

INQUIRY-BASED LANGUAGE LEARNING (IBLL): THEORETICAL AND PRACTICAL VIEWS IN ENGLISH CLASSROOM

Sri Rejeki

The Faculty of Teacher Training and Education,
Sebelas Maret University,
rejeki@student.uns.ac.id

ABSTRACT

This paper aims at explaining the theoretical based and the implementation of Inquiry-Based Language Learning particularly in English classroom in Indonesia. IBLL is not quite familiar in Indonesian context especially in educational field. In other hand, Curriculum 2013 is very popular in this country although both of them are related each other. This curriculum adopted the concept of IBLL in which it encourages the students to construct the knowledge. Based on the principle of inquiry, the students supported by the teacher and peers try to answer the questions coming from themselves. These answers will help them in constructing the knowledge. IBLL is completely useful in promoting long life education that enables them to continue the quest for knowledge throughout life. This paper discussed about the theoretical principles of IBLL and its implementation in teaching English.

Keywords: *IBLL, curriculum 2013, construct, quest for knowledge*

INTRODUCTION

Scientific approach has become very famous in the world in which many fields of knowledge adopted the principles of this approach in their implementation. It is caused by the significant of science in our life particularly related to the useful inventions produced by scientist that make human life better. As we know that some scientists for example Copernicus, Thomas Alfa Edison, Galileo have an important role in the development of science. They used scientific procedures in discovering the inventions.

Regarding to the significant contribution of science, several fields of knowledge adopted the principle of scientific approach. One of them is teaching a foreign language. The experts of teaching

and learning a foreign language adopted the scientific principles that resulted in scientific approach. Inquiry-based language learning (IBLL) as a part of scientific approach proposes the same idea. Using the scientific process proposed by Whewell (1859) in Fauziati (2014) as formulation of the problem, hypothesis, prediction, testing, and analysis, the experts try to find out the solution of teaching learning problems.

Science and language are different in many ways however, adopting scientific principles for teaching a foreign language gives positive effects. IBLL which adopted the scientific principles appears and becomes famous. Curriculum 2006 and 2013 in Indonesia also implements the IBLL as a method for English teaching and learning activities (Fauziati, 2014). Some cycles are presented in order to implement this method in the classroom activities. These cycles refer to the basic principles of scientific approach as its guidance.

Initially, inquiry-based method is intended for science and math classes but it can also be adopted for teaching English (Lee, 2014). The scientific principles which are crucial in promoting systematic and logical ways are also needed by the English language learners. These skills will help them in analyzing the learning problems and finding the solution properly. This paper presents the basic principles and the implementation of scientific method (IBLL) for teaching English. It also provides a bridge in connecting the scientific approach and teaching a foreign language particularly in Indonesian curriculum.

THEORETICAL FRAMEWORK

Definition

The definition of IBLL comes from the center word that is inquiry. It is defined as a process of seeking truth, information, or knowledge by questioning (Fauziati, 2014). Based on this definition the students ask questions and find the answers by themselves with some helps from the teacher, technology, and their learning community. The students construct the knowledge (not receive it) by combining what they have known about the topic and what do they want to know. Prince and Felder (2006) mention inductive

approach as an umbrella for IBLL in which there are others such as problem-based learning (PBL), project-based learning, case-based teaching, and discovery learning. The inductive approach starts with observation or complex real-world problem, then the students analyze the data and finally generate the facts, procedures, and guiding principles. Kukulthau, Maniotes & Caspri (2007) add investigation, exploration, search, quest, research, pursuit, and study as the main activities in inquiry process. The involvement of learners' community in which they can learn each other is also necessary in this process.

From those definitions, it can be concluded that IBLL is a method that encourages the students to come up with the questions or problems, analyze and investigate them, and finally construct the knowledge with the help from the teacher and surrounding.

Why Inquiry-Based

As a teacher, you will find this moment in this classroom while you are teaching. The students tend to answer "No" while their teacher asks "Do you have any question?" It does not mean that they completely understand the material explained by the teacher but it reveals something else since they still cannot do the exercise well after that. The teacher's question is intended to know the students' comprehension related to the material and to evaluate the teaching process whether there is something missing or not. Unfortunately the teacher most of the time will not get the intended answers.

Inquiry-based language learning (IBLL) comes up with the idea that the students should ask questions instead of listen and repeat the expected answer. The students, in this era, need more skills than remembering and repeating the facts and information. They are supposed to find and use the facts and information. The teacher is able to help them in the classroom, unfortunately he or she cannot do that outside the class. As a consequence, the students are supposed to continue the quest for knowledge throughout life. Instead of being knowledge receivers, they are taught of being knowledge inquirers.

