

Critical Thinking and Organisation Theory: Embedding a process to encourage graduate capabilities

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ABSTRACT

The need for the development of effective business curricula that meets the needs of the marketplace has created an increase in the adoption of core competencies lists identifying appropriate graduate skills. Many organisations and tertiary institutions have individual graduate capabilities lists including skills deemed essential for success. Skills recognised as 'critical thinking' are popular inclusions on core competencies and graduate capability lists. While there is literature outlining 'critical thinking' frameworks, methods of teaching it and calls for its integration into business curricula, few studies actually identify quantifiable improvements achieved in this area. This project sought to address the development of 'critical thinking' skills in a management degree program by embedding a process for critical thinking within a theory unit undertaken by students early in the program. Focus groups and a student survey were used to identify issues of both content and implementation and to develop a student perspective on their needs in thinking critically. A process utilising a framework of critical thinking was integrated through a workbook of weekly case studies for group analysis, discussions and experiential exercises. The experience included formative and summative assessment. Initial results indicate a greater valuation by students of their experience in the organisation theory unit; better marks for mid semester essay assignments and higher evaluations on the university administered survey of students' satisfaction.

Keywords: critical thinking; organisation theory; graduate capabilities; management education

Introduction

Both employers and students are insisting that business courses provide participants with the ability to understand and interact with the ever-changing business environment. Undergraduate management courses are increasingly encouraged to include content and processes which enable students to enter the workforce as 'job ready' from both employer and student perspectives. Employers are less willing to accept graduates who are focused on academic qualifications, rather than what they see as authentic learning outcomes, in terms of relevance to their organisation (Clutterbuck 2000, 40). These explanations support the increasing use by tertiary institutions of core competencies and/or graduate capabilities lists with a view to providing a framework to underpin explanations of relevance.

Evaluation of core competencies and graduate capabilities lists across businesses and tertiary institutions reveals that despite some minor differences, most look remarkably similar to each other (Schleede 2002). One of the commonalities is the increasing recognition that critical thinking forms the basis upon which all other effective managerial decision making is made. It has been suggested that the majority of individual courses merely present a body of unquestionable, 'valid' knowledge that must be mastered by the student (Grey and French 1996). However, in the past, the integration of the discipline-based knowledge with the practical requirements of business through such core competencies as 'critical thinking' has been predominantly left to the student. The impact has been the recognition by employers that university graduates lack these core skills needed by organisations (Bennis & O'Toole 2005; Smith 2004, 24; Solon 2003, 27). The need to improve the understanding of the successful strategies available to management educators for developing this crucial skill has become paramount in terms of continued management success in literally every decision making environment. This paper traces the development of a process of teaching critical thinking included into an introductory organisation theory unit in an undergraduate business degree program. Results indicate that students value their experience in developing 'critical thinking' skills and indications are that higher assessment scores are evident.

Background

There is an abundance of literature devoted to 'critical thinking', much of which highlights the need for the integration of 'critical thinking' into graduate courses. Even with this taken into consideration, Mingers (2000) suggests that the teaching approach remains largely didactic, despite the increasing use of role-plays, case studies etcetera, as the learning environment does not 'problematize knowledge itself.' This insight is particularly relevant given the concern that as a consequence of the current economic climate within tertiary institutions, funding has been reduced, students incur more debt and greater emphasis has been placed on relevance to industry, practicality and skills as a result of the increasing measurement of university performance using relatively crude instruments (Mingers 2000). However, despite this recognition and the genuine desire to provide this for students, results indicate that few courses achieve any recognisable or quantifiable improvement in student learning in this area (Solon 2003, 26; Lauer 2005, 340). Further, students frequently identify difficulty in transferring the ability to think critically from one subject area to another (van Gelder 2005, 41). This appears to be a direct result of the complexity of both the concept of 'critical thinking' itself and the difficulty of its implementation within adult education and tertiary environments. Wright (2002, 1) highlights the difficulties in developing critical thinking at a tertiary level as resulting from "competing definitions and practices and many barriers to its implementation." He suggests that developing a specific course for the development of 'critical thinking' is fraught with concern, primarily as the skills developed within it may not be carried over to the other subject areas.

