Reinforcing Skeletal System Lesson Using Cycle of Internalized Learning in English Class

Farhana Shukor

Academy of Language Studies, Universiti Teknologi MARA, Cawangan Pulau Pinang

Email: farhana.shukor@uitm.edu.my

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ABSTRACT

This study is aimed to investigate the readiness of 53 first semester diploma students in learning Skeletal System lesson in English class using five stages of Cycle of Internalized Learning. They learned in Health Science lecture about Skeletal System and being revised about the same topic in English class. In the following week, they were assigned with the task to illustrate individually the anatomical diagram of long bones, discuss about the article given and solve critical thinking question from their presentation. Opinions from the students were sought after to get their feedback on the three best things about the lesson and three things they would most likely to see improved. Semi-structured interview sessions were conducted to elicit responses from the students. It is then viewed to be the responsibility of the curriculum designer as well as the language instructor to plan and implement more lessons that will promote cooperative learning among these students. The students needed support from the lecturers to be able to complete the task assigned successfully and in the long run can apply the skills learned at their future workplace.

Keywords: Skeletal System, Cycle of Internalized Learning, Observation, Semi-structured Interview, Cooperative Learning

INTRODUCTION

Students who enrolled in the first year at university are geared towards preparation for their careers and the needs in life. They will be exposed to some essential skills for them to survive once they have graduated in their studies. It is aligned with Hativa (2010) as it is mentioned that the goal of teaching is to prepare graduates for the real challenges in their careers. When they are provided with valuable information about future careers, this can reduce stress and anxiety levels of the students as they are being directed and guided towards the right destination (DeAngelo et al 2011).

Ministry of Education of China (2010) has quoted in the Essentials of National Middle-Long-term Educational Reform and Development Plan (2010-2020) as "education should be people-centred, this is the fundamental requirement for educators, with acknowledgement that this fundamental standard for judging the quality of education to facilitate people's comprehensive development and adapt to the demands of society". This plan for education had then been discussed further and in the World Education Forum Korea which was held on 5th September 2015, has adopted a Declaration on Education 2030. The aim of this declaration is to ensure all countries, including Malaysia to comply to the new agenda. It has been proposed in the agenda for a more systematic system in financing and monitoring as to create more opportunities for

equal education for everyone. This has been emphasized by the Director-General of UNESCO especially in how education can change someone's life to be better as he quoted in his speech;

"We know the power of education in eradicating poverty, transforming lives and making progress every Sustainable Development Goals... We must also commit ourselves to give adults the opportunity to continue learning throughout life to adapt to rapid change and promote social inclusion; this is not only a human right but a security imperative, inclusive development and peace"

Acknowledging the power of education to make our lives better have urged for the study of first year undergraduate students whom faced challenges in adapting to their new environment. They have been struggling to fit in catering to the demand of academic world as they register themselves in any higher institution. Many cases of students reported who failed to do so have deficiency in their health especially mentally as well as their wellbeing and resulted in the reduction of their learning ability compared to the times when they were still in primary or secondary schools. These students who found no other solution to their problem resulted in the case of withdrawing themselves from their courses within just a few weeks upon their registration and the number is increasing year by year.

In the effort in getting lesser number of students withdrawing from the courses offered to them in university, researcher at UiTM Pulau Pinang who is involved in the delivery of first year curricula for the Health Science diploma students has adopted some bioscience related material in her teaching. Kift et al (2010) have further explained that subject specific content and academic skills should be incorporated into the curricula programmes. Sharp et al (2014) elaborated that these skills as to be inclusive of scientific report writing, academic poster preparation and presentation as well as the exercises in referencing scientific literature would allow for their learning development to take place and would be beneficial in their future careers. The most challenging part especially for the English Language Instructors is to ensure for global higher education community with the purpose of internationalization that is driven by global competitiveness (Cheng et al, 2015). It is expected for them to facilitate English Language Learners to learn content in the target language through English for Academic Purpose (EAP) model to the approach of Content-based Instruction (CBI).

LITERATURE REVIEW

In this study, the researcher based her theory in conducting it from The Cycle of Internalized Learning founded on a humanistic philosophy (Reiter, 2015). It is stated in humanistic paradigm that human being possesses cognitive and rational abilities, in capability of introspection besides gaining insight into their own motives. He further explained that:

"Learners are thus responsible for their behaviour, can regulate it and can critically evaluate the outcome of their behaviour and make changes, if necessary. This implies the active involvement of learners in whatever is being learned. The application of these principles to curriculum development results in Meaningful Learning. The design of the teaching model was based on a process involving the internalization of values and the circular processing of life events."

