CRITICAL THINKING


This paper outlines the means and benefits of using critical thinking in the training of managerial skills, offering a model and suggestions for the rehashing of the present managerial training. Caproni and Arias (1997) outline the training of managerial skills to mean the development or enhancement of an individual’s management skills, which includes interpersonal communication as well as conflict resolution, goal setting, and power management. Many experts (including the authors) feel that current training is insufficient to meet new trends such as globalization and multicultural work forces, multi-career families and new organizational forms like virtual organizations. Critical thinking skills applied to managerial training will allow students to be more effective, thoughtful and responsible managers (Caproni & Arias, 1997). Because the traditional training of management skills begins with personal reflection and understanding of the self, application of critical thinking causes students to consider how the view of self, and certain character traits are viewed differently depending on the culture and time period. The authors reason that critical thinking will draw attention to competencies not traditionally used in managerial training, but would benefit students facing the new social trends mentioned above. The implementation of critical thinking skills in the managerial training programs would focus on a cultural perspective. In order to implement such changes into the present curriculum, educators should first introduce literature that presents different methods of critical thinking in addition to the traditional texts. Some of the new readings are handouts to supplement discussion, while others are used as background readings for lectures (Caproni & Arias, 1997). Educators are then encouraged to bring additional resources into the discussions, and provide students with the opportunities to practice the critical perspective. The authors warn that the current managerial skills training has been created in cooperation with educators and students, and although it will be difficult to incorporate critical skills into the already fine-tuned curriculum, it is necessary for the training to be applicable in the real world.


Using a professional selling course as an example, this paper seeks to present a means of incorporating critical skills into the curriculum for a marketing program. Using Bloom’s taxonomy for increasing cognitive skills, and using cases to increase problem solving skills and measure achievement, the paper also proposes means of restructuring marketing courses to include these skills. Bloom’s taxonomy (1956) outlines six hierarchical levels of learning. Gronlund (1970) translates these cognitive levels into learning objectives, that can easily be applied to any discipline or curriculum. The learning objectives include focus questions to ensure the course in development will function with the existing curriculum as well as meeting its specific learning goals.
Educators employing Gronlund’s learning objectives find the evaluation of their students to be much more accurate. The selling course was relied heavily on case studies using Practical Selling: A Case Approach (Clabaugh, Weilbaker & Forbes 1992) as the main resource, where among other things students learned to specifically identify relevant facts and problems, and apply a solution. Students were required to make recommendations and support those with arguments. Other learning skills include the course culminating in a sales role-play, which is critiqued by the other students, fostering critical thinking in both participants and observers. The outcome of this selling course include higher levels of critical thinking (as outlined by Bloom) as well as increased satisfaction with the course by students and instructors. The authors reason that such an approach could be taken to the business degree program as a whole, where learning objectives are the starting point for restructuring the program and produce better skilled and more well prepared graduates.


The standard approach of teaching critical thinking skills is to teach logic and reasoning skills. Ennis (1985) was one of the first to break critical thinking skills into two factors; disposition and abilities. This paper applied the five-factor model of personality to the two-factor model of critical thinking by sorting descriptions of effective critical thinkers (outlined in 7 select resources) into the five-factor model. Two studies were performed. The first study tested the validity of the two-factor theory by three different measures of cognitive ability; WGCTA, Weschler Adult Intelligence Scale (Third Edition) and the NEO-Personality Inventory (Revised). Personality dispositions were found to contribute significant variation to the prediction of critical thinking, especially in relation to openness to experience. Study 2 validated the findings relating critical thinking to openness and to further test this relationship. Openness still accounted for a large amount of variance, and age and gender were also contributing factors. Thus, a combination of verbal ability and openness to experience were strongly contributing factors in the measurement of critical thinking. These studies confirm that both disposition and cognitive abilities contribute to critical thinking ability.


