BALANCING THE ACT: INCORPORATING THE CONSTRUCTIVE ALIGNMENT IN PROMOTING AND ENHANCING HIGHER ORDER THINKING SKILLS AMONG THE CHC LEARNERS

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ABSTRACT

Teaching students to become effective thinkers is increasingly recognised as an immediate goal of education. If students are to function successfully in a highly technical society, they must be equipped with lifelong thinking skills necessary to acquire and process information in an ever-changing world. To keep up with the pace of development; students must be taught how to think, instead of just how to answer examination questions. One of the issues that have been a discussion in the Malaysian Education forum is the overwhelming emphasis on exam grades, which in turn encourages students and teachers alike to get through the syllabus and memorised key points rather than taking the time to understand concepts.

The education system that trained the Confucius Heritage Culture (CHC) learners to remember the facts and study by heart had wedged their perception of learning. This phenomena and the structured way of teaching in some way has reduced the process of developing their higher order thinking skills.

This study is an extension of the study on the CHC’s learners enrolled in marketing subjects and their higher order thinking skills. In the previous study, a model of approaches to learning developed by Saljo, Biggs (1985), Marton and Entwistle (1984) were used to analyse the CHC learner’s development of higher order thinking skills. The learning components, teaching components and thinking components has been the major components in their learning process.

Based on the previous findings, the study will incorporate the constructive alignment (Biggs, 2003) in the CHC learners learning and teaching process.

Therefore, the objective of the study is to examine how the three main components influenced in the development of higher order thinking skills among the CHC learners and how the constructive alignment assisted in promoting and enhancing the higher order thinking skills.

Keywords: CHC learners, learning components, teaching components, thinking components; constructive alignment, and higher order thinking skills.
1. Introduction

It is a common perception that Asian students rely upon rote learning and prefer passive forms of instruction, though, this idea appears to be incompatible with ample evidence of their high levels of achievement. The achievements of Asian students, in particular Chinese, are well documented. Marton (1993) reported that Asian students are rote learners on the one hand and ‘Brainy Asian’ on the other. The students actually memorised with understanding rather than mechanically memorised curriculum content. In a study conducted by Stevenson and Lee (1996), they concluded that students from China, Hong Kong, Singapore and Taiwan performed consistently well in quantitative type subjects as compared to language and science subjects.

Kember (2000) highlighted in a study of Asian students in Hong Kong that they rely on rote-learning, passive instructional approaches and resist teaching innovations. In his report, it is noted that Asian students in Hong Kong are extrinsically motivated, which is often regarded negatively, have high levels of motivation to achieve, are high achievers, excelled at project work and their parents are willing to invest in their education. He found that students in Hong Kong anticipated that lecturers will teach them everything that they are expected to know. They have little desire to discover for themselves or avail themselves of the facilities that are available to them. Even though the students were very much dependent on the teacher, they were recognised as high academic achievers.

These findings may be no different for Confucius Heritage Culture (CHC) learners in Malaysia who are being educated in a system that emphasised an examination system and a learning culture of ‘rote learning’ through memorisation. There has been concern by the Malaysian university graduates that they may be graduating without necessary skills such as critical thinking skills to be successful in the current world of work. This has been highlighted in the Ninth Malaysian Plan (Jailani et al. 2006) that graduates lacked in both technical know-how and generic skills. These concerns resonate with those of government and workforce personnel. A summary of research indicated that most Malaysian tertiary graduates lack interpersonal, communication, analytical and problem-solving skills, besides being timid and lacking in self-confidence (Khir 2006, cited in Singh, 2008). A survey by the Central Bank of Malaysia involving 312 companies showed that 77.6% of the respondents were of the view that tertiary graduates lacked the required skills to function effectively at the workplace (New Straits Times, 2005). Geoffrey (New Straits Times, 2005) wrote that while jobs were plentiful, many Malaysian graduates could not fit into available positions because they had not acquired the necessary language and communication skills that their prospective employers required of them.

