

An Application of “Organization Development Tools” in Identifying Chinese University Students’ Learning Styles of English Language: A Case Study of Comprehensive English Subject at the College of Oriental Languages, Zhejiang Yuexiu University of Foreign Languages, People’s Republic of China

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Abstract

The purpose of this research is to improve Chinese university students’ performance in four aspects, namely sense of responsibility, academics in students’ grades, engagement and self-esteem by using student-centered learning approach at the College of Oriental Languages (COL), Zhejiang Yuexiu University of Foreign Languages (ZYUFL). Changing students’ learning styles should be implemented with careful consideration. With that in mind, a new learning process and teaching model were designed in order to improve the teaching and learning quality. Two different groups were investigated, namely the experimental and control group. Research strategies such as open-ended and structured interview, observation by score criterion and a questionnaire were used and some secondary data collected. Research interventions, team building, coaching, appreciative inquiry, whole brain literacy and Kolb’s experiential learning cycle were applied during the organization development intervention (ODI) phase in the Comprehensive English Class. After the traditional lecture-dominated and student-centered approach in two different groups, it was clearly indicated that interventions had a positive influence on students’ learning styles: feeling, thinking and doing styles. With regards to the four aspects of performance examined, it was easy to see that students showed higher scores in terms of sense of responsibility, self-esteem and engagement in the experimental groups after ODI. The fourth aspect, academics showed the highest level of improvement while there was no significant difference in any of the variables of the control group at the post-ODI phase.

Keywords: learning styles, performance, Chinese education, Comprehensive English Class, student-centered and experiential learning.

Introduction

Objectives and Challenges

Against a background of accelerating speed in society and a turbulent environment, Chinese education plays a significant role among Chinese teachers, students and parents' lives. Because of the large population, Chinese policies which need to be implemented and examined during each Chinese students' learning stage, are totally different from other countries. Unlike in other countries, there are two learning stages in China, including high school entrance and college entrance. In terms of exams, the first one is public examination "Zhongkao", which is for middle school students who are around fifteen years old; they need to take the senior high school entrance examination before they go to high school; there are more than ten thousand candidates for an entrance examination in Zhejiang Province (Chan, 1999). The second examination is "Gaokao", which is the current Chinese entrance examination for higher education and one of the most effective and balanced educational systems. "Gaokao" means higher education institute enrollment examination. It chooses talent when the high school students enter into universities under competitive circumstances (Liu, 2007). Chan (1999) believes that a great number of Chinese students are able to pass the "Gaokao" because the Chinese government attaches importance to cultivating cultural values and enhancing skills for the people in both rural and urban areas. The Chinese education system focuses on student-centered learning and supports lifelong learning.

However, there is a problem that Chinese education focuses much on preparing for the two big exams mentioned, rather than on quality-oriented education. Liu (2007) and Chan (1999) state that the disadvantages are obvious; it stifles students' creativity and decreases their learning motivation in comparison to foreign educational models which advocate innovation, learning autonomy and diverse values, all of which become important pillars of economic development. In contrast, China lacks innovation when developing its economy. Another issue that has occurred in the recent years is that when Chinese students graduate from high schools and finish the college entrance examination, they are less motivated and confident to learn at universities, including in Zhejiang Yuexiu University of Foreign Languages (ZYUFL). Students' learning styles and Comprehensive English teachers' teaching methods therefore should be changed; the

overall aim of the study is to enhance students' learning styles and improve their performance in the aspects of engagement, sense of responsibility, self-esteem and academics.

Background of the Study

The challenges for ZYUFL are arising because there is some fierce competition among private schools and talent in China. The popularization of Chinese higher education is growing, and sharp competition of getting the most talented students at the source and a wide propaganda war for enrolling superior students has begun among universities. This forces people to improve the quality of universities. How are universities supposed to grow, develop and survive in such tough competition? It is an important issue for the faculty and teachers.

Research Objectives

1. To evaluate the existing background of the current student-centered learning approach for Comprehensive English class and students' performance.
2. To assess and evaluate the student-centered learning approach and performance for Comprehensive English class by using Team Building, Coaching, Appreciative Inquiry (AI), Whole Brain Literacy (WBL) and Kolb's experiential learning cycle.
3. To identify the difference between the pre-organization development intervention (ODI) and post-ODI for the student-centered learning approach and the students' performance in the Comprehensive English class.
4. To design a format or learning process that would be suitable for university students in order to change their learning styles and enhance their performance.
5. To explore the alternative ways of teaching and learning methods for Comprehensive English teachers and students at Chinese universities.

Statement of the Research Problem

At the COL, Comprehensive English teachers' teaching approaches should be changed; the researcher's aim is the investigation of COL students' performance by using student-centered learning approach, the frameworks of AI/ WBL/ Kolb's experiential learning cycle and Coaching/ Team Building interventions.

The researcher also attempted to achieve this by using Organization Development (OD) practice during the learning process, like how to build trust with faculties and students, how to set strategy (mission, vision, values and goals) in the learning community or how to design an effective approach in learning, etc.

Research Questions

1. What is the current background of Comprehensive English student-centered learning approach and students' performance?
2. To what extent is the student-centered learning approach and performance influenced by using the Team Building, Coaching, AI, WBL intervention and Kolb's experiential learning cycle intervention?
3. What is the difference between the pre-ODI and post-ODI in terms of students' learning styles and performance in the Comprehensive English classroom at COL?
4. What is the desired format or learning process that would be suitable for university students in order to change their learning styles and enhance their learning performance?
5. What are the alternative teaching and learning methods for Comprehensive English teachers and students respectively at Chinese universities?