This paper aimed to establish the role that critical thinking skills, cognitive components and vocabulary ability play ion the variability observed in reading comprehension (Farley & Elmore, 1992). Critical thinking was measured using the Cornell Critical Thinking Test, and the Developing Cognitive Abilities Test (which also measured other cognitive components). The Iowa Silent Reading Test measured reading comprehension. The vocabulary subtest was found to be a significant factor predicting reading comprehension, but it was not found to be the only factor. According to Paivio
(1986), cognition is a result of verbal and nonverbal factors. This theory would explain why the Developing Cognitive Abilities Test was an important factor in predicting reading comprehension. The authors describe how it is important for comprehension that students engage in application or synthesis questions. They reason that nonverbal aspects of comprehension should also be included in the teachings.


There is an increasing need to encourage critical thinking by philosophers, psychologists and educators. Critical thinking helps to clarify and improve understanding of concepts and ideas as well as to facilitate with problem solving. The purpose of the study is to determine whether educators could teach critical thinking to students by having them engage in critical analysis of issues. Students were sampled from a southwest state university and were given the Watson-Glaser Critical Thinking appraisal, Forms A and B (Watson & Glaser, 1980a) at the beginning of the study. They were then taught critical thinking by assessing problems with the aid of the class, small groups and individually. Fourteen weeks later students responded to Watson-Glaser Critical Thinking Appraisal, Form B. Results indicated higher scores to the response of the second assessment measure on the interpretation and evaluation of arguments section of the assessment. The authors conclude that critical thinking scores improved using their teaching method.


The authors note that many educators feel students who perform poorly are in fact suffering from lack of stimulation, effectively “missing experiences” necessary to develop critical thinking and learning skills. Hannel and Hannel (1998) further to explain that systematic Socratic questioning is also necessary to foster development of critical thinking. Essentially the students “teach back” what was just presented. For example, instead of presenting a new topic of instruction using the behavioural goals outlined in the instructional text, an educator needs to create a main idea that relates directly to the students and can generate discussion. The main idea must explain that they need to learn something, and also why it is necessary to learn. In this way students of all learning abilities can be engaged in the discussion and thus the learning. Using the seven steps outlined by Hannel and Hannel (1998) in conjunction with Socratic questioning, the gap is bridged between what an educator expects students to see or know, and what the students actually see or know. This allows students of all levels to gather meaningful information from the lessons and fosters critical thinking. This process, including the seven steps, has been successfully tested in Texas. Strongest gains occurred when the seven steps and Socratic questioning were applied for at least one-quarter of the total teaching time. Based on the successes in Texas, such practices should become more widespread to enable all students to become high-performance learners.

This article is an argument for promoting new methods and better quality of thinking in young adults, using the whole brain (here termed “holistic thinking”). Hunter (1991) notes that secondary school is the perfect time to begin introducing new ways of thinking to adolescents, giving them the knowledge and skills to formulate and support arguments. He supports the move from learning simply to answer “why” to learning that also answers “why not” and “how”. Using Neimark’s (1987) idea of three-part training for higher order thinking, students must learn to better organize and understand their knowledge, as well as obtain greater insight into one’s own methods of thinking. Hunter (1991) hypothesizes that educators need to identify critical skills as they relate to each specific discipline and curriculum. The author suggests approaching this by identifying a controversial topic relating to the area of interest, and encouraging students to explore the issue from all angles. This will foster discussions and debates, thereby engaging the students and allowing them to develop the necessary skills. Hunter reminds these educators to target the issue to the appropriate age group’s experience, and to give them the tools to formulate and, if necessary, research their opinions. Finally, the author encourages a model to be developed such that educators can refer to it in creating activities that foster “holistic thinking” among their students. This article introduced the idea of “holistic thinking”, and outlined means of encouraging such thinking among adolescents.