Gong (2005, 1) argues that there is an important distinction between teaching 'critical thinking' skills and teaching 'critical thinkers'. Specifically, the attainment of skills such as the ability to spot assumptions, form conclusions and diagnose fallacies, does not necessarily enable individuals to "explicate, understand and critique their own deepest prejudices, biases and misconceptions" (Paul in Gong, 2005, 1). Paul (1990) also suggests that different situations or contexts require different decision making approaches and this demands flexible application of 'critical thinking' skills, therefore, making it even more difficult to determine effectiveness in implementation.

There are a number of definitions for what constitutes critical thinking. Ivie (2001) uses a definition from Ennis (1987) to define 'critical thinking' in terms of reflective practice, which, when applied to particular problems or questions, enables one to "establish clear and logical connections between beginning premises, relevant facts, and warranted conclusions" (Ivie 2001, 10). However, Begley (2006) suggests that 'critical thinking' involves being able to evaluate evidence, discern fact from opinion, see holes in an argument, and determine whether cause and effect has been established. Yet another definition focuses on critical thinking as self-directed thinking; "Critical thinking is disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thought" (Paul 1990, 49). Paul (1990) also includes the concept of 'meta-cognition' evidenced by the suggestion of the need for self-discipline when engaging in critical thinking. This variety of definitions shows a lack of consensus as to what constitutes critical thinking.

The importance of understanding what constitutes 'critical thinking' remains vital to gaining the skills. While Ivie (2002) argues that merely memorizing the steps involved in critical thinking will not lead to the development of critical thinkers, Athanassiou, McNett and Harvey (2003) suggest that content knowledge of critical thinking is fundamental to its successful adoption by students. In simple terms, it is unlikely that without a basic understanding of the skills and concepts that comprise critical thinking, participants will be able to develop the skill. There are a number of critical thinking frameworks designed to aid the understanding of the complex concept of 'critical thinking' (see Bloom 1964; Facione 2007).

The definition of what is 'critical thinking' is not the only consideration in developing the skill. The process of teaching 'critical thinking' assists the 'take-up' of both the knowledge and the necessary skills. Argyris (1991) observed that many people have an inbuilt defensive mechanism that helps to prevent learning. Learning about the processes that assist learning provides a double incentive for students. Overcoming this defensiveness requires the use of a 'critical thinking' process in a specific context so the students can focus on their own development. Athanassiou et. al. (2003) believes this illustrates the difference between 'teaching' and 'learning' critical thinking skills. Ruggiero (1988) believes that critical thinking depends not on what is taught, but rather on how it is taught (in Burbach, Matkin, and Fritz, 2004). However, each of the different views of what constitutes 'critical thinking' brings with it a preferred pedagogy intended as the most likely approach for developing the skill within students. Ivie (2001) highlights the use of 'metaphor' as the most appropriate methodology given the need to 'reflect' on personal bias whereas Begley (2006) suggests a focus on logic and evidence-based causal argument.

A popular approach to developing critical thinking skills is to ensure that students are taught critical thinking skills within active, or experiential, learning environments. This approach is supported by Willmott (1997) in his case for the integration of action learning with critical thinking, which he has termed 'critical action learning'. He suggests that by combining the two concepts, learning is transformed from the traditional perspective, that of transmission of abstract, universal knowledge, to the approach that "learning is a process of self-development in which knowledge is acquired through its relevance to real-life engagements and the struggles of the

learner.” Lauer (2005) suggests that despite this, in many cases, as students attempt to develop the higher-order critical thinking skills, assessment tasks, conversely, demand standard responses to questions focused on mere knowledge and comprehension. He suggests that by using a critical thinking pedagogy, it is possible for students to better develop their own critical thinking skills. Further, and most importantly, he argues that through the use of inquiry based learning and an active learning environment; students will have the opportunity to apply the various critical thinking skills as opposed to simply regurgitating a step based definition of a framework (Lauer 2005). The infusion of critical thinking with existing subject matter provides an appropriate pedagogy in the development of critical thinking skills as there is “less risk of teaching inert knowledge – knowledge that is never applied outside of the subject matter” (Wright 2002).

Despite the conflicting definitions of what constitutes critical thinking and the identifiable challenges of teaching this skill, the literature has some key suggestions and recommendations. There is broad agreement that students need an understanding of the basic theory of critical thinking (Athanassiou, McNett and Harvey 2003); to be given ample practice (Solon 2003; van Gelder 2005) in an active learning environment (Solon 2003; Lauer 2005). This paper outlines the development, implementation and outcomes for the incorporation of ‘critical thinking’ as a means to develop appropriate skills, within an organisational theory unit.