Scope and Limitations of the Study

Currently, in this research study, there were around eighty freshmen who were majoring in Japanese. However, among these students, four to six ones were different. According to their performance and academic grades in English, it shows that their English proficiency was not as good as others. When doing group work, the researcher mixed students with both high and low proficiency together in a group, to create an environment where they can help each other.

The target groups of this study are Chinese university students enrolled at COL, ZYUFL. The researcher suggests that the future studies should continue to keep track of university students' learning styles and performance to implement the new learning model into other educational contexts. However, the researcher firmly believes that some interventions implemented in the Comprehensive English class are a good choice,

demonstrating how the new learning process designed by the researcher is appropriate for Chinese University students in general.

Research Hypotheses

H1₀: There is no significant difference when using ODI on COL university students' performance by using student-centered learning approach.

H1_a: There is a significant difference when using ODI on COL university students' performance by using student-centered learning approach.

H2₀: There is no initial difference between pre-ODI and post-ODI based on the investigation of COL university students' performance by using student-centered learning approach.

H2_a: There is an initial difference between pre-ODI and post-ODI based on the investigation of COL university students' performance by using student-centered learning approach.

Literature Review

Organization Cultural Practices and Learning in Organizations

Prugsamatz (2010) points out that an organization's cultural practices play a vital role in the learning processes in any organization. Some research studies have indicated that an organization's culture may affect learning that occurs within the organization (Lai & Lee, 2007; Al-Alawi, Kayworth & Leidner, 2005; Alavi, Al-Marzooqi & Mohammed, 2007; Schein, 1996). Pillania (2006) studies the influence of organizational culture on knowledge management, which indicates that cultural mindsets and misconception of sharing knowledge in an organization would hinder organizational members from practicing learning that could improve organization's performance.

According to Schein (1996), a cultural framework consists of basic assumptions, values and artifacts. Alavi, Kayworth and Leidner (2005) also conducted a research on the influence of organizational culture on knowledge management practices. They found that values occur at the organizational level and they have a direct effect on the group's values, which varies from group to group thus producing different results for the organization.

Learning Process

Argyris and Schön (1974) believe that learning process is made up of single- and double-loop learning. Double-loop learning is the reflection of one's thinking whereas single-loop learning refers to the discovery and correction of organizational errors (Argyris, 1991). Meanwhile, single-loop learning process, as Argyris (1976) states that it will decrease valid information and informed choice, thus get rid of internal commitments in the group.

Different opinions and thoughts can be received and illustrated. Even the individual views are welcome and finally made a consensus to reach the collective group norm (Lu, 2015). Students with double-loop learning usually have a reflection on what they have learnt and how they learn in an alternative approach in a new learning process. As Lu (2015) suggests that OD is a process of reflective learning, where learners experience the "single-loop" or "double-loop" learning, will be intervened. At the same time, it is significant that posing questions when students have freedom and time, which assists them to reframe a new approach and build a new knowledge framework.

Learning Style

Hawk and Shah (2007) maintain that several learning styles has been widely acquired over the past twenty-five years among instructors and students; in terms of different personalities and proficiency levels, students appear to use different learning approaches and a single teaching way doesn't satisfy all students' needs.

Kolb (1984) defines four learning styles (diverging, assimilating, converging and accommodating). Divergers have traits of being imaginative, emotional and show a great interest in people and arts. People who prefer the divergent style are likely to work in groups, listen to peers' views and get the valuable feedback. Assimilators who are the assimilating style generally have abilities of creating theoretical models and using the way of inductive. Convergers prefer to think in a deductive way and work with practical experience, new ideas and simulation. Accommodators have a manifest trait of drawing on lessons from their hands-on experience. They tend to involve themselves in a challenging situation and learn from practical knowledge.

Based on these four learning styles in an experiential learning model, Kolb (1984) argues that a balancing learning style combines four modes: abstract conceptualization (AC), concrete experience (CE), active experimentation (AE) and reflective observation (RO). Learners should be equipped with an ability of grasping new experience openly and without any bias (CE); they need to observe their experience, have a reflection on them and are willing to receive other's feedback concerning experience (RO); they need to generate and develop a new conceptualized theory that combines their observation (AC); finally, they should take their observation and theories into consideration to solve the problems and make reasonable decisions. Effective instructors should use different learning styles to choose learning activities and pedagogical approaches, enhancing students' quality of learning and letting them experience diverse in teaching ways.

Student Engagement, Academic Achievement, Sense of Responsibility and Self-esteem

In this research study, the researcher investigated students' performance from four aspects, namely, student engagement, academics, sense of responsibility and self-esteem. These four points are the key indicators in ZYUFL. The following part also illustrates other theories regarding these four aspects to support the reasons why the researcher chose these elements as indicators of students' performance.

Hu and Kuh (2001) state that student engagement is related to student effort with high quality in engaging educationally oriented activities, which is conducive to the desired outcomes. Similarly, higher education research suggests that student engagement usually connects with high-quality learning outcomes (Krause & Coates, 2008).