In the study conducted by Watkins and Biggs (2001) cited in Wen and Wong (2001), reported two issues regarding the CHC learners. Firstly, the CHC learners were taught in large classes, expository methods, relentless norm-referenced assessment, and harsh classroom climate but still outperformed western students at least in science and mathematics and they were found to have deeper and more meaning-oriented approaches to learning. Secondly, the CHC learners used the techniques of memorisation and at the same time pay attention to understanding the subject matter. Due to the language competency, they were perceived as passive role learners but...
with their memorisation linked with understanding, they showed high levels of understanding.

2. Background

Critical thinking is a form of higher-order thinking which involves the ability to reason, solve problem and make decisions. Competency in thinking skills enables students to understand content and knowledge and integrate these with other related factors. To acquire thinking skills, students need to be engaged in deep learning and several factors such as understanding the in-depth of the knowledge, and thinking skills need to be taken into account while the students go through their learning process. In the business world critical thinking is essential, as the ‘world knowledge economy’ demands volumes of information to be reviewed daily for effective decision-making. As such, the task of improving critical thinking in business school graduates is vital in preparing students to engage productively in the world. The business curriculum should be designed in such a way that it prepares business executives who are able to handle volumes of information and fast-paced decision making environments of the workplace (Braun, 2004). With the business curriculum that demands higher order thinking skills, the student learning process must move towards opportunities to analyse what has been understood and to reason things out. Given the opportunity, students will be able to move from learning through memorisation to more meaningful learning. Not only has the critical thinking skills which is part of the higher order thinking skills is an important factor in the workplace, but it is also part of the accreditation requirement, as in the case of business subjects, it is a clear imperative for universities internationally to integrate these attributes as a result of government and accreditation pressures (The Association to Advance Collegiate Schools of Business; AACSB 2007, cited in Treleaven and Voola, 2008).

As part of the business curriculum, there are continuing calls for revisions to teaching marketing subjects as it will help to meet the needs of both graduates and their future employers (Chonko 1993; Mason 1995 cited in Duke 2002). Modification to the marketing subject learning outcomes was one of the changes made to the marketing curriculum. This involved the skills required by marketing graduates which will prepare them for the work environment. Thus, CHC learners’ approaches to learning will have to change to fit with the demand from the industry. The move from a teaching orientation to a learning orientation approach is crucial to prepare marketing graduates for the work force environment. As pointed out by researchers (Kelley and Geadeke 1990; McDaniel and White 1993; Tomkovick et al, 1996 cited in Duke, 2002), communication skills, problem solving skills, are ranked as the top hiring criteria for marketing graduates. As such, marketing graduates should be equipped with critical thinking skills at a higher level.

3. Literature review

Student learning is best achieved when there is a balance between what has to be learned and how the learning will be assessed. Pedagogical approaches must be wisely chosen to ensure that desired learning is achieved and assessed accordingly (Biggs, 2003). In a study on CHC learners’ learning styles, it was reported that CHC learners were left-brain thinkers and their learning strategies were described as the surface approach type (Abdullah et al., 2002).
Assessment for learning which was learning oriented, as opposed to assessment of learning which was measurement oriented, required clearer understanding in relation to CHC learners. To help students learn and think better, both the assessment for learning, and assessment of learning must be match of which any imbalance between the two will lead to either learning without monitoring or measuring without learning.

Assessment design is a dominant influence on how students approach their learning (Baumgart and Halse, 1999). If the teacher was to use a deep approach to help improve the thinking skills of students, but the assessment requirements tap limited conceptual understanding, then the students will opt for surface learning strategies so they feel confident about providing satisfactory answers. Both Baumgart and Hasle (1999) agreed that the learning environment in many classrooms has been structured to encourage deep learning approaches over surface approach with an emphasis on metacognition, meaningful learning, and learning outcomes which seek higher levels of cognitive functioning and higher order thinking skills. Biggs (1996) also pointed out the importance of the learning context in shaping the approaches to learning and how the type of assessment has a high influenced on students’ approaches to learning. In another study, it was reported that increasing the number of higher order thinking assignments in a program of study does correlate with, if not predict, students perceiving greater institutional contributions to their general academic development and job preparation (Robinson and John, 2010). It was also highlighted that the evidence provided by this study is acceptable because it indicated that the extra efforts that faculty exert to engage their students in higher order thinking activities make a difference and are acknowledged, at least implicitly, by students as contributing to their development of critical life skills.