Context

The subject area under consideration for the inclusion of a critical thinking process was an organisational theory unit in an undergraduate business degree. The unit takes a macro perspective in the study of organisations and groups, with the organisation as the unit of analysis. Organisational theory from a macro perspective is concerned with employee performance and attitudes and with the overall organisation’s ability to achieve its goals and adapt to its environment (Robbins and Barnwell 2006). The importance of a ‘critical thinking process’ in organisation theory is magnified when consideration is given to the difficult nature of management choices in today’s dynamic and complex environments. Further, the breadth in the sources of management knowledge recognised as including both hard and soft theories; fads and fashions and popular accounts as well as learning by doing, (Fulop & Rifkin 2004) all require skills in interpretation, analysis and evaluation obtained through critical thinking.

Method

Focus group and survey methods were used to collect information from students who had completed the unit earlier. Approximately 200 management students undertake the unit each semester. Three semi-structured focus groups were used to collect data from a cohort of students that had taken the unit in the two previous semesters. A short survey using three questions was also undertaken in the classroom. It asked students to identify what was done well in the unit, what could be improved and provided a section for any further comments. Information from the Learning Experience Questionnaire (LEX), a questionnaire offered at the end of each semester through the university, was used to gather information on the learning experience particular to a semester cohort. Focus groups provided the researchers with the opportunity to gather information on the topic of ‘critical thinking’ in a management unit, through the interaction of the student group. In this study it was important to take a qualitative approach to identifying specific; student focused issues in the learning of management and organisation theory because there was little information on the critical thinking process specifically related to the discipline of management and organisation theory. Further, this approach also provides a richer depth of data not available through traditional collection avenues (Zikmund 2003, 111)

One focus group in each of the two semesters prior to developing and implementing a critical thinking process were used to gather information on student needs. Another focus group was then conducted in the semester following the implementation and was used to gather information on the implemented approach to the teaching of critical thinking. Students were called on to volunteer to be part of the focus group process and respondents were offered free movie passes for their time and effort. Between 6 and 8 students participated in each of the focus groups. The facilitator was a tutor within the unit but not the unit coordinator. The facilitator guided the conversation and interaction through a series of semi-structured questions and was careful not to lead the participants but to listen. Notes were recorded during the discussion and transcribed within twenty four hours.

Initial Findings

First round focus group

Recurrent themes from the focus group identified four major themes including the:

- (1) gap between management education and management learning;
- (2) issue of textbook and complementary teaching material;
- (3) structure of tutorials and
- (4) complexity of the process of critical thinking.

Students identified a gap between learning and practice. Students believed that the unit was to teach them how to become managers yet they felt unable to put their learning into practice. They indicated that the most positive aspects of the unit were, in no particular order: the lecture content, the teaching staff, the variety of viewpoints offered, the readings, the value of case studies in class and the class discussions in tutorials. However, students suggested the need for greater structure within the tutorials including the need for a workbook or similar resources to assist in both learning management theory and to facilitate broader discussions within the tutorials on the application of this new knowledge. This provides an interesting paradox. Students recognize the need to be critical thinkers yet in demanding greater structure they potentially limit their scope in developing this skill. The need for more structured tutorials where case studies and examples reinforce theories and different perspectives was a common view held by students. There may be several reasons for this including individual preference or pragmatism in achieving sound results. The term 'critical thinking' was widely perceived by students as "problem solving" but not as a process that could be developed through practice and application. Students also identified a difficulty with the textbook, in particular, its inability to provide a challenge, whereas tutors identified a lack of complementary teaching material.

First Round Survey

Recurrent themes from the questionnaire identified three major themes including:

- (1) Liked lectures but wanted direction in studying for the exam and critical essay development
- (2) Recognised and liked examples/videos and cases in lectures and tutorials and wanted more
- (3) Strong positive feedback on lecturer and tutors but wanted more disciplined process rather than "open discussion" in tutorials

Students identified that they liked the lectures and believed the content to be appropriate and helpful. Yet, they believed that they needed more direction and assistance in understanding the material and studying for the assessment requirements. Students recognised and enjoyed the learning experiences including exercises, videos, cases and examples and wanted more of them in both lectures and tutorials. In addition there was strong positive feedback for both the

lecturer(s) and the tutors but many students wanted a more disciplined process of discussion and participation in tutorials.

University Survey

In the previous offering of the unit a LEX survey was conducted to which respondents evaluated the unit at 3.2 out of 5, on the measure of 'Overall Unit Evaluation'. However, the response rate of 12.2% was low (N=180, n=22).