When using the proposed student-centered learning approach, students can take responsibility for their learning and learn from collaborative learning in teamwork; they can also get constructive feedback on team contribution (Michaelsen & Sweet, 2008). From Prince's (2004) perspective, student academic achievement can be enhanced by interpersonal relationships and student self-esteem by doing collaborative learning, as the core element of team-based learning is student activity and engagement during the learning process.

Concerning the sense of responsibility of learning, Weimer (2002) states that it is linked to a student-centered context. Slunt and Giancarlo (2004) point out that the

student-centered approach gives students opportunities to take responsibility for controlling learning when they participate in the learning process instead of passively taking notes or receiving information from teachers or textbooks. Moreover, research shows that students who have high self-esteem in learning are more willing to take responsibility in social, personal and learning areas. It also plays an important role in academic achievement (Redenbach, 1991). In a nutshell, student engagement, academics, sense of responsibility and self-esteem are inseparable.

Theoretical Framework for Comprehensive English Teaching and Learning

Based on literature reviews and theories, the theoretical framework underlines the potential of learning eagerness and performance. Particularly in the Comprehensive English class while teaching and learning, students should be equipped with generic frameworks of AI/ Team Building/ WBL/ Kolb's experiential learning cycle, developing their performance by using student-centered learning approach, which helps them to change fixed mindsets to growth mindsets by ways of collaborative and interactive peer learning. AI is an intervention that uses positive questions based on one's experience so as to create learning opportunities. AI is also a good alternative to traditional teaching and learning methodologies, which helps learners to get skills of perceived attitudinal, behavioral and cognitive learning (Day & Holladay, 2012). As for WBL, Gardner (1983) states that it is a kind of philosophy of education, which taps into each learner's potential, specialized capabilities or various intelligences. It can be applied in teaching and learning processes, which promotes a new philosophy of education. Team building is an effective OD intervention to improve teamwork and task accomplishment in permanent work groups or temporary project teams (Cummings & Worley, 2009).



Figure 1 . Theoretical Framework

In the Comprehensive English class, teachers can design a series of learning activities, which assist each member to improve skills from the individual level, such as problem-solving and interpersonal skills, or change their traditional learning approaches. Moreover, teachers can use interventions to implement activities efficiently from the group level to organizational level, aiming to improve English learning skills. Overall, students' well-rounded performance (academics, sense of responsibility, engagement and self-esteem) would be fostered and enhanced.

Conceptual Framework for Comprehensive English Teaching and Learning

The conceptual framework of this study was formulated as follows. The objective of the framework was to improve university students' learning styles and performance at COL, ZYUFL. Kolb's experiential learning model provided the researcher with a well-rounded and integrative model of the learning process.

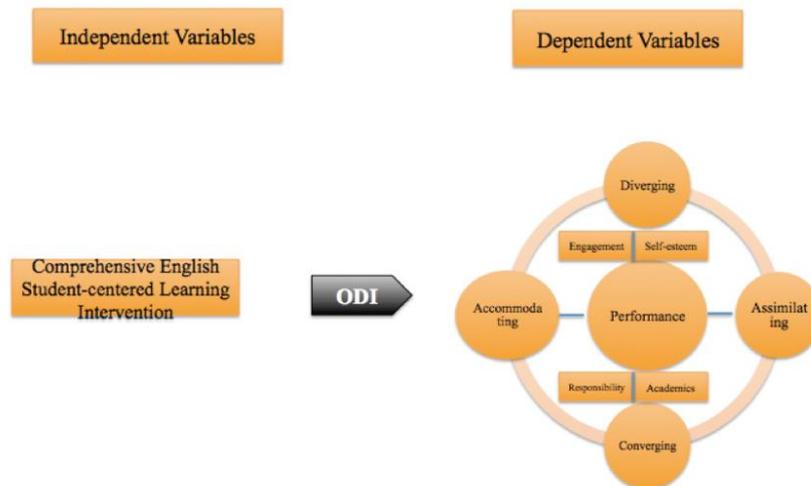


Figure 2. Conceptual Framework

In this framework, by applying ODI, the researcher emphasized the student-centered learning approach and applied the Kolb’s experiential learning cycle in students’ learning in order to change students’ learning styles, shared values and improve skills.

Action Research Framework for Comprehensive English Teaching and Learning

The researcher came up with various learning activities for students in order to help them to change their learning styles and improve their performance. They are based on the frameworks of WBL/ AI/ Kolb’s experiential learning cycle and coaching/ team building interventions.

Table 1

Action Research Framework

Pre-ODI	ODI	Post-ODI
Students’ performance at COL		Students’ performance at COL
1.Engagement ➤ Low engagement in taking part in some contests ➤ Low participation in		1.Engagement ➤ Taking an active part in enjoying learning activities ➤ High sense of