The author in this article, Dr. John Laut from Coastal Carolina University, explores the profession of teaching and the manner in which it can be improved. He explores the need for teachers to participate in preparation for teaching in order to enhance critical skills for the field and improve the standard of teaching overall. He suggests raising the standards of teaching among educators would provide numerous benefits including increasing proficiency of teachers, simplifying skills, reducing costs and providing focus, leading to a more unified approach to teaching. He suggests that developing a strong skill set is central in being a strong educator, and providing desirable teaching. The article suggests teaching should moves away from this idea of being a ‘semi-profession’ and become a more specialized profession.


This journal article focuses on the importance of asking the right questions. In order for students to succeed in critical thinking they need to be provided with a successful set of guidelines to follow strongly as teachers lead through example. As students experience good questioning from their teachers they will attempt to respond in a similar manner. “Thinking is driven by questions”, with the notion that teaching students to ask the right questions as well as allowing them to question freely is crucial.
fro critical thinking to take off. This idea evolves out of a learner-centered environment and of a Socratic approach. Once well established it becomes easier to identify class trends; these can be used to gage moving towards deeper levels of critical thinking.


An undergraduate management major from the University of Massachusetts in Boston named Joan C. Tonn, reports a process for helping students improve critical thinking skills, use and knowledge of theory and lead them to performing stronger personal and managerial roles. She discovered that students did not have fundamental critical thinking skills and showed a disinterest in learning about theory, thus the reason for developing this process. She applies this concept where students focus on using theory through *course content* on theory and skills and through *Role* in several sections of exercise that last through 30 minute intervals. Her findings lead to this process having positive results on strengthening and establishing critical thinking skills and do lead to strong future roles.


The importance of critical thinking is emphasized for the greater good of academic learning and for safeguarding a democratic society. The *Integrity in the College Curriculum* by the Association of American Colleges (1985) and *Involvement in Learning* by the National Institution of Education (1984) stress the importance of increasing critical thinking skills in undergraduate education. This effect however has not been found by researchers, rather a low growth rate of critical thinking skills are exhibited by undergraduate students. The article focuses on how an ordinary classroom setting has an impact on a student’s critical thinking. The study samples college students from a national level and examines the effectiveness of the college courses that are commonly offered at these institutions and the teaching techniques employed to promote students’ critical thinking. A follow-up survey method is used and is administered to students who have completed 4 years of college on a full time basis. The survey questionnaire assessed students on a range of demographic, attitudinal, cognitive and affective dimensions. Results indicated a high correlation for giving class presentations and a student’s self reported critical thinking skills ($r = .41$). Working on a class project also had a high correlation with critical thinking. 9 of the 11 types of courses analyzed contributed to the growth of critical thinking with writing courses, interdisciplinary courses, honours program, history courses, science courses, women’s studies courses, math courses, foreign language courses and ethnic study courses to be effective and are listed in the order of having the greatest magnitude. The greatest effect for instructional technique contributing to critical thinking was having a paper critiqued by an instructor. Taking a multiple choice exam had a negative effect on a student’s critical thinking. An association effect was also found among instructional techniques and type of course taken by the student.

This article is about employing the critical thinking approach in a university classroom environment. According to Weast (1996), the traditional teaching approach also called the “sponge method” does not help students think in a critical manner about the issues and topics they are learning. The author mentions that employing the “panning-for-gold” outlined in “Asking the Right Questions” by Browne and Keeley (1990). Weast (1996) mentioned that in order to ensure that this approach is effective he decided to conduct a small classroom research; which involved pre-testing student’s critical thinking abilities by handing out a passage at the beginning of the year and post-testing them at the end of the semester. Weast (1996) mentions that during the semester he utilized the panning-for-gold approach by helping students ask the proper questions that will guide them to think critically, logically and more effectively. By providing the students with an essay passage at the beginning of the course he asked students to evaluate the passage accordingly in regards to any false assumptions made by the author. Weast (1996) states that the passage was handed out to two classes one where the panning-for-gold approach was employed and another class where the sponge method was utilized. At the end of the semester the students were once again given the same passage to evaluate.


