

MANAGING THE GENDER DIFFERENCES IN THE CLASSROOM: REAL LIFE EXPERIENCES FOR UNDERGRADUATE STUDENTS

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ABSTRACT

Students' learning outcomes in accounting subjects of auditing and taxation appear to suffer considerably when practical experience is lacking in the curricula. Academics in an Australian School of Business have implemented a program of introducing selected current affairs articles, with defined discussion questions, as an exercise in creating a surrogate for practical experience. This study examines whether students of different gender achieve similar learning outcomes, using Biggs' 3P Model of Teaching and Learning as a research framework. While overall there is positive correlation with creation of real life experiences and learning outcomes, this does not hold true for both genders. Females have more positive learning outcomes in this research study and across the School of Business in this university. This is against a backdrop of lesser representation in both number in senior positions and higher remuneration levels for females in the profession.

INTRODUCTION

In an attempt to create a surrogate for practical experience within the classroom, the authors introduced a program whereby students were given newspaper articles relating directly to the particular topics of auditing and taxation being studied, not difficult to source with Andersen, Enron, HIH, OneTel to name a few moving from the business to the front pages of daily papers. The challenge was also to do so in a manner in which both male and female students had enhanced learning experiences. In the School of Business at the Australian university from where this study emanates, females comprised 52% of the student population, success rate, namely, the rate at which students pass rather than fail subjects in their undergraduate degree, is 88.6% compared with that of males of 85% (25). CPA Australia, one of the two professional accounting bodies in Australia, records 30% of their membership as females, although this is significantly higher at the entry level and males still dominate at the higher remuneration levels. Females represent 76% of the population of CPAs earning under \$69,999 but only 24% of CPAs earning \$70,000 to \$249,999 with none earning above \$250,000 (18:8). Further statistics indicate that females are underrepresented at senior levels in the profession, as measured by their under-representation at the level of 'fellow' in CPA Australia, a level which requires experience in senior positions (17:1).

Literature

Studies in student learning have highlighted the importance of presage factors, in particular those of prior knowledge, ability and motivation of which motivation is one subject of this study (5). Presage factors as those the students bring with them to the learning experience. Biggs considers two aspects of presage: the student factors as mentioned above and also those within in the teaching context. To that end Biggs highlights five teaching context presage factors; namely objectives, assessment, climate/ethos, teaching and institutional procedures, of which climate/ethos is another subject of this study. This study examines the influence of a particular intervention in the classroom to influence the climate/ethos within the classroom so as to provide more appropriate learning activities in order to improve learning outcomes. What then of the student without prior knowledge, without motivation if they are only undertaking the subject as a mandatory requirement of a degree, and without the opportunity to link theory and practice as they are full time students without any relevant commercial work experience? Further, is gender an issue for students when programs introduce activities to enhance interest and enjoyment in order to bridge the gap between theory and practice, programs that are highly dependent on literary and verbal skills? Studies into self-efficacy, and effect on students' motivation are also relevant in this context (6; 20). Friedlan and Mladenovic in separate studies compared the differences when students were taught in traditional and non-traditional methods, with critical thinking, current affairs and discussion exercises used in the non-traditional course, with significant positive change in their perceptions about accounting and the profession when this was used (7; 15). There have been many attempts to provide links

between theory and practice in the classroom in an attempt to create an experience to equate to practical experience in a range of disciplines (12; 26; 27; 31; 3133; 33; 34). In accounting contexts, studies have reported enhanced learning outcomes when wider reading, case studies and 'hands-on' active learning environments are provided in subjects of accounting, taxation and auditing (10; 11; 30). Gender differences in learning approaches have been addressed in the area of self-efficacy and motivation. This body of literature examines differing beliefs students hold about themselves, in particular, their belief about judgement of their capability to accomplish a task or succeed in an activity, or their self-efficacy (3; 6; 19; 20). Self-efficacy beliefs are formed by the asking of 'can' questions ("Can I do this mathematical problem?") as against self-concept beliefs formed by the asking of 'being' or 'feeling' questions ('Am I good at mathematics?' 'How do I feel about myself as a mathematics learner?') (21). Strategies to enhance motivation have been presented by Slavin Gentile and VanZile-Tamsen which include providing opportunities to be successful on academic tasks to enhance self-efficacy, emphasis by academics of the relevance and value of academic tasks, the academics emphasising learning rather than grades (8; 24; 29). This study reports on just such an attempt. Studies of gender differences in economics students, a discipline acting as a closer parallel to the current study of accounting students, found that female college students possess greater verbal ability than male students. These results were first mentioned by MacDowell et al. and repeated in studies by Siegfried, and by Anderson et al. (2; 13; 23). Greene asserts this lower score of female economics students is specially relevant to multiple choice tests, but not on essay tests (9).