<p>learning activities</p>	<ul style="list-style-type: none"> ➤ Design alternative learning activities according to Kolb's 	<p>collaboration and building learning structure</p>
<p>2. Self-esteem</p> <ul style="list-style-type: none"> ➤ Lack of interest in learning language ➤ Lack of respect for motivational learning 	<ul style="list-style-type: none"> ➤ experiential learning cycle, via AI and WBL framework; ➤ WBL/ AI/ Coaching/ Teambuilding workshop and implementation; ➤ Use second language; 	<p>2. Self-esteem</p> <ul style="list-style-type: none"> ➤ More interest in learning and have a high level of motivation ➤ Having a critical ideal in addressing learning and life issues
<p>3. Academics</p> <ul style="list-style-type: none"> ➤ Low scores at the Chinese college entrance examination before they go to the COL, especially in English ➤ Low scores in College English Test Band 4 ➤ Have no time to learn English because they are Japanese major students 	<ul style="list-style-type: none"> ➤ Comprehensive English Interventions: Interview and observation of learners' performance by using a student-centered learning approach. 	<p>3. Academics</p> <ul style="list-style-type: none"> ➤ Better scores in English reading, speaking, writing and listening ➤ Having a balance in learning English and Japanese ➤ Having a good understanding of English culture
<p>4. Sense of Responsibility</p> <ul style="list-style-type: none"> ➤ Low sense of social and learning responsibility ➤ Anxious to achieve quick success and get instant benefits 		<p>4. Sense of Responsibility</p> <ul style="list-style-type: none"> ➤ Increased sense of social and learning responsibilities ➤ Having a clear goal of learning English

Students' learning styles at COL		Students' learning styles at COL
<ul style="list-style-type: none"> ➤ Get used to the traditional learning styles ➤ Lack of language learning skills and learning motivation (internal and external) ➤ Passive learning attitudes 		<ul style="list-style-type: none"> ➤ Have a good understanding of learning styles ➤ Be able to choose one of learning styles suitable for oneself ➤ High motivation in learning

Before ODI, measures or actions were based on the requirements of COL and were intended to help the students to achieve their overall goals.

As for interventions, the researcher aimed for improving students' learning styles and students' overall performance by using OD interventions. The learning activities, teaching methods and lesson plans based on these were suited to the students' levels and learning objectives by the help from a coach or the way of team building.

After interventions, the researcher helped students to change their conventional learning style and used various learning ways, which were suitable for individuals and improves their performance in a well-developed way.

Research Design and Methodology

Pre-ODI Phase

The research design is based on the previous description of action research, which were implemented in three Comprehensive English classes at COL. Two classes were the experimental classes, whereas the third was the control class that mainly used the whole class teaching, which was the lecture-based learning; however, OD interventions were implemented in two experimental classes. By applying AI/Team Building/Coaching/WBL, the researcher found out how students learn with more

possibilities and tap into their potential. In order to develop their potential, the pre-ODI was measured and implemented. Some questionnaires, observations and group interviews were assessed and used to evaluate students' learning styles and performance.

ODI Phase

ODI Model in the Comprehensive English Class

The whole intervention process took six months (26th Nov, 2017 to 31st May, 2018). During the ODI stage, team building, coaching, AI and WBL were applied in the instructional design, methodology and learning activities. Figure 3 presents the ODI model that was put into practice in the Comprehensive English class. In this model, participating, presenting, empowering, permitting and practicing were integrated in the frameworks of Team Building/Coaching /WBL /AI and Kolb's experiential learning cycle as follows. Each quadrant connects with each other when learners were involved in an activity to generate holistic information around the core Practice by iteration and wending. Then, learners can identify the functions of four-brain model, which are greater than each independent part's opinion. AI is an intervention that uses positive questions based on one's experience so as to create learning opportunities. It is also a good alternative to traditional teaching and learning methodologies, which helps learners to get skills of perceived attitudinal, behavioral and cognitive learning.

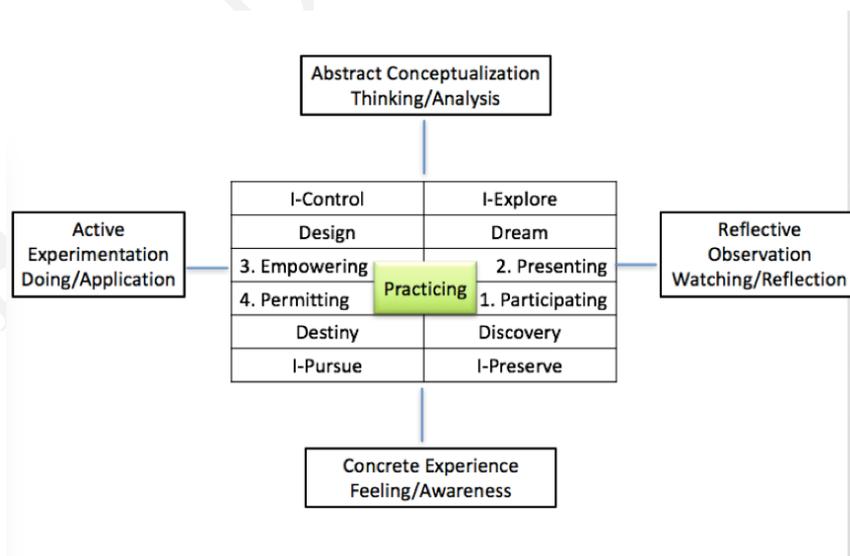


Figure 3. ODI Model in the Comprehensive English Class

Source: Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning development*. Englewood Cliff: Prentice-Hall.

Lynch, D. (2003). *Mother of all minds: Leaping free of an outdated human nature*. Plano, Texas: Brain Technologies Press.

Stavors, J. M. & Watkins, J. M. (2010). *Appreciative Inquiry: OD in the Post-Modern Age*.

In Rothwell, W. J., Stavros, J. & Sullivan, R. (2010). *Practicing Organization Development: A Guide for Leading Change* (Third Edition). New York: John Wiley and Sons, Inc.