Implementation

A new textbook with greater links to other management units both pre and post this management theory unit was selected and trialled. A tutorial workbook was developed that incorporated a number of case studies; experiential exercises; reflective opportunities; learning notes and discussion questions linked specifically to each lecture. In addition, Facione's (2007) framework for developing a 'critical thinking' skill set was adopted throughout the workbook to assist students in understanding the process and allow for the development of these specific skills. Facione (2007) outlines six steps as the core of successful critical thinking, namely; analysis, inference, interpretation, self-regulation, explanation, evaluation. He goes on to highlight the lifelong use of critical thinking as a process for not only gaining better grades, but as a key aspect of a liberal education, essential for the development of knowledge and society as a whole. Taking both the main concepts from the framework, and applying them throughout the learning of management and organisational theory, it was possible to provide an active learning environment in which students could practice developing their critical thinking skills through the application of the subject matter.

Through the use of a combination of theory, case analysis, small group work, and discussions which create a 'real world' context for students, their skills for thinking critically were encouraged, utilised and challenged. This approach provided a sound platform on which to build weekly learning tasks. As an example, the first tutorial exercise included small group work based on discussion questions regarding the means of learning management skills which in-turn is based on readings from their texts and on-line readings. Each week, students investigate one aspect of critical thinking including 'interpretation' 'analysis' 'evaluation' 'inference' and 'explanation'. Based on Facione's (2007) critical thinking taxonomy, these five levels of critical thinking were woven into classroom activities that progressively built the students' capacity to apply a critical thinking process. Grounded in the use of 'real word' examples students were coached through the exercises in such a manner that they 'did the mental work', either as members of a group or individually, depending on the specific exercise. Throughout the tutorial guide, explanations and exercises assist student learning and application. Recommended readings and other activities provide the opportunity for student reflection, feedback and correction, as required, before moving to the next level (Facione, 2007). This concurs precisely with suggestions made in the literature, in terms of developing a skills based capacity for critical thinking (see Athanassiou, McNett and Harvey 2003; Solon 2003; van Gelder 2005; Lauer 2005). Time was also specifically allocated in both lectures and tutorials for discussion. This provided opportunities for reflection by students in terms of their own cognitive processes (meta-cognition) and the real time application of these skills to the business situation at hand – thereby allowing timely correction of errors by tutors and the lecturer. While not uncommon in the management education classroom, this approach links directly with the literature, specifically, both Paul (1990), in relation to meta-cognition and the need for self-discipline; and Ivie (2001) who recognises the need for 'reflection' while employing one's critical thinking ability.

To aid the process, a tutor's guide was developed to assist tutors in using a critical thinking framework within tutorials. The tutor's guide provided tutors with fairly

specific instructions as to content for each class in such a manner as to build up the knowledge and skills step by step. For example, to assist the students to understand the 'process' of critical thinking tutors were provided with additional guidance in terms of specific points or observations made in relation to the cases used in that class. This reinforced the learning objectives of that particular tutorial task and helped to ensure consistency across a number of classes. It should be noted that tutors in the unit have been teaching this unit for several semesters and were using the critical thinking framework prior to the development of the structured approach through the tutorial workbook for students.

Assessment and the criteria for assessment were also developed to reflect the framework. The assessment consisted of a research essay on a topic specific to organisation theory. Students were required to interpret the problem and develop their own argument through a process of research which had them record their analysis of up to five (5) sources on sheets specifically designed to assist the analysis process. Marking criteria was linked specifically to each of the skills of critical thinking.

An incentive to actively participate in the exercises throughout the tutorial workbook was the inclusion in the workbook of space providing an opportunity for students to summarise their own experiences with the critical thinking process and to identify their skills which were developed/enhanced while studying in this unit. A list of guiding questions designed to assist students to develop this summary helped enable them to compile their own 'graduate capabilities' framework and to retain this information in a 'Student Portfolio', available through the university and accessible via the internet by potential employers. This supplied a logical incentive for many students by linking the task to the possibility for future employment and the building of their resume.

Results

Initially students were unsupportive of the workbook and its 'critical thinking' approach. This may be attributed to any number of reasons including, a desire to identify 'the right answer'; a failure to recognise the importance of 'critical thinking' as a management skill; or even simple monetary and time pressures common for most students in everyday life. However, despite this initial reluctance, feedback received from students at the end of the first semester of use through the Learning Experience Questionnaire (LEX) highlighted that, overall, students found the approach, the activities, particularly the use of videos and experiential exercises, extremely useful and relevant to their personal development and future roles as managers. A further written survey and focus group of students is planned in subsequent semester(s) to build a rigorous picture of student perception and capability development.

