

Constructing a Collaborative Active Learning on Integrated Business Experience: Experimental Study of Telkom Economics Business School Program at Telkom University

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Abstract: Generally, business faculty of various universities offering integrated learning methods with the application of Information, Technology, Communication and Management (ICTM). In fact, the need for the implementation of all those 3 aspects need to be collaborated and integrated across a variety of subjects studied by students in order to have more interdisciplinary linkages. The purpose of this study is to produce a constructive approach based on teaching and create a more active learning environment of business management knowledge by conducting peer evaluation among business students. The data based on the analysis method that uses descriptive analysis and explanatory study to compare, the measurement of student activity score and the average assessment of student assignments of integrated business experience in experimental exploratory model. Sample of this research comes from an experimental class consisting of 36 business students in the 5 subjects, as the source of the research analysis; Marketing Management, Business Ethics, Data Management, Business Statistics and Economics by using ANOVA test, if the data were normally distributed and the alternative using the Kruskal Wallis test when the data is not normally distributed. Statistical significance of the results is determined by the value of $p < 0.05$. The data obtained are recorded in a special form and then processed with SPSS version 20.0 for Windows. Analysis of the 95% confidence level, the study shows that there are differences in the average scores of interdisciplinary activity (significance $0.005 < 0.05$), the average value of student activities (significance $0.000 < 0.05$), the average student assessment (significance $0.04 < 0.05$) and a statistically significant p-value based on the assumed normal by ANOVA statistical test. The results of this study establish, the learning process of business study with peer assessment evaluations of fellow business students to build an active collaboration between the subject courses, each assignment to foster the sharing of relevant knowledge. Eventually, the student's knowledge of the business is not fixated only on theoretical but also sharpen analytical thinking processes, critical and convincing presentation.

Key words: Constructing, integrated, collaborative, active learning, presentation

INTRODUCTION

Universities in the era of globalization should be able to compete in the real implementation of the use of information, communication and technology in presenting science in a unique, interesting and targeted. This is because the organization at the university that is becoming increasingly complex and diverse. Building a system in universities with particular faculty and in particular lies in an independent faculty thoughts, ideas and creativity and autonomy of the people that involved in it from the lecturers, administrative staff to the students. The business relationship will be developed, as well as simultaneously supported by the effectiveness uses of technology and good communication skills to share the information between students.

Indonesia, as a developing country and the existence of higher education are growing in demand is needed to always develop the learning methods in higher education. Data from the Education for All (EFA) Global Monitoring Report 2011: The hidden crisis, armed conflict and education, published by the United Nation Educational, Scientific and Cultural Organization (UNESCO) at its launch in New York, Monday (1/3/2011), an Education Development Index (EDI) refers to the data of 2008 equal to 0.934. The value of the position Indonesia ranks 69th of 127 countries from around the world. Index of EDI has high level category if reached 0.95-1. Medium category if it can reaches > 0.80 while the low category is under 0.80. It is the centre of attention for higher education providers in Indonesia.

One of the main topics in developing higher education is a paradigm of thought in the development of

methods in delivering the learning materials in higher education. It is essentially a measure the quality of a higher education system that is adapted by university development of higher education in accordance with the paradigm of autonomy, accountability, accreditation and self-evaluation and quality sustainability improvement (Brodjonegoro, 1997). It will be able to produce a successful outcome of the educational product that would be able to contribute to meet the needs of human resource professionals in the real industrial and services sectors. The high quality of higher education is also expected to be able to make the quality of a nation can compete with other world-class universities. This is the challenge of every higher education to continue to improve and perform a variety of innovations to improve the quality and results better oriented.

The prominent of the success achieved in higher education system is a student academic achievement. This can be achieved through learning and by learning the individual is expected to develop the potential of all students, as much as possible both hard and soft skills. Learning is need encouragement, passion and spirit, as well as the support that is situational infrastructure. Without all of that learn to become very boring, even a burden. This is why many students have difficulty in learning and academic achievement influenced. Academic achievement is influenced by various factors, as expressed by Hawk and Shah (2007), one of which is the factor approach to learning which is a strategy or method used in the study.

