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DIRECTED DEVELOPMENT OF CRITICAL AND CREATIVE THINKING SKILLS FOR CASE ANALYSES

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ABSTRACT

Several techniques including problem-based learning using Whimbey pairs, mind-mapping, brainstorming, the three-step case analysis method and neuro-linguistic programming (NLP) are used in conjunction to develop critical and creative thinking skills in marketing students and to motivate them. Students are shown how to access and develop these skills themselves SO that they can continue to develop them on their own beyond the class in which they learn them.

INTRODUCTION

Case analyses and other experiential learning techniques are designed to introduce the student to many of the 'real-world' conditions and situations that complicate the apparently straightforward theoretical concepts presented to them in their business training. In order to benefit from this, however, the student needs to be aware of which skills and abilities to apply and must be motivated to do so. They need, especially in schools, which provide primarily theoretical as opposed to applied training, guidance and support in the development of these abilities. Many processes, including those incorporated here (problem-based learning, lateral thinking, brainstorming), have been cited as useful. However, the means of integrating these techniques into the academic curriculum is generally quite vague. In addition, the various methodologies are often studied in isolation, reducing the synergistic effects of combining them into an integrated analytical 'tool kit' for the student. These last two areas are addressed by this paper.

Skills and Abilities Required by the Student

In essence, the objective of this program is to improve the critical thinking and creative problem-solving skills of students. In addition, students need to increase their confidence in and control over these abilities and increase their interest in the process.

The critical problem-solving skills can be broken down further. Students must be able to clearly identify the starting situation and the end goal. Once this is achieved, they need to identify the key information required to attain the end goal and organize and analyze these data in a structured manner. This analysis should include the identification of other information that is required.

These basic processes should be complemented by the ability to find and identify relationships between data that are not immediately obvious and to find innovative opportunities and methods for attaining the end goal. Students must be able to see the different points of view and approaches possible and, by examining and analyzing each one, recommend and justify one course of action.

Students must be aware of their own ability to affect this process and must develop confidence in both their skills and themselves. They need to know how to increase their own interest in and enthusiasm for the process.

In addition to training in the basic skills, enough guidance should be provided so that the students know how to evaluate themselves and how they can improve these skills in future courses and in their careers. They should know how to direct the continued development of their skills.

Problem-Based Learning

Breaking students into Whimbey pairs (Whimbey and Lochhead, 1980) provides two distinct roles for students. The problem solver reads the problem aloud and then solves the problem, articulating his or her entire thought process to the listener. The listener's role is to slow down the problem-solver by making sure that all thoughts and calculations are articulated -- striving for accuracy over speed. Listeners are to encourage innovative and creative thought processes and are not to act as judges or critics. Most important of all, the listener is not to try to solve the problem --only to support the problem solver.

Mind-Mapping

Buzan (1974) points out that human brains generally do not store information in a linear manner. Rather, data are stored contextually, focused around key concepts. Mind-maps exploit this concept by allowing us to organize information in associative networks on paper. This aids in retention of the data and allows us to recall and identify links and relationships with other data and information that may not be apparent in linear format (such as with conventional note taking).

Neuro-Linguistic Programming

Neuro-Linguistic Programming (NLP) breaks down and gives structures to the strategies we use to process and store information. This knowledge then provides us with opportunities to accelerate and improve the efficiency of our learning. Although NLP is over 15 years old, there is as yet no conclusive published data supporting or debunking its efficacy. Early studies of the basic structures of NLP were either non-conclusive or did not support its claims. However, Einspruch and Forman (1985) pointed out that these studies appeared to contain a number of design and methodological errors and thus put their validity into question. The elements of NLP incorporated into this study are fairly recent developments (Bandler, 1985) and little empirical research has been conducted on them.

One of the earliest principles of NLP was that we recall memories or preview events using all five senses, although the three primary modes or representational systems are the visual, auditory and kinesthetic modes (Grinder and Bandler, 1976). It has been found (Bandler, 1985) that our feelings toward an experience, be it a remembered event or one we imagine happening in the future, are influenced by the structure or submodalities of the remembered or imagined event. Further, by changing the submodalities of the event we create in our heads, we can change how we feel about that event. In many cases, there is generally one key submodality

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which, when changed, will shift all the other submodalities to a new pattern as well.

Examples of visual submodalities include the brightness of the picture we make of the event, its size and location and whether or not it is in colour. Auditory submodalities include the pitch and volume of sounds and conversation we imagine in the event or of internal dialogue in the event. Kinesthetic submodalities include feelings of warmth or cold, tension and other tactile and visceral sensations.

NLP also allows one to study and break down the internal strategies of those who excel in various fields so that others can learn to use these strategies. It has been found that creative geniuses employ one key strategy called 'chunking' in NLP. This is the ability to increase or decrease the level of abstraction of a concept on an ongoing basis to provide increased depth of understanding of the concept. For example, chunking up from 'a chair', one may come up with furniture (a more abstract concept) while chunking down may produce the seat, the legs and the back or, alternatively, breakdowns such as armchair, kitchen chair, typing chair. Chunking up and down and sideways on an ongoing basis can stimulate ideas, uses for and relationships with the initial concept, which may not otherwise have been evident.

METHODOLOGY

These processes are being used in advanced undergraduate marketing courses including sales management and consumer behaviour. The basic skills are introduced, explained and integrated in the first five classes, although they are applied and reinforced throughout the course. The student is also made aware of how to check on his or her own progress and development and shown, on an ongoing basis, how he or she can use these skills in the future.