THE STUDY

A newspaper article, with discussion questions attached, was distributed each week in lectures for discussion in the following tutorial. This was an attempt to impart practical knowledge not readily available to undergraduate students, and to do so through a perception of enjoyment and interest. This is the third aspect of learning outcomes the authors have reported on, the first being the effect of practical experience on learning outcomes, using interest and enjoyment in the context of the class discussion exercises, as surrogates for practical experience, the second study reports on non-English speaking background (NESB) students achieving similar or different learning outcomes to English speaking background (ESB) students and extends the earlier work by considering the impact on learning outcomes where English is not the students' first language (22; 28). This, the third study focuses attention on the learning outcomes of students based on gender differences. From a total population of 185 students comprising 11 tutorial groups studying auditing and taxation, the population was stratified into Male and Female students. Accordingly, two samples were randomly selected for the administration of the questionnaire from 7 of the 11 tutorial groups. Sample one contained 69 Female students selections, while sample two contained 49 Male selections. In both samples, students were surveyed on the use of 'real life' examples from the media to illustrate theoretical concepts presented in the classroom (See Tables 1, 2 and 3 for selected questions from the survey). The research question in this study is to gauge the extent to which gender difference, has any impact on the extent to which knowledge of practical understanding enhances the learning of auditing and taxation.

Independent variables

For each group there are two independent variables dealing with students' interest and enjoyment and six dependent variables relating to the development of understanding in the subject, the textbooks, related current affairs, the set assignment and issues faced by professional accountants. The main objectives of the study are to assess the following hypothesis: H1. There is a positive relationship between the perception of the classroom environment and the surrogate practical experience in the learning of auditing and taxation for all students. All students, male and female, experience similar learning outcomes. Questions from the survey that related to the two independent variables are: First, did you find the discussion of articles, given out in class, made the tutorials more enjoyable and second, did you find the current affairs articles increased your interest in the subject? Interest is defined as "a quality which excites curiosity or holds the attention (16: 684)" while enjoyment is defined as "the experience of pleasure (16 :434)". From a teaching standpoint enjoyment and interest per se are not important except in as much as they impact on students' perception of access to practical knowledge. Enjoyment and interest are seen as one independent variable from a teaching point of view as they form the surrogate representing the presage factor of classroom climate in Biggs' earlier model of Classroom Learning (4 p. 75) and climate/ethos in his later model (5 p. 18).

Dependent variable, learning outcomes

Six questions represent the learning outcomes being dependent, from the student presage perspective on either finding the tutorial enjoyable or interesting and from a teaching presage perspective on creating an appropriate teaching climate/environment. These independent variables represent surrogates for acquiring practical experience. Questions from the survey that related to the six dependent variables related to understanding of the subject, the resources used, encouragement to seek out further resources, understanding of current events, assessment and links to the 'real life' accounting practice.

ANALYSIS AND FINDINGS

Correlation analysis was used to test the association of independent variable classroom environment and dependent variable learning outcomes for Group 1, Male students and Group 2 Female students (descriptive statistics are available in Appendix 1). Correlation analysis can be used to determine the strength of the relationship between two variables (1: 495) in this study between the independent variable classroom environment and the dependent variable learning outcome. When an increase in one variable is generally associated with an increase in the second variable, the two variables are 'positively correlated' (14 : 96). The numerical descriptive measure of correlation is provided by the Pearson product moment coefficient of correlation, r , which measures the strength of the linear relationship between the two variables: the closer r comes to 1, the stronger the relationship between the two variables (14 : 490). Correlation analysis found a positive linear relationship for the two models. Correlation between the two independent variables of enjoyment and interest being the classroom environment and the 6 dependent variables making up the perception of learning outcomes were: Group 1 Male ' r ' = 0.508551 and Group 2 Female ' r ' = 0.734293. Both groups show a significant positive correlation between the relevance of practical experience to the accounting subjects of auditing and taxation is expressed by the surrogates of classroom environment, and learning outcomes. The correlation for Group 1, Males is lower than Group 2, Females with the results not being in line with expectations. The lower correlation for Group 1, Males is only small and although it may be not be statistically significant, it is significant in qualitative terms as no student should be disadvantaged by teaching methods, whatever their gender. To further examine the significance of the two results, hypothesis testing was undertaken, using the Null Hypothesis it is assumed that there is 'no significant difference' in the two samples. This is said to be true unless sufficient evidence can be found in a sample to reject it (1:269). A one tailed Test, using a level of significance of 0.05, was used to confirm that Group 1, Male students achieved a significantly lower perception of classroom environment and learning outcomes than Group 2, Female students (See Appendix 2). The samples for perception of classroom environment for both groups were both tested for the Null Hypothesis and found that in the evaluation of the classroom variable p was greater than 0.05 therefore the null hypothesis is not rejected and conclude that the gender of the students does not have a significant impact on the student's classroom environment. The samples for learning outcomes for both groups were both tested for the Null Hypothesis and found that in the evaluation of learning outcomes p was less than 0.05 therefore the null hypothesis was rejected, and conclude that the gender of the students does have a significant impact on the student's learning outcomes

DISCUSSION AND CONCLUSION

The conclusion as to whether male and female students have the same classroom perception, and are consequently able to achieve the same learning outcomes, is a difficult one and looks to the self-efficacy literature on the influences on males and females of their self-belief about their ability to achieve academic mastery. The correlation analysis between the classroom environment and the learning outcomes indicate that male students achieve lower learning outcomes. Statistically by using the Null Hypothesis where it was found that the perception of classroom environment for the two groups was not significantly different while the learning outcomes for the two groups differed significantly. Further research will be required to investigate specific factors contributing to the lowered performance of males in such a classroom exercise, in an effort to make the learning activity equally successful for males and females, particularly in light of the fact that they are so highly represented, when compared to females, in senior positions in the accounting profession.

Appendices and references available on request from the authors.