In this study, tested a way to form a construct of how collaboration between students to integrate some of subject in business school into an Integrated Business Experience (IBE) activities at the Faculty of Economics and Business at the University of Telkom.

Integrated business experience provides, experience for students and instructors to be able to collaborate among each other in a variety of subjects in get in one semester. Simply put, students are able to project the working relationship between individuals and groups. Student is given the task to make the analysis of the business concept selling business book in the city of Bandung, comparing the bookstore business through online and offline sales or sales book directly. Experience possessed by the lesson is about how to collaborate between different subjects are studied in one semester as Marketing Management, Economics, Data Management, Business Statistics and Business Ethics. Similarly, the students in this research may develop their self-experience in social interaction with the reality of service industry.

Conceptual frameworks

Theoretical concepts

Knowledge as a constructive of learning at university:

The unique characteristics of the university, as a societal environment for exploration and interpretation of knowledge is to better frame the need to rethink technical education and to be better in terms of to accommodate design training and collaborative practices into current university activities (Bento, 2004). Learning as knowledge accumulation is a process. The process of knowledge accumulation is complex, however and requires continuous adaptation if the places of inquiry are to be fostered (Bento, 2004). The crucial aspect of the accumulation of knowledge is the interaction between ideas and skills which gives rise to the learning processes. Indeed, ideas and skills are no >2 sides of the same coin, 2 essential aspects of the accumulation of knowledge. Many good ideas are useless if the skills needed to use them do not exist (Bento, 2004).

Furthermore, learning is a constructive cognitive changing (Phye, 1997). The fundamental theory of learning comes from Gagne that was explained that learning is a change in human disposition or capability which can be retained and which is not simply ascribable to the process of growth. The kind of change called learning exhibits itself, as a change in behaviour and the inference of learning is made by comparing what behaviour was possible before the individual was placed in a learning situation and what behaviour can be exhibited after such treatment (Gagne, 1970). Then, the constructivism based on the premise that researchers are constructing the own perspective of the world, through individual experiences and schema. Constructivism focuses on preparing the learner to problem-solve in ambiguous situations (Mergel, 1998). Constructivists believe that learners construct their own reality or at least interpret it based upon their perceptions of experiences, so an individual's knowledge is a function of one's prior experiences, mental structures and beliefs that are used to interpret objects and events. What someone knows is grounded in perception of the physical and social experiences which are comprehended by the mind (Jonasson, 1991; Mergel, 1998).

Learning is viewed, as a relatively permanent reorganization of cognitive structures, such as in the integration of existing schema or the development of new schema. Learning occurs, as a result of an individual's experience and the active construction of knowledge and processing of information (Phye, 1997). Accordingly, the kind of cognitive reorganization called learning would not simply be the result of maturation or development. Experiences that result in learning can be either internally

initiated (e.g., reflection, thinking) or externally driven (e.g., the result of instruction, interaction with other students) (Phye, 1997).