Quantitatively, the LEX results show an improved perception of the unit overall (N=153, n=43), giving 28% response rate on the measure of 'Overall Unit Evaluation' (3.6). Even taking into consideration the change in sample size, this is a significant improvement in such a short duration. While this is an improvement, overall the response rate remains disappointing. The low response rate may result from a number of underlying factors, such as student perceptions of the actual use of their feedback in unit design; concern of personal details and comments being available to teaching staff; a perceived lack of time given that the surveys are disseminated (electronically) towards the end of the semester. Evidence from the students' assessment results, while not conclusive or causal, show that, on average, students performed much better in the task than in earlier offerings of this management unit. Essay results prior to the change had a mean of 62% (n=213) while post change the mean was 70% (n=137). Qualitatively, unsolicited feedback from students, both informal and formal feedback from tutors and support staff reinforced the quantitative measures of performance. There was agreement that students became more engaged with the

material and began to see the connection between task requirements, the development of critical thinking as a skill and need for this skill as a manager within the wider community.

In consideration of the feedback, both quantitative and qualitative, there is evidence that improved learning outcomes were achieved through the integration of critical thinking theory and 'real world' problems within an organisation theory unit. This suggests that through the introduction of the workbook and the more 'formalised' discussion in tutorials, students were able to recognise the need for and to develop their capacity for critical thinking, as required for the successful completion of the assessment items.

Discussion and Conclusion

Embedding the process of critical thinking into the teaching and learning of organisation theory has been a fruitful experience for all parties. Specifically, student feedback highlights the increased understanding of the importance of critical thinking as a skill for everyday life, whereas teaching staff agree that the process of teaching and learning has been enhanced with greater participation in tutorials and active engagement in the research process by students. Furthermore, student results, while not conclusive, show improvement in the skills required for critical case analysis. In addition the unit's coordinator believes the research, design and implementation of the new process has assisted in building team cohesion and provided opportunities for tutors to participate in other activities including research into teaching, learning and lecturing.

As yet the project is unfinished. To-date results have reinforced the theory in that not only must tasks be relevant and challenging, in terms of content, the teaching of the theory of critical thinking, allowing time to practice and acquire the skill is also necessary in order to develop student understanding and ability.

Further surveys and focus groups are planned to identify student outcomes and to further develop the process. The future direction involves the linking of specific graduate capabilities and management learning through the skills of critical thinking, across a suite of management units.

Limitations and Future Research

While this project adds to the knowledge of critical thinking, there are several limitations to the study, including the potential impact of self-selection bias, the impact of attendance at lectures and tutorials on student learning and the decision by students to opt out of submitting the assessment. In all cases, the data used to measure student perceptions of the new process, including both quantitative and qualitative LEX responses, focus group feedback, and unsolicited feedback from both tutors and students, was derived from respondents who volunteered to be part of the research project. This may create a tendency for the data to be skew towards a more positive appreciation than is actually the case. While the assessment item is considered compulsory, several students opted not to submit their responses to the assessment task. This too may skew results, albeit marginally, in that those who felt that they had not mastered the skill of critical thinking chose to avoid the need rather than expose themselves to criticism, even when constructive.

Research following on from this project could include attendance records in an effort to control for student absenteeism and its effect on both student understanding of the theory of critical thinking, their ability to practice the skill, and their impression of the usefulness, overall, of the skill to their future personal and professional development.

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Appendix One: Focus Group Questions

Management Learning

What do you understand of the role of managers in organisations?

What do you understand as important in gaining knowledge in management and organisation?

In undertaking MGB222 Managing Organisations what sort of knowledge did you need in order to understand management and organisation theory?

Analysis – Critical Thinking – Problem Solving Skills

What is critical thinking in a management context?

Why is critical thinking of particular value to managers?

Why would it be of value to you to have cognitive skills in interpretation, analysis and explanation?

Gaining the skills in Critical Thinking and Analysis

What do you think MGB222 could provide to assist you in gaining skills in critical thinking?

What do you think a lecturer and unit coordinator could do to assist you in gaining these skills?

What do you think a tutor could do to assist you in gaining these skills?

What do you think students can do to assist themselves in gaining these skills?