

Management Science and Student Perception: Application and Testing of Strategies and Learning Outcomes

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Abstract

Strategies in Management Science must be tested for validation to reveal if strategies are effective or ineffective. This paper is about testing the validity of two main strategies employed in our Management and Security Studies pedagogy: (1) the flipped classroom; and, (2) online learning. The “student perception survey” was conducted over two semesters between 2014 and 2015. The paper also provides a brief professional and demographic background of the students in Management and Security studies who are full-time working professionals in management positions in the security industry. Actual data for eight courses in Management and Security Studies was analysed to show if (1) Student Learning Outcomes were achieved; and, (2) whether Security studies concepts, flipped learning and innovative online strategies worked successfully when applied at the workplace.

Keywords: Management science; Teaching strategies; Flipped classroom; Online learning; Student perception survey; Working adults; Security studies

Introduction

Management Science cannot be conflated with marketing science because it will cause confusion [1,2]. Rather, management science must maintain a scientific approach towards testing the validity of its hypotheses, research methods, and strategies. Decision-making at the management level must take into account a variegated range of issues and impact factors that would be a consequence of any action that is taken. Often these decisions are made at the individual rather than the group level. There will be impact on the group and teams of workers regardless of how or when such decisions are made [3,4]. Group work is critical to management science and is integral to the teaching and learning pedagogy of the university because it emphasizes the importance of teamwork, group cohesion and leadership [5]. These lessons from Management Science apply to social sciences such as political science.

The prominent management guru and political scientist, Herbert A. Simon has observed decades ago, teaching political science is becoming increasingly challenging even to old hands at the grindstone. This complexity engulfs the entire spectrum of political science pedagogy. Sum and Light remind us in their article, “Assessing Student Learning Outcomes and Documenting Success through a Capstone Course” that “recent scholarship reveals the expansion and enhancement of assessment in political science, offering strategies for how to foster a culture of assessment and design or implement standard scoring instruments, portfolios, and other techniques in both conventional and virtual classrooms” [6]. This phenomenon is in fact not as new as they suggest. This is because modern political scientists have been concerned by the issue of teaching and learning since the time of the positivist movement of the 1950s and 1960s. The importance of teaching and evaluating political science itself was raised by many scholars [7-9]. Leonard Fein for example referred to randomized efforts in teaching and research application, while Vernon Van Dyke’s seminal volume on Teaching Political Science veered off-course with Landau, Van Dyke, Eulau and Kariel’s chapters. We wish to avoid those approaches as teaching political science is more than just an act.

The motivation for this paper arose from the dire need to test learning outcomes and the application of Security Studies (as a minor subfield of Political Science) to the “real world”. Testing the learning outcomes is similar to establishing “evidence” to prove that what has been taught and applied in the classroom has actual consequences

in the real world. We should test the efficacy of our Security Studies learning outcomes before rigor mortis (if it ever does set in) [10].

The Management and Security Studies programme at SIM University was established in 2007 under the auspices of a Memorandum of Understanding between the Singapore Police Force (SPF) and SIM University. The MOU was renewed in 2011 till 2016 and is now a permanent feature of the academic relationship between the two institutions. The SPF desired to upgrade their Junior Officers’ educational qualifications and SIM University provided a suitable avenue. SPF also sponsors between 10-15 students a year to complete the programmes in Security Studies. But because all Singaporean students receive university subsidies (55%), the universities have to demonstrate “substance” in their teaching and research as well as evidence in their teaching and research “processes”. This is why SIM University has pioneered the implementation of student learning outcomes in all 55 programmes across its 4 schools. Each Security Studies course for example has between 12-14 learning outcomes making a grand total of 96-112 learning outcomes for 8 courses. To test if these 96-112 learning outcomes have had the desired impact, we have reduced them to 5 main learning outcomes that are provided in a subsequent section of this paper. Another means of justifying to the State for each Singaporean student that we accept we implemented a rigorous system of administrative and class audits at the programme level as well as the University level. Also, to efficiently test student preparedness for seminars, the University has adopted the flipped classroom technique, flexible online assessments and various online means of providing material resources for ease of student learning as demonstrated in the scholarship on American systems of online instruction and learning [11]. This was also included in the survey.