Issues of collaborative active learning: In recent years, many research that explore more about collaborative active learning. Researchers have studied collaboration between teachers through the use of Information and Communication Technology (ICT) (Akpinar and Bal, 2006; Suntisukwongchote, 2006; Winter and McGhie-Richmond, 2005) in context of inclusion (DeSimone and Parmar, 2006; Wallace *et al.*, 2002), the role of collaboration between student teachers in learning to teach (Arvaja *et al.*, 2007; Kitchen, 2008), the role of collaboration between teachers in learning to teach (Meirink *et al.*, 2007), the role of collaboration between teacher educators and classroom teachers (Erickson *et al.*, 2005) and between teachers (Butler *et al.*, 2004) on professional development, the role of collaboration between student teachers and teacher educators on student teachers learning (Tillema and Orland-Barak, 2006), collaboration between teachers in planning and implementing lessons (Akpinar and Bal, 2006; Cone and Harris, 1996; Davison, 2006) and collaboration between teachers and university researchers in curriculum design (Webb *et al.*, 2005). These studies have shown that collaboration can have beneficial effects on teachers learning and production. For example Erickson *et al.* (2005) and Cone and Harris (1996), suggested that collaboration projects involving inservice teachers have enhanced pupils learning. In another study, social support was the main outcome of collaboration between student teachers (Seifert and Mandzuk, 2006). However, these studies have also identified challenges inherent to collaboration. Issues of conflict, commitment, control and respect (Erickson *et al.*, 2005), roles and responsibilities (Winter and McGhie-Richmond, 2005) as well as issues related to individual differences (Seifert and Mandzuk, 2006) were raised. Consequently, collaboration in group work may not always represent an added value over individual activity. Arvaja *et al.* (2007) call for the study of the reciprocal relationship between individual and collective processes in order to design better collaborative learning tasks.

The individual based learning where students follow lectures can not very effectively respond to the external needs without extended methods of learning. Collaborative group based learning is necessary for project learning. Collaborative networked learning is necessary for multidisciplinary education and applied research and development which are trying to promote innovations in working life (Kettunen *et al.*, 2013). Collaborative learning is built on constructivism and

social learning theories that assume learning emerges as learners interact (Piaget and Inhelder, 1997). Collaborative learning is a good option when a multidisciplinary approach or diversity of expertise is needed.

Knowledge is a collaborating process of developing ideas and skills: The crucial aspect of the accumulation of knowledge is the interaction between ideas and skills which gives rise to the learning processes. Indeed, ideas and skills are no >2 sides of the same coin, 2 essential aspects of the accumulation of knowledge. Many good ideas are useless if the skills needed to use them do not exist (Bento, 2004).

Process collaborating of conceptual mapping, think-aloud protocol and portfolio into emerge a new knowledge are being a crucial process in terms of maintaining the ideas keep be existed. Conceptual mapping is a tool for examining a student's self-reported cognitive organization (Collinson and Cook, 2006; Novak, 1988). Think-aloud protocols are structured exercises in which students reveal their thinking processes orally or in writing (Kucan and Beck, 1997). Early studies by Bloom and Broder (1950) compared the self-reported, written problem-solving strategies used by expert and novice students in a college setting. By providing the novices with explicit review of their strategies and comparison with the strategies used by experts, Bloom and Broder were able to demonstrate the value and efficacy of focusing on procedural knowledge (Phye, 1997). Portfolios are purposeful collections of student work. Portfolios provide an opportunity for students, teachers, parents and others to glean a more holistic view of changes in students performance over time (Phye, 1997).

Collaboration between ideas and skills are following through 2 phases that are move along into 2 phases; firstly, learning by exploration. It means that in terms of the learning process, this is the step which codification of knowledge which is the generation of the new ideas. This type of learning is convergent, meaning that on the basis of different and unique skills; ideas are generated that have the potential for common use (Bento, 2004). Secondly, learning by integrated experienced. In this step, learning is being integrated based on purpose, relates to learning by assimilation of knowledge with doing the elucidation process which results from activities, such as education, experience and social interaction. Through, interpretation of these ideas different skills emerge. However, the ways in which students assimilate and interpret these are different, meaning that the learning process is divergent (Bento, 2004).