Researchers in the Higher Education warrant that if educators need is to understand how the student learned, then a student view point is important (Kunhn and Thiele, 2009). To understand better the effects of teaching and learning on student learning; educators need to consider the student’s learning experience and must move away from seeing to understand teacher and teaching method competence. When the student’s perspective is considered on the activities of teaching and learning; this allows educators to develop a richer understanding of the contributions of various learning activities to the achievement of specific learning outcomes (Karns, 2005). It will help the students to demonstrate their own learning achievement for course learning goals and can provide insightful information to inform course development (Thiele, 2006). The theory of ‘constructive alignment’ proposed by Biggs (2003) stated that student attributes, intentions and behaviours must be congruent with the characteristics, demands and intentions of the teacher-constructed learning environment if effective learning is to occur. However, point to note, despite engaging the students in their learning, quality will only come in hand if the teacher’s concern is not only transmitting information but to also transform students’ understanding. High quality learning that provides students with graduate-level skills will be most likely to happen where teachers’ intentions are transformational, learning environments are structured to achieve this and students are self-determined in their intentions to understand the material that is offered to them (Fazey, 2010).

In the Malaysian context, Continuous Quality Improvement (CQI), which is one of the important elements of the quality concepts, has been embedded into the higher education system. This is part of the process and CQI is one of the criteria being
evaluated by the Malaysian Quality Agency (MQA) and the Engineering Accreditation Council (EAC). During this process, the Institution of Higher Learning (IHL) needs to show evidence that meaningful data is gathered and the performance measures must involve the achievement of all learning outcomes and educational objectives (Bareduan et al., 2012). In implementing this, the concept of constructive alignment is being practised, however, the assessment system must be fully considered that there is a balance between what is being taught, and assessed, and how the learning outcomes was derived before it is being tested to the students.

4. Objectives of the study

Creative critical and constructive thinking is closely related to higher-order thinking. Thinking processes that become increasingly sophisticated enable a person greater capacity to grapple with the complexity of conceptual ideas and constructing new meanings. Kirkwood (2001) cited in her report that higher order thinking skills tend to be complex, often yield multiple solutions, and involve judgment and interpretation and the application of multiple criteria on which to base these judgements. Kirkwood further stated that higher order thinking skills are about working with uncertainty, require self-regulation of the actual thinking process, involve imposing meaning and require effort from the learner. Therefore, this study was conceptualised around three themes in terms of CHC learners and their thinking:

1. The CHC learners’ conceptions of their own learning;
2. The CHC learners’ preferred way of learning; and
3. The teaching approaches, including assessment that enabled CHC learners to acquire and use higher order thinking skills in marketing subjects.

4.1 Conceptual framework

The conceptual framework of the study (see Figure 1.1) was framed to allow the examination of:

1. The types of critical thinking skills that CHC learners used and the factors which promoted or inhibited their critical thinking capacities in marketing subjects;
2. The extent to which current teaching and learning approaches accommodated the development of higher order thinking skills of CHC learners;
Further, it was considered important that the instructional approaches which had the greatest influence on CHC learners were examined within the classroom learning environment. As part of the study, it was significant to investigate the relationship between CHC learners' conception of their learning, their approaches to learning and thinking in the classroom, the instructional approaches that worked best and the consequences of these relationships on their learning outcomes, particularly higher order thinking skills.

Thus, the objective of the study is to examine how the three main components influenced in the development of higher order thinking skills among the CHC learners and how the constructive alignment will assist in promoting and enhancing the higher order thinking skills.

The model of ‘constructive alignment’ provides a useful understanding of the process of learning and assessment. The basic foundation of constructive alignment is that in a good teaching system the curriculum is designed so that the learning activities and assessment tasks are aligned with the intended learning outcomes in the course (Carpenter, 2008).

Figure 1.1: The Conceptual Framework of the Study adapted from (Saljo, Biggs (1985), Marton and Entwistle, 1984).