The new learning process was created for this study as follows.

1. **Participating:** the process begins with the stage of self-awareness. Student participation, in other words, it is the student engagement that indicates the mediator of student learning. Learners gather together to participate in contemplation, reflective practice and experiential learning, which could cultivate their qualities of resourceful, engaged workers and citizens in the future. Meanwhile, their confidence and motivation would be improved in such an appreciative and friendly learning atmosphere.
2. **Presenting:** the second stage is to let learners explore themselves and try to seek opportunities for growth development. That is to say, it allows students to apply theoretical knowledge to practical situations. Students can also present their ideas or experience and predicate the possible future with AI questions and the connection of the world. Their potential abilities would be pooled out through giving them some reflections.
3. **Empowering:** at the third stage, students should be equipped with the skills of logical thinking and critical mind, which makes them able to learn better in real world scenarios. Through several sessions, learners tend to be academically involved, involvement with teachers and involvement with student peer groups in order to achieve the desired outcomes. Students are also required to set goals collaboratively, indicating collaboration as an important source of motivation among learners.
4. **Permitting:** the fourth stage allows or permits students to learn by doing they designed at the previous stage. It is a good opportunity for learners to demonstrate their goal achievement with committed efforts among group members and a coach. It is also an effective integration of learner endeavor, performance and student-centered learning approach, which produces optimal learning context and achieves better performance compared with traditional learning and teaching setting.

5. Practicing: at the last stage, students should have a clear awareness of the student-centered learning approach and understand the real meaning of its application. They were also transformed from inside and outside, moving to the growth mindset. Moreover, they would build the dynamic learning mode instead of a fixed and traditional learning way, which arises from an individual's appropriate and underlying consciousness of experience/conceptualization and action/reflection.

Teacher's Role during the ODI Phase

Except for the ODI model, the teacher's role is significant during the classroom interventions. Figure 4 illustrates the teaching role during the experiential learning activities.

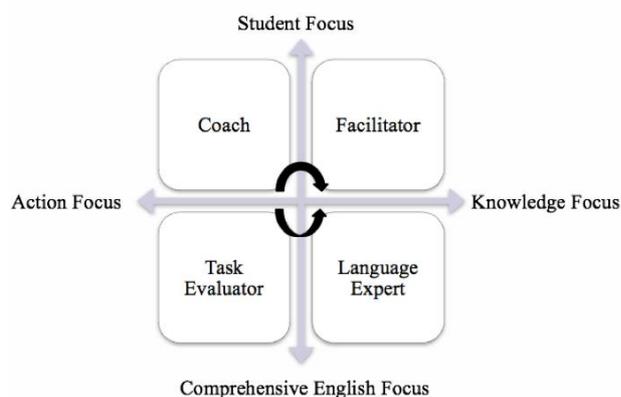


Figure 4. Teaching Roles in the ODI Model

Source: Passarelli, A. M. & Kolb, D. A. (2011). *Using experiential learning theory to promote students learning and development in programs of education abroad*. Case Western Reserve University: Student Learning Abroad Stylus Publishing.

Generally, the teaching role should be adapted to the students' learning styles and modify teaching approaches in terms of constant change. Also, it is related to the learning environment, which includes student requirements and learning tasks. In this study, the teacher's role should be satisfied with the demands of mastering experience and transforming experience, including a role as a facilitator, language expert, task evaluator and coach. As a facilitator, the teacher can make full use of his/her existing experience and observation to assist students to recall learning and social experience and reflect on it.

In the role of a language expert, using abstract conceptualization and reflective observation helps students to form knowledge structures and combine their reflection with basic Comprehensive English knowledge. The teacher also gives some relevant theories and vivid examples to consolidate language learning. The teacher as a task evaluator uses abstract conceptualization and active experimentation to help students achieve desired performance. The teacher should focus on students' performance carefully according to the standards the organization designed and give constant feedback. In terms of a coach's role, it is important to take advantage of concrete experience and active experimentation to help students achieve their personal goals. As an effective language teacher, it is not advisable to use only one role; rather, he or she should use four learning models (experiencing, reflecting, thinking and acting) in terms of learning tasks as they are designed and implemented. They also need to change the role as stage of the learning cycle; that is to say, teachers can gain flexibility as playing each role. Hence, students can experience different teaching and learning modes.

OD Intervention

In order to organize the class of students into several groups, the researcher started with group connection and ice breaking activities, which helped students to gain a good understanding with team members effectively. There were five to six students in one group so that each student could interact with each other.

During each session, the teacher was designed on the framework of appreciate inquiry and whole brain template by the way of team building and coaching so as to stimulate learners' minds and facilitate their learning with critical brain thinking quadrants. Students needed to fill in the form of "Feedback and Evaluation from Classmates", which aims to help them summarize what they have learnt and to know how to learn in an effective way. It consists of questioning, analysis, practice and appreciation. Students could have a good understanding of rethinking, reconnected and rekindled their minds to develop the forms they were designed and thought.

The researcher chose the topic, "Experiencing a Changing World" as an example. There are eight periods for this unit, namely warming up during the period one and two, text organization from period three to six and writing skills in period seven and eight.