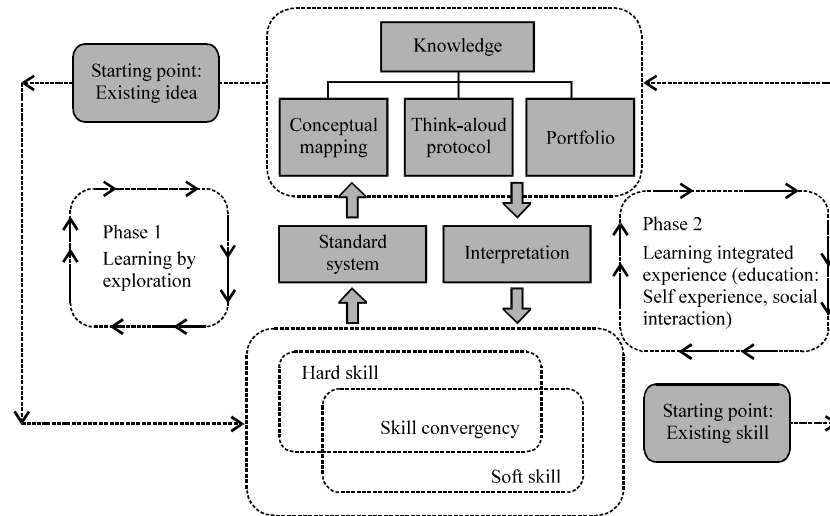


Fig. 1: Theoretical framework

Collaborating of hard and soft skills are being skill convergences: Skill is goal-directed, well-organized behaviour that is acquired through practice and performed with economy of effort (Proctor *et al.*, 1995). There are a variety of perspectives on the different types of skill, for example in the policy and practice literatures the distinction between hard (technical) and soft (human) skills, for example Pant and Baroudi (2008) is often used. Hard and soft skills differ in a number of significant ways. Hard (technical) skills are goal-directed behaviours that draw on well-established and clearly discernable rules and principles. Soft skills on the other hand are not necessarily founded on a widely accepted or formally scientific basis (CIPD, 2010).

Hard skills are academic and technical. Soft skills are the interpersonal and life skills that help leaders to share their hard skills effectively. Soft skills are the polite and pleasing way of communicating with others to get tasks executed effectively. They reach beyond team building and communication skills which can be considered a sub-set of soft skills (Rao, 2013).

Theoretical framework: The theoretical framework described in Fig. 1.

MATERIALS AND METHODS

The 1st year students in the 2nd semester of Economics Telkom Business School, receives 5 compulsory subjects of learning, namely; Marketing Management, Business Ethics, Economics, Data Management and Business Statistics. In this study, a group of 36 students divided into 6 groups whereas for

each group had to do some research on the business processes performed by the bookstore business in Bandung, Indonesia. Type of bookstore to be observed is the bookstore which has 2 types of services, namely; online and offline. Serving booking through the internet and also has a bookstore outlets.

This study was made with the design of the student group assignment to conduct experiments and exploration Indonesian bookstore in Bandung. They are required to be able to analyse the business processes of any bookstore in exploration by using their knowledge of Marketing Management, Business Ethics, Economics, Data Management and Business Statistics, so that the form becomes an integrated inter. Course assignment that the students can get.

The student group shall present the description of the data needs to be stored in the database for the system to be developed, relationships and limitations of each data should also be explained. Describe the business processes that run using the implemented system. Collecting an overview of data modelling using the entity relationship of the data to forming a market analysis and also can design the type of services that do not violate the bookstore business ethics. Various forms of reporting made are displayed in the form of business statistics. Build and develop the assignment is to stimulate students to work as a team, collaborate, build networks and expertise in various skills honed. The stages in the process of assessment that measured the presentation of group assignment dalam IBE Appendix 1.

Empirical evidence: To analyse the difference in the average of the scores and the value of the research group

Table 1: Comparison of MBTI activity score and value

Variables	Management business telecommunication and informatics					Significance p-value
	Business statistics ^a	Business ethics ^a	Data management ^a	Economics ^a	Marketing management ^a	
Activity score	8.28±10.50	6.63±6.990	9.22±6.750	4.38±5.760	5.55±5.530	0.005**
Activity value	22.38±28.37	24.53±25.90	34.11±24.96	19.93±26.17	19.41±19.37	0.000**

Table 2: Comparison of integrated business experience group

Variabeles	Management business telecommunication and informatics (IBE)						Significance p-value
	Group 1 ^a	Group 2 ^a	Group 3 ^a	Group 4 ^a	Group 5 ^a	Group 6 ^a	
Average score assesment	81.00±4.26	71.99±19.74	78.89±7.01	79.34±4.68	77.81±7.05	79.73±5.93	0.04**