Figure 1.2 Adapted from Biggs. 2003
According to Biggs (2003:33) *Constructive Alignment* has two aspects. The ‘constructive’ aspect refers to what the learner does, which is to *construct meaning* through appropriate learning activities. The ‘alignment’ aspect refers to what the teacher does, which is to structure a learning environment that supports the learning activities and opportunities appropriate to achieving the desired learning outcomes. This means that the system is consistent and all aspects of the system are in accord in supporting appropriate student learning (Biggs, 2003:11).

5. Methodology

5.1 Sample and data collection method

In this study an investigation was conducted on how tertiary CHC learners think when using the English language. The extent to which these students used higher-level thinking skills and how any such thinking manifested itself in a context of a higher education setting was examined. It was imperative in the study to explore issues related to the students’ perception about learning, the relationship of these perceptions to their learning approaches and the connections to their learning outcomes in marketing subjects. An analysis of several cohorts of students’ learning approaches, as well as my teaching approaches, was embedded as a case study approach in the research design. The participants were studied over a period of 12 months using survey and ethnographic techniques to collect and analyse information. The study was conducted as part of the PhD thesis requirement. For the purpose of this study, analysis will only be analysed from the quantitative aspects.

5.2 Instrumentation

The study involved collecting data about CHC learners’ higher order thinking skills. As part of the survey approach, a sample of one hundred and thirty six CHC learners’ business students enrolled in three marketing subjects (Marketing 100, Strategic Marketing 301 and Business Policy 320) studying at one of the Australian off shore campuses was identified as the population to collect data through the use of questionnaires, as exemplified by Earl (1973). A questionnaire was designed based on the conceptual framework of the study (see Figure 1.1). The questionnaire was distributed to a sample of a student cohort over a period of one year, an approach similarly outlined by Zikmund (2000). The questionnaire design, was based on the ‘Approaches to Learning’ developed by Saljo, Biggs (1985), Marton, and Entwistle (1984). The questionnaire incorporated three sections each consisting of 10 items as shown in Appendix A.

Section A: Students’ Conceptions of Learning;

Section B: Approaches to Learning; and

Section C: Levels of learning outcomes

The purpose of the questionnaire was to identify CHC learners’ conception of learning, describe their learning approaches and identify what they believed that they had learned as part of the process to acquire their critical thinking skills in marketing subjects. Based on the data analysis, a model of constructive alignment is incorporated in the conceptual framework to promote and enhance higher order
thinking skills among the CHC learners. Section A of the questionnaire was to identify the elements or factors that influenced the way CHC learners learned. Section B of the questionnaire outlined the elements or factors that influenced how CHC learners learned in terms of the strategies or approaches they used in their learning. Section C was concerned with what is the expected learning outcome that CHC learners acquired at the end of their learning process.

Both Section A and B of the questionnaire was distributed early in each semester where the study was conducted. Section C of the questionnaire was again distributed at the end of semester six. I administered the questionnaire distribution explaining to the students the objectives of the study and that ethics clearance was sought before carrying out the study. The students were given adequate time to answer and return the questionnaire upon completion. At the end of each semester, the students were then given Section C of the questionnaire where the same procedure of administering the questionnaire was used.

6. Findings and Discussion

The CHC learners involved in the study completed the questionnaire and were able to indicate their responses according to four options: item is never or rarely true of me; item is sometimes true of me; item is frequently true of me; or item is always or almost true of me.

The study showed that in the process of CHC learners learning, the strategy of strategic approach is being used. In this case, they relate what they have learned with the real business. Nevertheless, CHC learners still bring in the concept of memorisation into their learning process. Even though the CHC learners memorised the information, their ‘rote learning’ theory is not just about memorising but their approach in memorising could be due to their limitation in the English language (English is the second language). The memorisation techniques assisted the CHC learners to grasp the main idea which then enabled them to recall what they have learned and used the post information to further elaborate on the issues.