At the beginning of first two periods, students were asked to produce answers to questions in groups. When asked them to have a brainstorming of what the modern technology brings to people, each group was determined by different questions in terms of the framework of AI, WBL and Kolb's experiential learning cycle. These questions are described as follows:

1. Between the CE and RO stage, Group A and B were asked to answer "Can you make a comparison of daily lives between today and ten years ago as a big help from technology". It cultivates learners' thinking awareness (I-Preserve/Discovery) and let them practice. However, moving to the CE and AE stage, Group B and C were asked to imagine "what life will be in the next ten years", which focuses on aim and act thinking (I-Pursue/Destiny).

2. As for the AC and RO stage, Group D and E were designed to answer, "What does the modern technology bring to people". It mainly aims for developing their thinking and analysis skills (I-Explore/Dream). Then, Group F and G should give examples and detailed information of "the latest technology around their life", which helps them to develop precision thinking (I-Control/Design).

Engaging in various activities, learners have a different experience in learning with different ways. The ODI process began with the combination of AI, Kolb's Experiential Learning Cycle, team building and WBL with the ways of coaching and team building, particularly for AI, giving space and potential to learners, which assisted them to improve their learning styles and performance. It was a transformative learning process that used team building and coaching in the Comprehensive English class in which learners collaboratively performed tasks better, built interpersonal and problem skills, and enhanced team performance.

Kolb's experiential learning cycle aims to improve students' learning styles, which is the student-centered learning approach in this study. Figure 5 shows Kolb's learning style model.

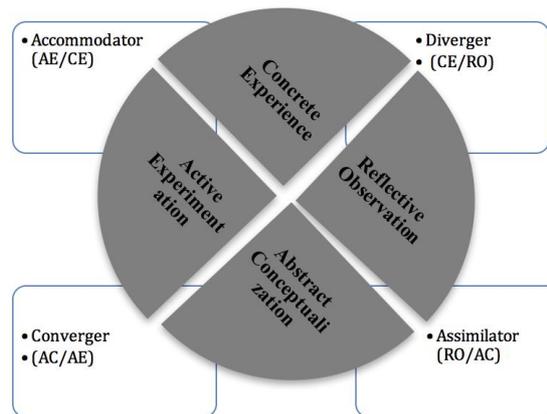


Figure 5 Kolb's Learning Style Model

Source: Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliff: Prentice –Hall.

Details of learning activities in ODI class are shown as follows, and are based on the findings from Kolb (1984), Svinicki and Dixon (1987) and AI theory.

1. Participating Stage (CE/I-Pursue and I-Preserve/Discovery): Story Telling, Johari Window and Open Communication.
2. Presenting Stage (RO/I-Preserve and I-Explore/Dream): Role Play, Reflective Diary, AI Self-Reflection and Coaching Tools (Questions and the Expressions of Dream for the Future life).
3. Empowering Stage (AC/ I-Control and I-Explore/Design): Project Work Proposal, Feedback and interpersonal relationship building (Team Building Intervention), Identify priorities and support actions (Coaching).
4. Permitting Stage (AE/I-Control and I-Pursue/Destiny): Group Connections Activity, Experiential Activity (Interactive workshop and outdoor activity) and Project work presentation.
5. Practicing Stage (Core Purpose): Students need to follow the model of “GROW” by the way of teamwork. “GROW” stands for goal, reality, option and way forward.

Data Collection

Questionnaires, interviews and observations were used in this research, which collected primary data of students' learning styles and performance. The researcher also

used secondary data to support it further, for example, designing a teacher's questionnaire to get their feedback and using students' academics scores of mid-term exam and final exam.

Research Instruments and Tools

Both qualitative and quantitative methods were used in this study. All statements were in English language because a large number of students could understand and comprehend them. Some sets of questionnaire survey, the research instrument, as well as observation and in-depth interview were also implemented through open-ended questionnaire. The results showed that Cronbach's alpha is 0.720 indicating the reliability value is satisfactory.

Tools for Qualitative and Quantitative Analysis

The quantitative and qualitative analysis was carefully made to answer the research questions and hypotheses in the background information. The data collected from the Comprehensive English class were analyzed by using SPSS and compared with pre- and post-ODI.

Data Analysis and Results

This part indicates the comparison between Pre- and Post-ODI data. Therefore, the inferential data analysis was used to find the significant differences among the variables. The result of the hypotheses was tested by the paired sample t-test to find out the differences of variables between the means obtained pre-ODI and post-ODI in the same groups. Moreover, the independent sample t-test was used to test the significant differences of variables between groups.

This part also addressed the research question, "What is the difference between the pre-ODI and post-ODI in terms of students' learning styles and performance in the Comprehensive English class at COL?" The results of testing the hypotheses in quantitative analysis addressed the hypotheses:

H₁₀: There is no significant difference when using ODI on COL university students' performance by using student-centered learning approach.

H2₀: There is no initial difference between pre-ODI and post-ODI based on the investigation of COL university students' performance by using student-centered learning approach.

The result of all variables describes the differences in the aspects of students' learning styles within the experimental groups and the control group during the phase of pre-ODI and post-ODI. The post-ODI data (4.58) of the experimental groups was higher than the pre-ODI data (4.45). It also showed that there was no significant change in the control group, $t(23) = 2.72$. However, in the experimental group, there was some change after ODI, $t(60) = -3.14$. Specifically, the significant change in learning styles was CE, AC and AE while RO showed only slight differences in the mean values. The significance of CE, AC and AE showed 0.02, 0.01 and 0.002 respectively, which is less than 0.05, indicating there was a statistically significant difference between before and after ODI. Thus, the ODI did improve other three learning styles while RO (sig.= 0.56) was the least preferred learning style.