Profile of Security Studies’ Students

The students reading Security Studies are classified as professional,

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working students in the public and private security industry in Singapore and overseas. The average age of the students is 27 years. Most of the students come from working class backgrounds with an average income of USD39,500 per annum based on voluntary, non-traceable income disclosure. The students are a mix of Chinese, Indian, Eurasian and Malays. Approximately 43% are Malay Muslims and 25% Buddhists, and 15% Christians. The others have no religious preference and are classified by the State as Free Thinkers. Most of the students are Junior Officers with a minimum rank of Sergeant and above. Some are Senior Officers holding the rank of Deputy Superintendent of Police. 75% of the students are from the SPF while others come from the Singapore Civil Defence Force (SCDF), Singapore Prisons' Service (SPS), the Internal Security Department (ISD), the Ministry of Defence (MINDEF) and the private sector. The gender division is about 51% males and 49% females. At least 40% are married with an average of 1.5 children. Our students have an average work experience of between 4 to 35 years in the public or private security industry. Therefore our instructors have to be confident and capable and our pedagogical systems have to be sensitive to the needs of our working adult students. Questions on students' satisfaction and students' teaching preferences were included as part of the survey to ensure that we understand our students' desired learning outcomes. The group of students involved in this survey are Management and Security Studies student who work in groups and are assessed by their group performance in what we refer to as "Group Based Assignments" (GBA). They take courses in Accounting, Finance, Marketing, Economics, and Business as well as Security Studies courses as a Minor. No personal data or identifiers related to individuals or groups of students have been disclosed, used or divulged in this survey research required by the Singapore Personal Data Protection Act at 2014.

Intention

The intention of this paper is to test if the Student Learning Outcomes were achieved in eight Security Studies courses in Semester I and II (July 2014 and January 2015). The eight courses are SEC331e Theory and Practice in Security Studies, SEC333e Government and Security, SEC335e Economic Security, SEC 337e Security and Technology, SEC339e Crime and Punishment in Southeast Asia, SEC341e Terrorism and Society: A Survey of Terrorist Groups, SEC343e Security and Psychology: The Mind of the Terrorist, and SEC345e Non-Traditional Security. The synopses and curricula of these eight courses have been publicly available on the web since July 2011. The five student learning outcomes are:

The five main student learning outcomes

1. To understand the concepts used in security studies.
2. To apply security studies concepts to real world experiences.
3. To identify political phenomena and apply the correct techniques to explain these phenomena.
4. To assess the competence of instructors in Security Studies.
5. To gauge the value of the flipped classroom and online learning methods in security studies.

Method

A survey instrument for the target population was designed in January 2014. It consisted of 20 questions in American English. The questions consisted of 25 questions. The survey instrument is attached to this paper as Appendix A. The survey was sent online anonymously

to all Security Studies students' official university email addresses and was administered only to SIM University students.

Survey Results and Analysis

A total of 83 students are eligible for the survey. There was a response rate of 40.67% (34 responses). As seen below and in Appendix A, all the students had read most of the eight courses and had a high-level of confidence. Most of the student respondents were in law enforcement and many carry live ammunition and weapons on a daily basis. Most preferred to have more contact time with their instructors but this is not possible as costs such as student fees would sky-rocket. Most students believed that they were receiving useful tools for study and wanted more. More students are gravitating towards no Final Examinations. The actual breakdown of their responses is illustrated in Appendix A and in the briefs below.

Students' self-confidence level

Student respondents self-rated themselves "Excellent" (13.3%), "Very Good" (26.7%), Satisfactory (18%), and none rated themselves as poor (0%). This shows a high level of self-confidence among the students.

Personal consultation time with instructor

At least 70% of students felt there should be more contact time, while at least 20% actually called for such contact time to be cancelled by the University.

Revision lessons

Most students wanted more revision slides, more one-on-one, face-to-face revisions with the instructor and more revisions "online".

Examinations

98% could identify Security Studies Concepts; another 65% wanted to have more pre-seminar summative quizzes; only 65% believed that there should be a post-seminar summative Quiz. There was no question on "formative quizzes" which are not used as they had been some years ago. While 73% responded that there should not be any Closed Book, 2-hour long written Final Examinations.

Applicability of concepts to real Life

56% believe that the concepts taught were applicable to their daily work

70% believe that the concepts taught match the real world security situations

91% believe that the concepts taught explain security phenomena

Over 85% believe that the concepts help them navigate through real world complexities.

Professional competence of teachers

Between 88-97% believe that their instructors are professional and competent with about 5% believed that they were less than competent. There was about a 5% failure rate for most of this cohort for those particular Security studies courses.

Online strategies

About 65% believed that the online courses were acceptable, while more than 98% believed that the online strategies of the flipped classroom innovations, Discussion Boards and Discussion Forums were

useful pedagogical tools. They also wanted more “interest corners” and “topic clarification corners” than those that are presently online. Over 97% believed that “flexible learning is important for working adults like me because it gives me some freedom to attend to professional and personal activities”. The respondents were about evenly split among those who believed My UniSIM Blackboard (this is currently the main Learning Management System at UniSIM) was useful and reliable (33%), broke down too often (33%), or had no opinion (34%).

Conclusion

The student learning outcomes for all eight courses over the two selected semesters were achieved. This was illustrated in the students’ support of the flexible and innovative pedagogical strategies used by SIM University as well as the relevance of Security Studies concepts to the students’ professional workplaces. There was sufficient evidence in our test results to prove that there is a strong correlation between what we teach, what students learn, and what graduates eventually apply at work. This is because at UniSIM, what we teach in Security Studies today can be applied the following day at work. The part-time UniSIM students do not have to wait for four years before applying their skills.

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