This paper is a literature review listing different approaches to classification of thinking skills. Young (1992) notes that Bloom’s taxonomy is of late being taken as indiscrete levels instead of the traditional intended hierarchy. There are also numerous parallel theories of the cognitive model, including Glade and Rossa (Matthew, 1989), Marzano (Grice & Jones, 1989) and Chuska (Grice & Jones, 1989) all of whom identify specific skills important to good cognition, and then classify these skills into categories. These theories all contain the basic process of “knowledge through inquiry” (Young, 1992). The question of when thinking skills should be taught is equally debated; some preferring isolating courses, while others who believe thinking should be integrated into all other courses. Young (1992) indicated thinking would be most effectively taught using both approaches. Traditionally, thinking skills are thought of as either critical (rational) or creative (intuitive). Good teaching of thinking skills would include both types of thinking, as they are complementary and work best in combination. Effective education would include how to think as well as what to consider for each subject area (Young, 1992). The first step towards fostering critical thinking skills is to assess which skills would apply to each section of the curriculum. Integration of general thinking skills would be done through introduction, modeling, practicing and application to content (Young, 1992). Administration must be prepared to support the integration of critical thinking skills into the curriculum through creation of training programs for educators and providing support through the gradual introduction of critical thinking skills. Upon integration of thinking skills into the curriculum, teachers should use a variety of teaching
methods to meet the needs of all students. Analysis should be the emphasis of all learning, therefore educators should provide less lecture style teaching and more opportunity to foster discussions, presentations and cooperative learning.

**FIRST-YEAR EXPERIENCE**


This study investigates the role identity processes and social factors that may have an effect on the development of psychosocial resources in university students. Specifically looking at the contributions that identity status, identity processing styles, family and university relationships have on a student’s psychosocial resources. The authors held the hypothesis that that supportive university relationships and family relationships would be associated with positive psychosocial resources. They also hypothesized that relationships between university and family variables and psychosocial resources would be mediated by the identity variables. Finally they hypothesize that associations between university and family factors and identity status would be mediated by social cognitive processing style. First year university students were used as the sample for this study. They were first given the Markstrom et al inventory (1997, 2000. 2001) to measure psychosocial maturity. University relationships were assessed by using an inventory devised by Adams and Fitch (1983). Family relations were assessed by the Family Environmental Scales by Moos and Moos (1986). Identity status was measured by using the Objective Measure of Ego Identity by Adams et al. (1979). Finally identity processing style was measured by a random selection of items from the Identity Style Inventory (Berzonsky, 1992). Results indicated that psychosocial resources were positively correlated with encouraging family relations such as family cohesion, and family expressiveness. Supportive university relationships were positively associated with student’s psychosocial resources. Having an informational identity style and being in the identity achieved status was positively correlated with a student’s psychosocial resources.


Students pursuing degrees in the Arts, Humanities or Social Science have the largest enrollment of students in these faculties, with the exception of the faculty of Business. Studies have indicated that although a minority an overwhelming number of these students are of 25 years or older. The demographics of students are changing with an increasing number of students who are multi-modal external Part time students. Many students who are in both part time and full time studies also are working long hours in paid employment. As student groups are becoming more homogenous there is an urgency
to offer appropriate access to transition programs for students who are coming from a variety of backgrounds. These include students whose primary language is not English, students who have disabilities, students who come from socio-economically disadvantaged backgrounds, rural and isolated peoples and Aboriginal and Torres Strait Islander people. A number of universities are beginning to offer preparatory programs for mature age students, or offer scholarships for students who come from disadvantaged backgrounds. Indigenous students also have access to specific scholarship programs.