The three aspects of students' performance sense of responsibility, self-esteem and engagement showed some significant differences. A pair sample t-test was used to make a comparison with each. It showed that the mean values of the experimental group were higher than the control group's. Self-esteem exhibited the highest significant difference, $t(60) = -1.94$. The significant level of sense of responsibility, self-esteem and engagement showed 0.02, 0.01 and 0.00 respectively. It indicates that students performed better after ODI.

In terms of the fourth aspect of performance, academics, the experimental group (80.93%) achieved higher scores than the control group (72.51%) after ODI. It suggests that ODIs helped students to improve their academic performance. Also, the researcher used students' mid-term scores and final-term scores to consolidate students' academics enhancement.

Based on the analysis, the results showed clearly that students' learning styles and performance were higher in the experimental groups. Also, based on the qualitative post-ODI data, students tended to be accommodator. In other words, students preferred the CE dominant style with I-Pursue and I-Preserve thinking lenses. Meanwhile, the performance was higher in the aspect of engagement and academics in experimental group and sense of responsibility in the control group. However, students in the control group had lower

preferences on CE (feeling style), AE (doing style), AC (thinking style) and RO (watching style) respectively. As for the experimental group, those four elements showed a slightly different picture; the last two were RO and AC respectively.

Verification of Hypotheses based on Results

The result showed that the mean scores of each variable were described and compared by the independent samples t-test to determine the differences between two groups after ODI. The data reveals that there were significant differences in all variables except for the RO, sig. = 0.56, which means the interventions could make differences in terms of students' CE, AE, AC learning styles as well as the following three aspects of students' performance (sense of responsibility, self-esteem and engagement). Besides, the data illustrated above, the researcher also used a teacher's questionnaire and students' scores to demonstrate that students' learning styles and performance were enhanced. As a result, the following hypotheses were established:

H₁₀: There is no significant difference when using ODI on COL university students' performance by using student-centered learning approach.

H_{1a}: There is a significant difference when using ODI on COL university students' performance by using student-centered learning approach. The result showed that the independent t-test was used to find out the experimental and control group had different mean scores. Therefore,

H₀₂: There is no initial difference between pre-ODI and post ODI based on the investigation of COL university students' performance by using student-centered learning approach.

H_{a2}: There is an initial difference between pre-ODI and post ODI based on the investigation of COL university students' performance by using student-centered learning approach.

Discussion

There were three phases in this study, including pre-ODI, ODI and post-ODI. Before ODI, it was found that students liked each learning style; however, the largest part among four learning styles was CE (feelings style). In terms of Kolb's learning cycle,

students seemed to be accommodators with a sensitive feeling and enjoy doing activities in the form of group work. Based on their aspects of performance, it was easy to find out that students have a high performance in the aspects of sense of responsibility, self-esteem and engagement in the experimental and control groups. The fourth aspect, academics, has the highest level among these four.

Table 2

The Difference between Groups before ODI

Variable	Group	Number	Mean	S.D.	t-test	Sig.	Result
Learning Style	Experimental	60	4.45	0.93	-0.87	0.38	Fail to Reject
	Control	23	4.42	1.07			
Performance	Experimental	60	4.37	0.92	0.68	0.48	Fail to Reject
	Control	23	4.41	0.88			

* $p \leq 0.05$

As seen from table 2, it can be inferred there was no significant difference in each variable between experimental and control group. The study also showed that students had the same learning styles and achieved performance in three aspects of self-esteem etc. In the aspect of academics, students in the experimental group (70.84%) had higher level grades than in the control group (65.81%); therefore, the null hypothesis was failed to reject.

In terms of performance aspects, students showed higher performance in all variables after ODI: self-esteem with $t(60) = -1.94$, became the highest, followed by engagement with $t(60) = -1.66$ and sense of responsibility $t(60) = -0.70$, which were also higher. However, the control group did not achieve a better performance.

Table 3

The Difference between Groups After ODI

Variable	Group	Number	Mean	S.D.	t-test	Sig.	Result
Learning Style	Experimental	60	4.58	1.04	0.79	0.00*	Reject
	Control	23	4.21	1.03			

Performance	Experimental	60	4.68	1.02	0.63	0.00*	Reject
	Control	23	4.19	0.99			

*p ≤ 0.05

As shown in table 3, the data with the independent t-test indicated that significant differences between the experimental and control group were found in each variable after ODI.

In terms of students' academic performance, the percentage was 80.93% in the experimental groups, which was higher than the control group's (72.51%). In a nutshell, students with ODI had a higher level in learning styles and aspects of performance. As such, the null hypothesis was rejected.

Although RO (sig. = 0.56) had no significant difference between experimental and control group after ODI, it can be seen that ODI had an impact on other variables as described in table 3. The same result showed in a paired t-test. In other words, there were significant differences in all variables expect for RO when pre and post mean scores were compared within the ODI group, which means that ODI had less influence on RO learning style. Overall, the null hypothesis was rejected in all variables expect for RO. As for the control group, there was no significant difference in each variable.

Conclusion with a New Learning Cycle Model

The new learning process was determined to answer the research question "What is the desired format or learning process that would be suitable for university students in order to change their learning styles and enhance their learning performance?"