Class One - Motivation

The basic introduction to the course takes very little time, so the remainder of the class is spent on a 'game' to see if the students can get motivated about schoolwork early in the term. The instructor begins by demonstrating the process with a volunteer at the front of the class. The volunteer is asked to recall something that they are not just motivated to do but cannot wait to get back to doing and do not want to stop once they begin again. They do not have to -- and should not as NLP deals with process, not content -- tell the class what they are thinking of. They simply have to think of the event in their mind's eye.

The instructor then uses a checklist to go through and record all the characteristics of the visual, auditory and kinesthetic submodalities of the experience. This state is interrupted by asking an unrelated question, then the process is repeated for something for which the student would like to be motivated, but is not (studying is suggested as an example). Once the second set of submodalities is charted, each submodality, one by one, is shifted to fit the characteristics of the submodalities of the motivated state in order to make the student feel more motivated about the second activity. Once the process is illustrated and explained and all questions are

answered, the class is divided into pairs to repeat the process among themselves. As homework, they are asked to map the submodalities of confusion and understanding for conceptual issues.

Class Two - Creativity

Chunking and brainstorming -- and the ability of the former to increase the efficiency of the latter -- are explained and illustrated to the students. They are led through some simple chunking exercises, chunking up and down from simple concepts, such as a chair or a car, and then chunking from simple phrases. Brainstorming is introduced by having them generate as many uses as they can, without evaluation or judgement, for simple objects such as a brick or a light bulb. When they begin to get stuck, they are led to chunk up or down to open to new possibilities for the item.

Once the process is made clear, they are divided into groups of five or six to carry out one or two more simple brainstorming exercises. Then they are handed a one-page caselet and instructed to brainstorm something relevant to the case, such as target markets, channel strategies, product development or promotional strategies. They are reminded that the purpose of this process is to generate possibilities. Evaluation of these possibilities, still a crucial step, comes after all the possibilities are on paper.

Class Three - Mind-Mapping

Associative networks and the processes involved in storing and recalling memories are explained to the students. From this, mind mapping is explained and illustrated with an example on the board. The students are then instructed to take out a piece of paper and draw a mind-map of themselves with either 'Me' or their name at the center. They are given ten minutes for this. This allows them to get past the mental block that occasionally occurs about five minutes into the process. Then the process is repeated with another sheet of paper for their job or a hobby or something else very familiar to them.

They are then handed a short reading and instructed to read it and then draw a mind-map on it, tying in any related concepts and issues that come to mind. This is then repeated with a one-page caselet. Comments from the class are then used to summarize the concept and identify other areas where this technique can be used effectively.

Class Four - Problem-Based Learning

The problem-solving process using Whimbey pairs is explained to the students before dividing them into pairs to use the process to solve simple mathematical problems for seven to ten minutes. They are then instructed to reverse roles and continue for another seven minutes.

At this time, the instructor asks the students to identify what their partners did that was effective. Generally, they will identify most of the effective elements of problem solving, including slowing down, checking, verbalizing the problem and writing down and

Developments In Business Simulation & Experiential Exercises, Volume 19, 1992

organizing data. One issue that they may not identify is having a positive and enthusiastic attitude. The instructor can identify this and also remind the students that they have already been shown how to motivate themselves.

The process is repeated, with the students alternating roles in Whimbey pairs and focusing on the techniques identified as being effective. In addition, the instructor may suggest that the students see what effect shifting the submodalities of confusion to those of understanding have on the process -- and at what point in the process the shift becomes effective.

Finally, the process is carried out with simple caselets. As the students begin to become more adept, they can be challenged to come up with more and innovative approaches to resolving the issue at hand. At this point, the inter-relationships of the processes learned in all four classes is illustrated and the ways in which the student controls the process and the development of their own skills are made clear. They are made aware of what they have accomplished, the work they still have to do and their ability to do so.

The assignment for the first case is given. The students are each to generate as many different courses of action as possible, examine each of them and pick three to analyze in detail. They are then to draw a mind map of the situation and, using this and their analysis, select and justify one course of action.

Class Five - Case Analysis

Upon arriving at the class, the students are divided into groups of three or four and told to discuss their analyses among themselves for ten minutes before the whole class addresses the case. Once the case is completed, the three-step process is explained as one of the more effective ways of analyzing cases (Erskine et al., 1981).

A few minutes are kept to discuss, once again, the integration of, relationships between and synchronicities of all of the processes that have been covered in the case analysis process. Students will generally, by this stage, generate most of the ideas themselves. This continues, though to a lesser extent, as time progresses throughout the term. In addition, individual tutoring may be necessary in many cases to ensure that each student becomes adept at the basic skills and becomes aware of how they can be improved over time.

EVALUATION AND DISCUSSION

To date, no detailed empirical data have been collected concerning the efficacy of these methods as they have only been used in this manner for three terms and these trials have been used to refine the process. Subjective observations of the instructor and unprompted feedback show increased motivation and interest among the students, increased involvement in class discussions and an improved quality of classroom discussion. This quality is also reflected in written assignments and in the major field project carried out by the students. The students also enjoy the class process more.

The only unsupported process is that involving the shifting of submodalities. Most students, however, did experience a shift in attitude toward the activity towards which they were not previously motivated and approximately 25-30% felt a significant shift in attitude -- meaning that they were actually feeling good about carrying out that activity, much to many students' -- and cynics' --surprise. This proved to pique their curiosity enough that many did try the confusion-understanding shift at home. An instrument is currently being developed to measure the efficacy of this process.

A twenty-five hour workshop, building upon and adding to these techniques, is also being implemented for student's enrolled in an applied special topics course in marketing. This proved extremely successful and is being refined and developed further. Again, methods of quantitatively measuring its impact and efficacy are being developed.

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