Fulkerson, James, Mary Hall & O’Phelan. (1998). Effect of Introductory Counseling course on Retention Rates. *Western Kentucky University*, 1-12. (speeches/meeting papers)

This study look at the differences in rates among students from Western Kentucky University, U.S.. Authors Mary Hall and James Fulkerson found that 107 freshmen enrolled in an academic orientation course in 1990. Of that 107 41.1 percent graduated within 6 year of being enrolled. Compared to the following year where 101 freshmen enrolled, 38.6 reached graduation within the 6 year time frame. They compared these numbers to the overall percentage of graduate rates, and looked at the mean and the median for information provides to see whether or not there were significant differences. This study is useful for looking at student retention rates however I may concentrate more focus towards Canadian content.


This paper outlines the ways that consumer-driven culture is altering attitudes towards post-secondary education, especially those that are publicly funded. Using models, the paper shows how current business-minded changes (like downsizing and student as consumer) refutes all possible goals of education. Given the extreme reductions in funding, schools are appealing to businesses to fund research, resulting in a more commercialized focus. Faculties are treated as businesses, measured by number of enrolled students and amount of research dollars attracted. This commercialization of higher education is detrimental as it encourages larger class size, less free-thinking and part-time rather than tenure faculty. The author develops four models to describe these points further. The first is a description of a system where students have a goal in mind when they begin their studies, and that politics are entirely separate from education. The conversion of the university to a business undermines the objectivity of the educators and their research in this model, preventing them from fairly advising and evaluating students (Kyle, 2005). The second model focuses on the empowerment of students through knowledge, which under the current attitudes would result in fewer departments (closed because not as cost effective) and less freedom of academic choice. In the third model of education, the system relies on education as a preparation for civic minded, socially and politically adept students (Kyle, 2005). Given current attitudes towards higher education, this system’s goals would not be met because the product would be passive consumers rather than actively thinking citizens. The final model seeks to provide business with well-trained workers, but maintains politics in the public sphere, separate from education.
Since current trends are leading to a decrease in critical thinking, the students that are product of such a system will not make well-trained employees. The paper outlines several approaches to the purpose and goals of education, and notes that for each model the current trends are detrimental. Thus, he wonders why much of academia is passively allowing the commercialization of higher education to continue.


The author, Effie Maclellan of the University of Strathclyde, UK focuses on the use of praise as a method of motivating students. Maclellan discusses theories of intelligence as well as social cognitive perspectives to help tutors understand how to effectively praise and motivate students. They conclude through the plethora of behavioral psychology literature that praising people is essential ‘good’ and also connote the complementary belief that criticism is unhelpful and makes people more vulnerable. Maclellan uses various psychological literature to test the notion that relying on simplistic and commonsense understandings of praise will not serve a tutor well. Not all students learn or perform according to traditional academic method so it is essential that tutors be able to use their understanding and knowledge to develop applications which effectively convert motivation into achievement for each individual. The purpose of the article is to help provide tutors with a better understanding of how to help students embrace learning and be resilient in the face of obstacles and challenges.


This journal article discusses how a program that uses learning communities affects student’s academic achievement. These communities called ‘Living Learning’ communities have a strong impact of students including enhancing student’s involvement. This program promotes positive academic and intellectual achievement; through participation in these programs. A study was performed that observed eight ‘Living Learning’ communities that gives evidence to support this information. This study includes ‘Living Learning’ program descriptions that look at student demographics, socio-economic status and past academic achievement. Through participation in the ‘Living Learning’ communities it was observed that there was increased intellectual engagement and academic achievement. It was also observed that many participants in these communities were from higher socio-economic backgrounds and were not of a first generation of higher education.