6.1 Reliability analysis

The quantitative data are presented in the form of statistical analysis charts to provide a statistical description of the students’ responses to items in questionnaire. These three sections were scrutinised using descriptive analysis in terms of the mean and standard deviation. Cronbach’s alpha (1951) was used to assess the reliability of each measure in the questionnaire. Reliability reflects the stability and consistency of an instrument in measuring the concept (Page & Meyer, 2000; Sekaran, 1992, 2003). As suggested by Nunnally and Berstein (1994), 0.70 is an acceptable reliability coefficient level. The reliability test results showed that each section in the questionnaire had an overall Cronbach Alpha between 0.727 to 0.856 which are listed in Table 1.
Table 1 Reliability Statistics: Conceptions of learning

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>No of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.739</td>
<td>0.741</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Approaches to learning</td>
<td></td>
</tr>
<tr>
<td>0.727</td>
<td>0.727</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Levels of learning outcomes</td>
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</tr>
<tr>
<td>0.856</td>
<td>0.858</td>
<td>10</td>
</tr>
</tbody>
</table>

Conceptions of learning

It appeared that learning occurred when CHC learners were able to use what they had been taught in class and relate the concepts and theories to the outside world. It appeared that the students (CHC learners) placed emphasis on their learning in which understanding concepts and theories was very important to them. Such learning would assist them to relate what they learnt in the classroom environment to the business world. Knowledge could be used to assist them in understanding concepts and theories and relate these to the outside world. They believed that they had learnt something if they were able to build new information by bringing in and synthesising new facts and information with what they understood that they had learnt if they were able to build new knowledge from what they had learnt. The response rate suggested that once students built new information from what they had learnt, it would then assist them to use the information to build new facts and information.

The means for the items; ‘Learning to me means being able to use the information I have acquired’ was ranked as the highest conception of CHC learners learning. They believed that they had learnt something if they were able to use the information they had acquired (Mean 3.37). The respondents also agreed that ‘Learning to me means seeing things in a different and more meaningful way’. When they were able to use the information, they indicated that they would be able to see things in a different and more meaningful way (Mean 3.33) and be able to build knowledge by acquiring facts and information (Mean 3.20). The CHC learners perceived learning as “being able to build knowledge by acquiring facts, blending new facts, understanding new ideas and information and having made sense of information” (Mean 3.11). They were able to “relate what have been taught to an unfamiliar context or situation” (Mean 3.09) and “relate what has been taught to the outside world” (Mean 3.10). However, CHC learners ranked the items “having to repeat something I have learnt” and the item on “making sure I remember things well, so I can recall” (Mean 2.77 and 2.75 respectively) relatively lower than the other items. This suggested that CHC learners perceptions towards learning was that learning was
more than just memorising and remembering. The standard deviations for all the items of conceptions of learning were consistent with a range from 0.70 to 0.86 and indicated the responses to the items seemed to suggest that the same perception of what learning meant to students was held by most of them. Figure 6.1 summarises the mean and standard deviation for the conceptions of learning section of the questionnaire.

![Figure 6.1 - Mean and standard deviation: conception of learning](image)

**Figure 6.1 - Mean and standard deviation: conception of learning**

### Approaches to learning

The **Approaches to Learning** section of the questionnaire was used to find the CHC learners way of learning such as their surface versus deep approaches or strategies in their learning. The CHC learners were asked about how they learnt: “I learn by rote, going over and over the information until I know by heart”. Fifty percent of the respondents said that the statement is sometimes true of them. However, thirty eight percent said that the statement is frequently true of them and only fourteen percent of the respondents supported that the statement is always true of them. The CHC learners also indicated that it was important to relate one subject to another. Approximately forty eight per cent of the respondents (47.8%) frequently agreed that it was important to relate one subject to that of another. Forty percent of the respondents also agreed that “new topics are interesting and that often spend extra time” trying to obtain more information. Only a few of the respondents agreed (12.5%) that they would spend extra time to obtain more information.