Reiter & Bryen (1991) had laid out the process of the Cycle of Internalised Learning to include three components of learning; which are 1) the operative—what and how, 2) the cultural normative—when and where and 3) the moral—why. It is initially developed for students with disabilities, but it is also applicable for any group of learners without any disability. Further in his research, Reiter (2008) later explained about five stages of Cycle of Internalised Learning (CIL) which are;

Stage One: Presentation of a specific topic and its reference to life experiences.

Stage Two: Analysis and clarification of definitions and generalizations.

Stage Three: Express reactions to the topic

Stage Four: The use of role play, simulation or practical outdoor activities

Stage Five: Discussion about values learned

These activities are followed by discussions held in class, during which the instructor asks the students to bring up issues related to interpersonal relationships among students, misunderstandings, and disappointments. Students bring up issues that happened during the shared activity, according to the stages suggested by the CIL model, i.e., starting with an event, learning concepts and gaining new knowledge concerning the event, followed by analysing it using the concepts and data learned, expressing personal insights, and suggesting alternative ways of responding to the event. After these stages have been conducted, the instructor will evaluate the process outcomes, in which the outcomes are assessed in terms of personal autonomy, enriched knowledge and new skills.

RESEARCH METHODOLOGY

In this research, observation method on responses from the students prior to the input that they have just gained in other class was utilized in their English class discussing about the article related to skeletal system. Instructor-student interview was organized, which was unstructured like a conversation, or a discussion to gain more details (Denzin & Lincoln, 2005) which questioned the efficiency of the teaching styles by using Cycle of Internalized Learning. The researcher aimed at finding out the students' opinion of the effectiveness of using that approach for the topic learned so that they can later apply the same learning strategy for other lessons and have the knowledge to not just to answer questions in their assessments but to also use the knowledge at the workplace; as the long-term goal.

The researcher adopted the observational data collection method as Walshe (2012) explained that this qualitative approach contributing to capture the 'natural' settings which allow the explanation of social processes and phenomena. By collecting observational data for this research, it is hoped to get full understanding of what people do and how these can alter in response to situations and over time, especially where people find their own practice difficult to articulate. Fry et al (2017) added more information about this type of data collection as a term features commonly in the literature that is used to describe both the design of a study and methods deployed within procedures. It is viewed to be the best way of collecting data at the initial stage to conduct mode of inquiry to systematically collect information about different settings and groups. This is because, for this research, two groups took part and the researcher would also want to observe whether they will be any differences between the two.

For this research, semi-structured interviews are adapted, and the respondents had to answer preset open-ended questions This type of in-depth interviews are utilized extensively with the whole group. The time allocation for conducting this type of interview covered 30 minutes of the class. Jamshed (2014) elaborated that semi-structured interviews are based on semi-structured interview guide, which is a schematic presentation of questions or topics and need to be explored by the interviewer and to achieve optimum use of interview time, interview guides serve the useful purpose of exploring many respondents more systematically and comprehensively as well as to keep the interview focussed on the desired line of action. The researcher has set the questions in the interview guide comprise of the core question, which in turn, improve further through pilot testing of the interview guide. It is aimed at gaining a worldview of what is happening in a setting by talking at length and in detail of participants involved. Fox (2009) listed out benefits of conducting semi-structured interviews as; to enable extended data collection from participants besides enable researchers to probe aspects of what a participant says. Besides that, by doing so, the researcher can explore the experiences of different participants, who may be selected to reflect a range of experiences and allow people to 'speak for themselves' and thus increase the validity of the data. Fox (2009) further elaborated that this interview sessions are valuable to provide detailed information about the meaning of an event, situation or social context to each participant in a setting. They will be appropriate where we may expect a variety of different stories to be told concerning a setting or context, and where we are interested to learn about this variety. They are also appropriate where the topic to be discussed is sensitive, where a respondent may be unwilling to speak about some aspect of their experience in front of others, or where there is a possibility that the story told could contaminate other participants' stories and so you need to ensure interviews are conducted in private.