This article examines the causes for student attrition at colleges and university institutions. The authors use a survival analysis to model student retention at Oregon State University. The methodology takes into account the timing as well as the occurrence of students leaving, it also considers students who were still enrolled or graduated before the study’s closure. The sample of students was drawn from Oregon State University. The paper tries to demonstrate the advantages and use of survival analysis with retention data and well as to predict factors that are associated with student retention at Oregon State University. Withdrawals from the university tend to occur at the end of each school year. A multiple variable analysis shows that the average black student is more likely to withdraw from the university than the average white person, however if the black student has a similar age, GPA and residency than the white person, the black student is actually less likely to withdraw. Out of state students were also more likely to withdraw, and attrition rates tended to increase with student’s age. Strongly correlated predictors for the university’s retention were GPA scores and SAT scores. Opportunities suggested to help with student retention were to increase efforts to orient new students into the university setting to help increase the likelihood of their success during the first 3 terms, being more sensitive for the needs of out of state students, and students who belong to an ethnic group minority.


Seamless learning environments between in and out of class environments have a great positive impact on the academic experience of students. Living learning programs have developed from this notion and research has further suggested that these learning communities increase student development, academic achievement and persistence in the integration of the social and academic aspects of student life (Astin, 1993a). The current article looks to support the current belief of the benefits of living learning programs and whether student’s participation in them can predict their academic achievement and intellectual engagement. The authors also wanted to know whether the prediction still held for students who are affiliated with different students groups being lesbian, gay, bisexual students, students of colour and those who are from a lower socio economic status. Students were sampled and surveyed from University of Michigan who currently lived in living learning programs or traditional residence at the institution. The survey consisted of questions pertaining to their academic and co-curricular experiences. College GPA was used as the measure for their academic achievement and a factor analysis was conducted to determine their intellectual engagement. Significant results were found for those students who were participants in the living learning programs in terms of their academic achievement. Students who were females and of colour reported lower academic achievement. Those students who had an interaction of their race with sexual orientation or religion reported higher academic achievement than heterosexual students of colour and Christian students of colour. Those students who identified closer to the exclusively attracted to members of their own sex also reported greater academic achievement. First generation college students and students who had a lower income also
reported lower academic achievement. Living learning programs also was a significant predictor of intellectual engagement for students.


The author, Keverne Smith of the College of West Anglia, King’s Lynn, UK looks at the issue of students failing to complete degree programs. In the form of a case study, Smith looks at the transition of students moving from the A-Level in Secondary Schools to University in the British educational system. Smith concludes through statistics that it is not only a problem in Britain but also an International problem which can be attributed to the lack of transition planning from Secondary School to University. Smith outlines the fundamental differences between the Advanced Subsidiary Level (A-Level) and University, which Smith feels students are inadequately prepared for. Such differences include lecture styles, class sizes, an increased workload, greater time management demands, lack of feedback and the ability to ask questions. A lack of preparation also contributes to students not only dropping out but underachieving at the University level. Smith highlights several methods currently being used at Universities and Secondary Schools to smooth the transition and help students become more successful. There are still areas however which still require greater attention.


In this article the Smith (2004) explores the transition from school to universities among English students in British Universities. This case study was conducted to understand if students have transitional difficulties and how they feel about the transition process from school to university. Smith (2004) used a quantitative research method to conduct her research by employing a survey research. The sample Smith (2004) used was first year university undergraduates studying English as their main discipline. In order to facilitate her research Smith (2004) divide the survey to particular areas that would enable her to measure the student’s transitional experience more effectively. She focused on Lectures and Seminars; measuring how effective student’s took notes in lectures and seminars. Secondly, she focused on reading, secondary reading and contextualization; measuring how student’s felt about the required readings and if they were comfortable in using those reading within social and historical contexts. Lastly, Smith (2004) focused on Essay writing; measuring how students felt about writing essays. Essentially Smith (2004) was in sought of understanding if first-year University undergraduates felt if they were adequately prepared in regards to the transition from school to university. In regards to her findings, Smith (2004) specifies that “The results of this survey are to some extent reassuring, in that most students feel at least adequately prepared for the different teaching methods they encounter, the amount of reading involved, and the writing of essays at a higher education level.” (p.91)