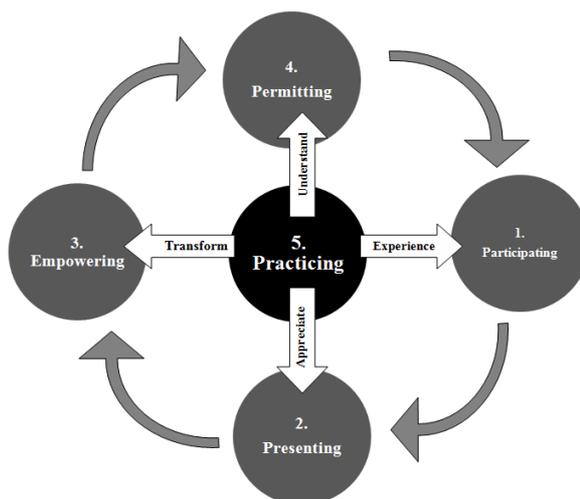


Figure 6 A New Learning Cycle

With a new learning process, student learning not only depends on textbooks and teachers, but on questions they pose, which assists them to find a new approach and build a new knowledge framework. Therefore, it is significant that students have freedom and time to ask questions. A new image and positive future can be built. They also try their best efforts and be responsible for their learning and have a balance with life. Therefore, teachers should help students to fulfill their anticipation which the students appreciate and perceive as worthwhile, to build their confidence and self-esteem.

According to the findings, students' performance can be improved with the help of AI, coaching, team building, Kolb's experiential learning cycle and WBL. It is therefore important that the new learning paradigm should be further practiced.

Recommendation

From this research study, it can be inferred that students, teachers and administrative faculties should realize the significance of the learning process. Various learning styles have positive influence on students' performance. Teachers should pay attention to using teaching methods suitable for students' learning styles. A number of diverse learning activities should be designed and carried out in the Comprehensive English class, which will help students to build knowledge framework and facilitate their

critical thinking. The researcher, therefore, would like to design a learning process as shown in figure 7.

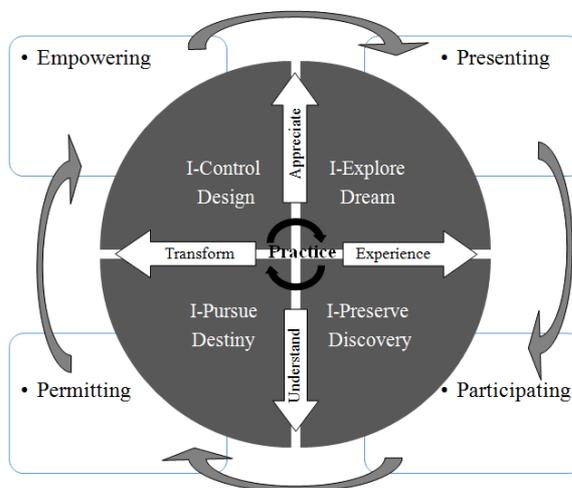


Figure 7 A New Learning Process

In terms of the research and findings, this model can help students to participate more in the learning process. Given space, students have more freedom to share, discuss and interact with each other. They have opportunities to explore areas based on their interests and experience an increase in personal values, for example, self-confidence, social skills and flexibility. More importantly, they would have an awareness of viewing learning as a whole. When concrete learning experience is accumulated and fostered by reflection, generated meaning by thinking and transformed by action, the new experience becomes richer, deeper and broader.

The researcher also gives the recommendations for instructions as presented in table 4, which have been designed under the principle of student-centered learning and should be introduced in different courses where students can participate in learning process to form their own knowledge construction.

Table 4

Recommendations for Instructions

<p>Discovery (I-Preserve)</p> <ul style="list-style-type: none"> ➤ Make use of storytelling and learn to appreciate oneself and others ➤ Use collaborative knowledge 	<p>Dream (I-Explore)</p> <ul style="list-style-type: none"> ➤ Encourage to pose questions and build a climate of trust in which curiosity and natural desire to learn
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<p>sharing and build stimulating and friendly learning atmosphere</p> <ul style="list-style-type: none"> ➤ Uncover the excitement in emotional and intellectual discovery which may make students to become life-long learners 	<p>can be cultivated and improved</p> <ul style="list-style-type: none"> ➤ Support having a reflection ➤ Recognize differences in communication style
<p>Design (I-Control)</p> <ul style="list-style-type: none"> ➤ Encourage look at life from a bigger perspective ➤ Provide holistic and diverse approaches for knowledge mastering ➤ Use whole system learning and mental mode ➤ Support specialized learning models of adaption from the scientific method to problem-solving, decision making and creativity 	<p>Destiny (I-Pursue)</p> <ul style="list-style-type: none"> ➤ Develop learning activities and provide space for their interactions and movements ➤ Make students step away from the traditional boundaries, create chances for experiential learning process and let them have a reflection on experiential learning ➤ Instruct with “learning to learn” and “learning is relearning”

Source: Created by the researcher

Finally, students can tap their potential by using AI, which becomes the positive learning way for them; they can also collaborate with each other to find out their strengths. The learning process can also bring about positive change to the classroom, for example, the specific experiential learning activities can help students to build learning identity. Team building and coaching can be used which can produce for students and teachers, for example, teachers become better facilitators and are reciprocally recognized by students.

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