In terms of mean and the standard deviation, majority of the CHC learners ranked that they would often “think about a real life situation to help them to better understand what they had learnt” (Mean 3.18). They also agreed that they “would
always think on how the new information can be applied in the future” (Mean 3.04) and to use different learning strategies to help them to better understand what they had learnt. They ranked low on the item “accepted what the lecturers said and no questions asked” (Mean 2.70). They “seemed not to be enthusiastic about new topics” (Mean 2.61), being “a rote learner” (Mean 2.55); and “were not constant in their study” (Mean 2.39). Item on “restricting their study and not doing extra” (Mean 2.29) was ranked the lowest. The standard deviations for all the items of approaches to learning were consistent with a range from 0.75 to 0.86. The analysis (approaches to learning) showed that there was a strong link between what the CHC learners’ perceived learning to be and their approaches to learning. Figure 6.2 summarises the mean and standard deviation for the approaches to learning section of the questionnaire.

![Figure 6.2: mean and standard deviation-approaches to learning](image)

Learning outcomes

The CHC learners were asked about their levels of higher order thinking skills. This section of the questionnaire identified how the intended units learning outcomes of the subjects influenced students’ learning. Almost fifty percent of the respondents agreed that the “unit has helped them to acquire knowledge from the strategy and international business discipline”. A total of sixty percent of the respondents said that “the unit has helped them to obtain an understanding of the selected models” (concepts and theories). The subject also had “helped them to integrate different business perspectives”. More than fifty percent of the respondents agreed that the unit helped them to evaluate when to use problem-solving processes and apply these appropriately. Forty three percent of the respondents agreed that the subject had helped them to think critically and apply theories. They also agreed that the subjects had helped them to evaluate when to use problem solving, arguments, critical and creative thinking and were able to integrate different business areas. However, the
subjects were not able to help them to improve their written and communication skills (Mean 2.98) which they ranked the lowest.

In terms of perceptions of higher order thinking skills, the respondents ranked highly (Means 3.15 to 3.36) on the following:

- Think more critically;
- Help to acquire knowledge;
- Help to manage projects effectively;
- Help to think and apply theories and concepts;
- Learn how to learn.

Based on the intended learning outcomes of the subjects, the CHC learners agreed that their work had somehow helped them to think critically, acquired knowledge, and managed projects effectively. They were able to think about and apply the theories and concepts learned and also could learn how to learn. The assessment were designed in such a way that they were able to achieve some or the entire set of learning outcomes. Figure 6.3 summarises the mean and standard deviation for the levels of learning outcomes section of the questionnaire.

Figure 6.3: mean and standard deviation - levels of learning outcomes

In summary, the three elements used questionnaire - the conceptions of learning, approaches to learning and the levels of learning outcomes had influenced CHC learners’ development of higher order thinking skills to some extent. The significant result from the questionnaire was that CHC learner’s perception of learning (what
they think of learning) was a motivating factor for them to move ahead in their learning process. The CHC learners’ conceptions of learning aligned with Saljo’s (1979) classification of conceptions of learning. Learning as a ‘quantitative increase in knowledge’ (acquiring of knowledge); learning as ‘memorising’ (storing information); learning as ‘acquiring facts’ (skills and methods that can be retained and used as necessary); learning as ‘making sense’ (relating parts of the subject matter to each other and to the real world and learning as interpreting and understanding reality in a different way). The CHC learners acquired knowledge through the process of learning and memorising what had been taught so that they could retain what was learned and relate it to the real world. Approaches to learning were confirmed as another factor that influenced the development of CHC learners’ higher order thinking skills. Between the approaches to learning (Marton and Saljo, 1976; Ramsden 1992; Biggs, 1987, 1993; and Entwistle, 1981) about deep, surface and strategic approaches to learning, the CHC learners involved in the study used a surface approach.

7. Balancing the Act-incorporating ‘constructive alignment’ in the learning and teaching process

Based on the analysis from the three elements, constructive alignment introduced by Biggs (2003) was considered to be incorporated in the process of promoting and enhancing the higher order thinking skills among the CHC learners. The ‘alignment’ aspect refers to what the teacher does, which is to set up a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key message is that the components in the teaching system, especially the teaching methods used and the assessment tasks are aligned to the learning activities assumed in the intended outcomes. In simple terms, constructive alignment means that all assessment tasks, and learning and teaching experiences (and therefore content and methods) must be linked to the desired unit of study learning outcomes. The alignment between these three components will ensure that the unit flows and is linked to the desired outcomes for it.