The research sample was chosen from two different classes consist of 53 first year out of 93 total number of diploma students from Faculty of Health Science (57%) at UiTM Cawangan Pulau Pinang Kampus Bertam. Firstly, this group of students were taught in their lecture in BHS 105 Anatomy & Physiology course in Week 5 (5th of October 2018) some fundamental theories about Skeletal System by their Health Science lecturer and were provided with some notes for them to do their own extensive reading about the topic. Notably, the materials prepared for students were supplied with examples and information relevant to the content of the course on which students were registered. Also, all materials for the students were in the form of hard copies (booklets) so as not to cause anxiety to those students who were unfamiliar with the university virtual learning environment (VLE), normally used to share other learning/support materials. It is an attempt to revise on some terms that the students are already familiar with from the lecture.

Prior to their knowledge about bones, the researcher who taught them the course of Integrated Language Skill 1 implemented a reading activity and further discussed about the article in the following

week (Week 6 -8th of October 2018). As to cater to the syllabus, the researcher wanted to expose the students to one of the assessments of English course; that is the Reading Test with the highest weightage of 40% marks for the whole course assessment. The students will be tested on some reading skills for instance finding synonym or reference words for the bold items, identifying topic sentence and writing down main idea of the passage given.

Researcher had accustomed to the Cycle of Internalized Learning while reinforcing the lesson of Skeletal System to these students. The five stages planned and implemented for that class syllabus are as follows:

Stage One: Getting feedback about these three expressions on bones: 'Tired bones', 'Dry

as a bone', and 'Bag of bones'

Stage Two: Identifying five functions of skeletal system; support, protection, allow

movement, storage and blood cell formation and 4 main classification of bones on the basis of shape; long bones, flat bones, short bones and irregular bones

Stage Three: Express reactions about bone formation, growth and remodelling besides

discussing about common types of fractures

Stage Four: The use of drawing and visuals to illustrate the anatomical areas of

long bone without referring to any notes and to be submitted towards the end

of the class

Stage Five: Discussion about the useful terms for the lesson such as diaphysis,

osteocytes, bone scan and ossification besides values learned.

In addition to these five stages, the students were then given this situation to test on their critical thinking skill about skeletal system. They were required to present it in their next class in a group of three or four with possible reasoning to explain what exactly is happening to the patient. This is to ensure that the students will be able to apply the knowledge that they have learned in the previous class. The situation is as follows:

Situation:

While playing basketball, 9-year-old Marcus fell and broke his left arm. The arm was placed in a cast and appeared to heal normally. Marcus is puzzled because it seems like his right arm is longer than his left arm. He measured both arms and he was correct—his right arm is longer!How would you explain to Marcus what happened?

Source: Essentials of Human Anatomy & Physiology (12th ed)

FINDINGS

The undergraduates could gain higher quality learning through interactive teaching-learning methods. Researcher adapted the Cycle of Internalized Learning to reinforce the lesson of Skeletal System in her class. It can be viewed through the transferring course and subject knowledge as a carrier, conducting presentations and discussions, creating an environment where students are engaged, encouraging undergraduates to participate in class activities, and finally, creating positive interaction between instructors and students and allowing students to take an active part in their learning. Through this experience, their ability to read and think critically, could be gradually improving. By using this method, we could increase the efficiency of classroom teaching and improved quality of learning. In this way, the undergraduates not only learn the knowledge, but also the methods of practical application of that knowledge, and by doing so, the requirements of the human resources market are being trained and cultivated. The newly developed abilities would provide a strong basis for undergraduates' daily life and career in the future.

A qualitative approach was used to assess students' opinion from both groups about conducting Cycle of Internalized Learning (CIL) in English class for Skeletal System Lesson. Qualitative approach is a process of naturalistic inquiry that seeks in-depth understanding of social phenomena within their natural setting and in this context, the researcher would want to learn the classroom setting of the first semester university students. It focuses on the 'why' or finding out reasons rather than the 'what' of social phenomena. It is being sought after about the students' emotions and why they would feel comfortable learning using this approach for that lesson. As it is known that the three major focus areas are individuals, societies and cultures, and language and communication, the researcher has selected two groups of Health Science diploma students and they are all perceived to be sharing some common cultures especially as Malaysians. They communicate with each other using English as this language is known to be second language for almost all of them. It is the background of the study for the common assumptions in conducting qualitative approach are that knowledge is subjective rather than objective and that the researcher learns from the participants in order to understand the meaning of their lives. The researcher is open to any opportunities to observe and discover new things as she is being part of the process to collect data and to improve teaching and learning process in classroom.