^aMean standard deviation; **Significant or meaningful statistics

of the Integrated Business Experience Group (IBE Group) is the subject value by the lecturer of Business Statistics, Business Ethics, Marketing Management, Economics and Data Management, ANOVA test, provided that if the data were normally distributed and the alternative is using Kruskal Wallis test if the data are not normally distributed. Statistical significance test results are determined by the value of $p < 0.05$. The data obtained are recorded in a special form and then processed with SPSS version 20.0. for Windows.

Table 1 shows that there are differences in the average activity score based on a statistically significant p-value where Kruskal Wallis p-value for activity score of $0.005 < 0.05$ (significant). This shows the differences found the average score of IBE Group meaningful activity between subjects. The activity value shows that there are differences in the average value of the activity is based on a statistically significant p-value where Kruskal Wallis p-value for activity value of $0.000 < 0.05$ (significant). This shows the differences found the average value MBTI meaningful activity between subjects.

Table 2 shows that there are differences in average student assessment based on a statistically significant p-value where the p-value ANOVA for student assessment is equal to $0.000 < 0.05$ (significant). This shows the differences found the average of IBE Group meaningful student assessment between IBE task groups.

The results shown by the significance of the empirical data of this study showed that every lecturer of the various subjects involved provide varying forms of assessment on the same rating scale, the activity of the study group from each of IBE Group. The results of inter-group assessment showed measurable objectivity of each group and it is the final value of the integration between the subjects of each lecturer is varied.

RESULTS AND DISCUSSION

The students in this research may also developing their self-experience in social interaction with the reality of

service industry that is not looking for a persons with highly specialized career skills, since such as skills can usually best to be learned on the job by the organisation but for the person which good thinking and communication skills quick learners and having action to solve-problems without opposite against within each other, thinking creatively, gathering and analysing the information, drawing appropriate conclusions from data and communicating their ideas clearly and effectively. These are exactly the kinds of generalized thinking and problem-solving skills at the courses in this research in terms of critical thinking for improvement.

CONCLUSION

This research is dedicated to build a piece of puzzle to realize the vision of Telkom University to leading the future through world-class university in supporting of increasing the competitiveness of Indonesia with world-class researches, lots of autonomy, be the best scholars, best faculties, best students all are part of the concept of a world-class university.

IMPLICATIONS

The results of experimental studies and exploratory shows that innovation in the business faculty teaching method is very important, given the dynamic nature of knowledge and keep up-dating of information, communication and technology. Learning process also plays a role in the quality design of human resources for the needs of industrial and organizational in the future based on skill convergences.

Approach through innovative learning methods will provide more values in building the character of the students in the professional world collaborate in various fields of expertise.

RECOMMENDATIONS

A similar study could be tested in other faculties, even important to do experiments on different faculties to

perform an innovation in the implementation of industrial learning organization. The primary approach to develop the learning organization to the integrative program in developing skill convergences which are:

- The span and level of integration between interdisciplinary or even multidisciplinary of knowledge management in learning organization
- The level of integration between subjects in approach system of developing new skills orientation
- The time target and level of which program is offered towards the need of learning organization with the primary mission of enterprise goals

APPENDIX

Assessment criteria

Presentation

Systematics presentation of the business experience

Tools technology

The use of language and scientific terms

Time management

Manner and attitude presentation

Insight material

Analytical thinking

Creativity of the idea/ideas (uniqueness, benefits, impact)

Feasibility of implementation

Recommendations conclusion material

Integration aspects (academics, business, consumer, government and information technology applications)

Cooperation group

Understanding of ideas between personnel

Cooperation among team members

Communication between team members

Cohesiveness among group members

The dynamics of group presentations

Discussion

Answering questions properly

Being able to provide an understanding of replies

About providing the right answers to accuracy and does not confuse

Cooperation among members of the group

Body language when answering questions

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