The approach works on the basis of looking at the intended learning outcome as the main focus to student learning and teacher teaching. The constructive alignment will make sure that there is a balance and synergy between the students’ need and wants; the teaching components (curriculum, teaching methods and etc.); and a balance in the product of the learning. Each of these components needs to work towards common goals. Imbalance in the system will lead to poor teaching and surface learning. (Biggs 2003: 26). As suggested by Biggs (1999), the curriculum objectives must aligned with the learning activities (which includes the pedagogy and the assessment task); and the learning outcomes. The concept of constructive alignment leads to an approach to learning method which is based on the Presage-student (prior knowledge, ability and motivation and teaching context, objectives, assessment, climate/ethics, teaching and learning and institutional procedures). The process-learning-focused on activities to foster deep learning; and product is a learning outcome on quantitative, qualitative and affective learning.
Figure 7.1 Aligning learning outcomes, activities, and assessment.

The above figure (figure 7.1) illustrates the underlying principles of constructive alignment, adapted from Biggs (2003). The ‘constructive’ component suggests that students construct meaning through relevant and authentic learning activities. It implies that it is the responsibility of the teacher to act as the catalyst that facilitates the learning of the student through creating learning activities and assessment that are aligned with the learning outcomes, in such a way that students can construct meaning in a given learning event. In this case, it is what the student does that is more important in determining what students learn than what the educator does (Biggs, 2003; Shuell, 1986). The ‘alignment’ component refers to what the educator does. That is, the educator creates a learning environment that includes learning activities and assessment that facilitate the student achieving the desired learning outcomes. Based on the intended learning outcomes that promote higher order thinking skills, a teacher would need to analyze what the student think of learning and how their approach in the learning process. Once this is done, assessment methods needs to be design that suits the student conceptions and approaches to learning. This is important as the student’s learning journey is determined by what the students have and how they deal with their learning journey. A teacher’s responsibility is to formulate pedagogies that best fit the students and can strike a balance between both the teacher teaching environment and the student learning environment. As in the case of business world, the marketer will need to identify the needs and wants of the customer first and develop products or services that fits the customer’s needs and wants. This is done through market research. This scenario is similar to the constructive alignment; understanding the students and their learning capabilities and the environment around them is the first step to curriculum designing. In the early study, the CHC learners conceptions of learning; their approaches to learning and how their levels of learning outcomes has been analyzed. The analysis provides information relating to their learning capabilities and the environments surrounding their learning process. This includes the teacher’s teaching pedagogies, assessment activities and their prior knowledge. With this information, it will assist the teacher/educator in designing the curriculum that best fits the CHC learners and at the same time prepare an assessment task and teaching pedagogies that can better develop CHC learners’ higher order
thinking skills.

All the above components must be in line if deep learning and conceptual change are to happen. This way of approaching education enables programme providers and learning and development managers to devise and develop strategies for education and learning which are student-centred and within which all key elements, including teaching and learning opportunities and practice assessment, are in alignment. Assessing outcomes is essential to constructive alignment, as to any model of education - most students will learn what they think they will be assessed on, rather than the carefully designed programme content, or even what their anticipated professional role is likely to demand.

8. Conclusion

Education is a system that comprised stakeholders from different level, such as the University, students, academic staff and administration, industries and parents and family members. Among the lists mentioned; students and academic staff are the key person involved in the learning and teaching process. Thus, it is imperative, that there should be a balance system in which these two components support each other and are interdependent; and for the components to work effectively these components need to be aligned to each other. As well as learners and educators, the critical components includes the curriculum (learning outcomes and content/knowledge base of programme); the teaching methods (how the teaching is structured, the learning activities and their context); the assessment procedures which includes processes, systems, standards frameworks, and roles of those involved. Apart from the curriculum and the teaching methods, the environment that the learners are attached to (support and access to further learning resources) and the institutional environment and its constraints (such as the location of learning activities and the policies and constraints therein) are the components which will have an impact on the CHC learners learning environment.