To ensure rigor and trustworthiness, the researcher attempts to maintain a position of neutrality while engaged in the research process. It is the aimed of a research to create sense of credibility, validity and reliability while encountered in a research process. Credibility requires the researcher to be engaged in these three activities which are (Nowell et al, 2017):

- 1. **Prolonged engagement**: The researcher must spend enough time in the research context to become sufficiently familiar with all aspects of the context and to identify contextual factors that influence the phenomenon of interest, as well as to establish trust from and rapport with the participants. This can be observed when the researcher only conducted the research in week 5 where both the lecturer and students are getting more familiar with the learning surrounding and being comfortable with the learning process.
- 2. **Persistent observation**: Such observation allows the researcher to identify and focus on the most relevant characteristics of the situation and context. The researcher has made the effort to learn about Skeletal System herself with the guidance of Health Science Lecturer who is teaching them besides doing more reading on that lesson. This is important as to ensure that the students can recall and apply the knowledge as it is just being taught in the lecture before being tested on their understanding in the English class.

3. **Triangulation**: Triangulation most commonly refers to the use of multiple and different sources of data. It is a strategy for reducing systematic bias in the data and involves checking findings against different sources and perspectives. The process is useful in guarding the researcher from being accused that the findings are simply a result of a single method, a single source or the single researcher's personal bias. This is the reason as to why the researcher has conducted observation as well as to have semi-structured interview session for the purpose of this study.

The students were asked in semi-structured interview session with the whole class after they have conducted all the 5 stages in CIL together with presentation and discussion about the given situation of a boy with a broken arm.

- 1) What were the three best things about the lesson?
- 2) What were the three things about the lesson you would most likely to see improved?

The students were asked these two important questions as to find out the best things they learnt from the lesson as well as to suggest ways to improve the lesson to create meaningful learning. Meaningful Learning implies the active involvement of the students in whatever is being taught. Holistic approach is the fundamental layout for the purpose of conducting lesson with the learners, calling for their cognitive, emotional and behavioral attention besides taking into account the ecological status of the learners, the family ties, the neighborhood where they live, their formal milieu, be it a school, a social club, place of work, and their ethnic and national backgrounds. (Reiter, S. 2008). Total number of 53 students who took part in this research is perceived as a person – a subject who is undergoing development, rather than an object that is called upon to learn by rote, so that retention of information can be assessed by tests and scores. They were being assessed later in their group presentation where language aspects, content and communicative ability would be the three main aspects and given scores.

Table 1: Responses on best aspects of the lesson

Best aspects of the lesson	Number of	Percentage
	students	
It is directly related to the formal learning	42	79.3%
approach		
Referencing training	6	11.3%
Preparation and discussion on presentation in	5	9.4%
class		

Table 1 shows that the majority number of students (42) highlighted that the best aspect of the lesson is that by using Cycle of Internalized Learning the researcher has directly linked it to the formal learning approach and they are more comfortable the way it is being conducted. This indicates that the overall students exhibited positive attitudes towards learning especially when the researcher adopted this type of approach.

Table 2: Responses on things to improve about the lesson

Things to improve about the lesson	Number of students	Percentage
More teamwork tasks would be assigned to	30	56.7%
them		
No need for changes	9	17%
Increase number and/or length of classes	8	15%
Did not give any answer	6	11.3%

Table 2 shows that the majority number of students (30) highlighted that the thing to improve about the lesson is to have more teamwork tasks to be assigned to them Generally, students responded positively towards things to improve about the lesson. However, there was a small proportion of students who did not give any answer (6).

Students' Emotions using Cycle of Internalized Learning approach

The respondents were asked about their emotions in learning using Cycle of Internalized Learning approach. Their responses resulted in several themes that are discussed below. Some responses were combined into three interpretable themes. They included, usefulness of learning using this approach, learning skills, and support received from others.

Usefulness of learning using this approach: Some respondents said they liked learning using this approach because they knew that it will be useful in their lives as it could be applied in real-life situations. The quote from one respondent illustrates the finding "Now I can see how things that I learned in class be applied in daily life situation".

Learning skills: With regards to learning skills, some respondents said that they expected to memorize useful terms and apply them. This could be viewed when they responded: "I learn better after drawing and labelling on my own" and "I remember the useful terms used in this lesson better". These findings showed that the students are aware of the skills needed for them to excel in their study and be successful in their career world later.

