year graduation and is an excellent opportunity for students to take a more specialized professional certification exam. The CIA exam (IIA, 2016) began in 1973 and gives accounting professionals an excellent opportunity to communicate their ability to be an important employee in terms of applicable knowledge and positive impact for any organization or business. Both the CIA and CMA certifications are highly-recognized global certifications for internal auditing professionals or accounting managers. One important recent change (IIA, 2016) is that candidates can bypass the undergraduate degree requirement if they possess two years of post-secondary education and five years of verified experience in internal audit or seven years of verified experience in internal audit or its equivalent. There are three parts as follows:

- Internal Audit Basics – 125 questions in 150 minutes
- Internal Audit Practice – 100 questions in 120 minutes
- Internal Audit Knowledge Elements – 100 questions in 120 minutes

Because computer information systems are now so interrelated with accounting, students with a special interest in computer information systems may want to pursue the Certified Information Systems Auditor (CISA) exam so that they can be employed to audit the information systems of organizations. Another potential employment opportunity that holders of this certification might pursue is development of information systems and security for organizations. This exam is administered by Information Systems Audit and Control Association (ISACA). This organization has more than 115,000 constituents in 180 countries. ISACA was established in 1969 (ISACA, 2016) and specializes with information systems audit, assurance, security, risk, privacy, and governance. There is only one 200-question part for the exam, but it covers 1) the process of auditing information, 2) governance and management of IT, 3) information systems acquisition, development, and implementation, 4) information systems operations, maintenance, and 5) protection of information assets. They have the exam in many different languages too and students can take the exam without their degree (ISACA, 2016). If they have passed the exam they will have evidence of the knowledge, skills, and abilities that they will need to pursue career opportunities in this field.

Additionally, the Association of Certified Fraud Examiners (ACFE) offers students the opportunity to take the CFE exam before graduation. Because of the increase in large-scale financial frauds, current students are highly interested in forensic accounting. This exam provides external assessments related to the students' learning in fraud topics that are not typically covered deeply in a broad-based accounting curriculum. The four parts of the exam (ACFE) are as follows:

- Fraud Prevention & Deterrence
- Financial Transactions & Fraud Schemes
- Investigation
- Law

An advantage associated with this certification exam is that the ACFE has a CFE Prep Course with a Money-Back Pass Guarantee. If students do not pass the exam and qualify for this guarantee, they will receive a Retake Exam. All four sections must be passed in three consecutive attempts.

Finally, the students will often become involved with governmental organizations by either by being employed by a governmental entity or by auditing governmental entities while employed by a public accounting firm. The Certified Government Financial Manager (CGFM) certification exam might be best for these students. The limiting factor associated with this

certification exam is that students must have earned their degree before taking it. This exam consists of three 115-question parts:

- Governmental Environment
- Governmental Accounting, Financial Reporting, and Budgeting
- Governmental Financial Management and Control

THE STRATEGIES

It is beneficial to students to gain experience with taking high stakes exams. These exams differ from college course exams in that a passing exam grade is required for the certification. In academic courses, there are often other types of assessments that can increase a grade beyond a single test score. It can, therefore, benefit students to begin early in their academic career to complete certification exams.

The strategy suggested by the authors is to require students to pass both Microsoft Word and Microsoft Excel (MOS) exams before they are admitted into the Business School. Since admission to the Business School typically takes place after 60 college credit hours, the students have 2 years to complete these certifications. They could do one in the first year and one in the second year. In their third year, they could be required to complete certification in Microsoft Access while completing the Accounting Information Systems course. These exams are the least expensive and tend to have the least amount of comprehensive information associated with them so success should be expected. They can be important to students as they provide objective evidence of their knowledge of commonly used business software tools.

In the students' senior year, they could specialize with the CMA, CIA, CISA, or CFE certification exams. While these exams are very rigorous overall, they are not as comprehensive as the CPA exam and the pass rates are higher. By getting involved with professional certification exams before they graduate, students will have a better idea of the rigor involved with these examination processes. Additionally, successful students will have an item on their resumes to help employers know that they are capable of passing a high stakes exam and that they have evidence of their level of knowledge in the fields covered in the exam.

Successful students could begin their careers with the certification exams passed in their senior year and they would have the option of either staying in those fields or continuing their 5th year to pursue the CPA certification. If they continue, they will have the confidence associated with passing four certification exams during their undergraduate experience and will have an understanding of the work associated with taking professional certification

exams. During their 5th year experience, they could take the CGFM exam to practice again for the rigors of professional certification exams or to pursue a career in public service.

EVIDENCE OF COMPENSATION BENEFITS

Since technology is such a high-demand industry, it is estimated that entry-level employees who hold a MOS certification can earn up to \$16,000 more per year than typical employees (Anderson & Gantz, 2013). In a survey of 700 IT professionals, 60% of the respondents indicated that certification led to a new job. Five times as many high-growth/high-salary positions required competence with Microsoft Office as compared to other non-Microsoft software skills and 29% of the positions actually required Microsoft Office skills. (Anderson & Gantz, 2013).

While there is no formal salary structure information related to some of the certifications, the IMA conducts an annual salary survey. Table 1 reflects the results with respect to CMA and CPA certification. This table indicates the salary benefits that can be achieved by becoming certified in the accounting field.

Table 1: Median Total Compensation by Age and Designation
2015 U.S. Salary Survey (www.imanet.org/salary_survey)

Age Range	Neither CMA nor CPA	CMA Only	CPA Only	Both CMA and CPA
19 to 29	57,500	74,800	67,104	85,840
30 to 39	75,000	108,000	114,050	115,025
40 to 49	107,000	129,000	113,000	122,500
50 to 59	114,000	142,036	166,500	150,000
60 and over	115,500	140,000	135,000	122,500

CONCLUDING REMARKS

This paper describes some different types of business and accounting certifications that can help students to become more employable in entry level positions. These certifications may also improve the compensation levels of employees as they progress through their careers. A strategy is outlined that will allow students to document their skills beyond their grades in college courses. Students can obtain Microsoft Office certifications at any time during their academic career. Other certification exams can be taken as students are near completion of an undergraduate degree. In

addition, the professional organizations associated with the exams provide opportunities for students to interact with professionals in their chosen field and build a network that can help them as they begin their careers. Student success with these certifications can also help institutions demonstrate assurance of learning with external assessments required by accrediting bodies such as AACSB.

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