Acknowledgement

This study is part of the thesis work which is in the final stage. Thus, ethics clearance has been approved for the data collection process.
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The New Straits Times, 2005


Appendices A

Introduction:

The aim of this questionnaire is to explore/examine your learning behavior in terms of thinking during your process of learning. This will assist the researcher in identifying the extent the learning experience reflect your thinking.

The questionnaire has two parts. You are requested to complete sections A now and complete section B at the end of the semester.

How to answer:

Each item has a four-point scale on the Answer Sheet attached. Circle one of the five options for each statement to show your response. The numbers stand for the following response:

1 = this item is never or only rarely true of me
2 = this item is sometimes true of me
3 = this item is frequently true of me
4 = this item is always or almost always true of me

Example:

I study best with the radio on.

If this is almost always true of you, you would circle 4 on the answer sheet.

If you sometimes studied well with the radio on, you would circle 2.

Do not worry about projecting your good image. As noted in the cover letter, answers are CONFIDENTIAL and there are several different approaches to studying. Please answer each item.

(Prior to the data collection-ethics approval has been sought).

Thank you for your cooperation.
Conception of learning:

1. Learning to me is when I can relate what I have been taught to the outside world.

2. Learning is when I can repeat something I have learnt.

3. Learning to me means making sure I remember things well, so I can recall.

4. Learning to me means building up knowledge by acquiring facts and information, like data banks.

5. Learning to me means building up knowledge by blending new facts and information with what I already know.

6. Learning to me means being able to use the information I have acquired.

7. Learning to me means being able to apply the knowledge to an unfamiliar context or situation.

8. Learning to me means understanding new ideas and information by myself.

9. Learning to me means seeing things in a different and more meaningful way.

10. Learning to me is when I know I have made sense of information.

11. From the above list of conceptions of learning statement, which one best describe you

Approaches to Learning
1. I learn by rote, going over and over the information until I know this by heart.

2. I use different ways to learn depending on what it is I have to learn.

3. I generally restrict my studies to what is specifically set as I think it is unnecessary to do anything extra.

4. I relate what I have learned in one subject to that in another.

5. While I am studying, I often think of real life situations to which the material that I am learning would be useful.

6. I find most new topics interesting and often spend extra time trying to obtain more information about them.

7. I find it best to accept the statements and ideas of my lecturers and question them only under special circumstances.

8. I like to think about how the new information I am learning might be applied in the future.

9. As I read information, I think of what I already know about it.

10. After a lecture or tutorial, I reread my notes to make sure they are legible (clear enough to be read) and that I understand them.

11. From the above list of approaches to learning statement, which one best describe you

(Please return this section (A) to the researcher after you completed the questionnaire)

Section B
Your code name: _______

Levels of learning outcome
(Students to fill in this section towards the end of the semester)

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<tbody>
<tr>
<td>1.</td>
<td>On the whole, this unit helps me to learn how to learn.</td>
<td>1</td>
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<tr>
<td>2.</td>
<td>This unit helps to acquire knowledge from the strategy and international business discipline.</td>
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<td>3.</td>
<td>This unit helps me to obtain an understanding of selected models that underlie the field.</td>
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<td>4.</td>
<td>This unit helps me to integrate different perspective of business such as marketing, economics, finance, and management in my business analysis.</td>
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<td>5.</td>
<td>This unit helps me to think more critically.</td>
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<td>6.</td>
<td>This unit helps me to evaluate when to use problem solving processes, arguments, critical and creative thinking.</td>
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<td>2</td>
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<td>7.</td>
<td>This unit helps me to manage projects effectively, which involves the organization and co-ordination of group work.</td>
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<td>8.</td>
<td>This unit helps me to think and apply the theories and concepts to work</td>
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<td>9.</td>
<td>This unit helps me to apply appropriate problem solving processes.</td>
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<td>10.</td>
<td>This unit improves my written and oral communication skills.</td>
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<tr>
<td>11.</td>
<td>From the above list of levels of learning outcome statement, which one best describe you</td>
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