Support received from others: This lesson is perceived to be likeable by the students when they responded that they received undivided support from their fellow friends and instructor. As these students were still in semester 1, they are still grasping for guidance and help in facing some difficulties in their study. This is supported by the following quote: "Group work was enjoyable", "Working in teams was great", "Working in a team was best" and "Working with other members is also a skill that I need to learn"

The survey of students' opinions on the lesson of Skeletal System using Cycle Internalized Learning has shown that the most important aspects for the majority of responding students was application of key terms with the facilitation of group interactions with other students. The results strongly support McMillian's (2013) observations. The transition to the new institution is perceived as an emotional event was examined and identified some academic and non-academic variables during the transition period. Affecting students' well-being. McMillian claimed that "Students" greatest emotional fear appeared to be that of alienation—being an outsider without friends with their most positive emotion was focused on the development of professional identity. McMillian agrees with Taylor and Heathcote's (2007) theory of emotional stages as it is crucial in accompanying students during their academic career based on which, he

postulates that students need to journey through those stages "However, they need to be accompanied on that journey by someone who has travelled that path already. This experienced traveler can help them identify where they are on the journey".

Discussion among the students in small groups for their presentation about critical thinking question is aimed at helping the students to be more comfortable in cooperative learning. They are expected to learn how to communicate well in group discussion, especially in terms of voicing out their opinion and accepting rejection from other group members. Cooperative learning can be defined as a teaching method that involves students in learning process in order to understand and learn content of the subject (Slavin, 2011). Traditional class activities create a win-win situation, where one can only succeed if other loose, while cooperative learning is direct opposite to it, here conquest of all is success of all. Gull & Shehzad (2015) added that cooperative learning has edge over other teaching methods in terms of its effectiveness for improved cognition, social skills and motivation. Cooperative learning can also improve positive attitudes towards learning (Johnson & Johnson, 2008), improved social relations in addition to high self-esteem and cohesiveness (Slavin, 2010).

Students' level of understanding about any subject should be taken into consideration especially when more complex tasks/ assignments that is categorized as "high risk" tasks being assigned to novice undergraduate students. This is because even if such strategy is underpinned by a well-planned systematic structure, including details of assessment, as well as regular tutor monitoring/support, some of the students might not be able to fulfil the tasks/assignments as expected. Furthermore, the type of the assessment chosen for assessing the formal learning group work, in terms of both individual contributions and the overall group outcome may help or hinder e.g. due to competitiveness, the integration of the group integration an inevitably the progress on the assigned task. The examples above, clearly support the notion by Jackson et al (2003) that for the formal learning groups to be effective, the structure and the organisation of the groups and the assigned tasks need to be well planned beforehand taking the learners' knowledge and skills into consideration, as it was previously observed with regards to working in teams at their future workplace.

The approach of cooperative learning meets the needs of students in terms of cohesion, coherence and connectedness in allowing a balance to be met. Getting the students to practice what they have learned during their study years in university at their workplace should be the aim of the curriculum design and development. This is in line with Krause's (2005) vision that is to develop a community and a culture that increases the confidence and engagement by our students (co-committed self-regulation of learning behaviour). It is then important for us to acknowledge that one of the key founding principles to improve transition and the retention of our students is to instill key elements of scientific training in our students especially in terms of the application of Scientific referencing styles It is then combined with the opportunity for students to get feedback on drafts of their work prior to submission were key. Sharp et al. (2014) put forward the view that it's about the journey and not necessarily the stops in between. The pursuit of "low risk" but valid scientific tasks/exercises instill in students the fundamental scientific skills that will be called upon throughout their learning programme and into their eventual scientific career.

CONCLUSION

In conclusion, the reinforcing the teaching of Skeletal System using Cycle of Internalized Learning for first year Health Science students was a success. Therefore, the suggestion to create a more comprehensive modules as part of the periodic review/revalidation of programmes in the next semester for the coming batch is brought to round table discussion at the faculty level at UiTM Cawangan Pulau Pinang Kampus Bertam. The introduction of other lessons using Cycle of Internalized Learning is planned by the

researcher for Pharmacy and Nursing students as well. This approach to transition emphasized on the importance of academic led small group teaching and bespoke subject specific elements in any approach to aiding students in their transition to higher education. It is hoped that this approach could be applied by other colleagues and those in the other areas who wish to aid their students' performances in their transition.

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