In English teaching and learning activities, this inquiry-based is beneficial in some ways for instance improving vocabulary

mastery, explaining the grammatical forms, helping the students in negotiating meaning, and embedding cultural essence (Lee, 2014). Furthermore, IBLL also gives benefit related to classroom instructions in which increasing student's participation, maintaining their attention, and initiating classroom interaction. It can be done through giving questions which are necessary for assessment and feedbacks given related to the material. IBLL also strengthens the students' linguistic knowledge and communicative competence.

From the explanation it is clear that IBLL benefits more on the teaching a foreign language. Giving questions here is valuable since it provides exciting experience in learning that allow them to make discovery, reflection, creativity, and encourage cognitive and meta cognitive skills. It can be concluded that those valuable things facilitate understanding, self-regulated learning, and future learning transfer.

Basic Principles

There are some basic principles in IBLL presented in this paper. The writer combined these principles from Fauziati (2014) with Prince and Felder (2006). Those principles are presented as follow.

1. The origin of IBLL is on the constructivism theory.

Jean Piaget (1972), Vygotsky (1978), and Jerome Brunner (1990) are those who concern on this theory. According to them, the students construct their knowledge by communicating their experience with the environment instead of being transmitted by the teacher. They use their sense to get any information and store it as mental structures (schemata). Vygotsky says that cultural history, social context, and language are important in this cognitive process. He also mentions that the students can understand the concept and idea that they cannot master with the help of other experienced peers.

2. Students take initiative and autonomy in the classroom.

The questions driving the classroom activity are from the students. It means that they initiate the learning process and are responsible for their own learning. The teacher may ask question but it is intended to guide them, not the center of the

learning activity. His or her job is to facilitate them with the appropriate activities in order to help them in constructing the knowledge.

3. Classroom activities are around solving authentic, ill-defined problems that may have more than one solution.

In essence, we can call it as student center in which the students are more active than the teacher in the classroom. They get the knowledge from the problem initiated and solved by them instead of getting it from the teacher's explanation.

4. Students not only interact with the textbooks but also with the raw data, primary resources, the teacher, and other students.

The material that the students have to study is not only textbooks but also other sources for instance the teacher, their peers, raw data (spoken and written conversation), and etc. Those are sufficiently needed for their learning process in a way that they provide context and real situation.

5. Communication in the classroom is characterized by discourse.

Two ways communication is more appropriate to describe this situation. The students ask questions and discuss them with the teacher and other students. It is not merely question and answer session but dialogue to find the solution.

6. Students learn through their senses, create concepts, modify and synthesize concepts, and then evaluate their learning through metacognitive processes.

This part will be more explored in the cycle of IBLL in the following part.

Key figures and their ideas

The idea of IBLL is initiated by constructivism figures such as Piaget, Vygotsky, and Brunner. However the ones who execute and implement it in the education field are Bruce and Davidson, Karplus and Their, and Roger Bybee. They make this idea into some cycles which can be seen in the following explanation.

1. Bruce and Davidson

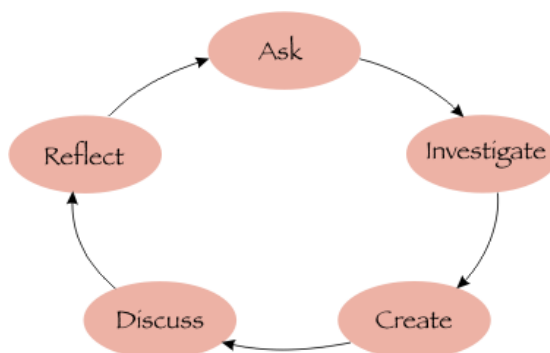


Figure 1 Cycle of inquiry (Bruce and Davidson)

The initiate learning comes from the students with their questions. They ask questions and notice about what is going to be learnt in that day. Based on those questions, they investigate in order to find theory related to the topic. It can be done through browsing on the internet, reading textbooks, and asking the others. In this cycle they try to draw the map of the topic and are fully equipped with everything needed to create something. After that they create something (based on the topic). While doing this they try, experiment, draw, and explain. The product, then, is shared with the teacher and friends to know others' opinion. Then they may discuss it to get the strength and weaknesses. The discussion will come up with the suggestion, addition, declension in which the students think what they will do based on this discussion. The last is they do some reflection after getting advises from the others. Here they evaluate the product in the form of adding or reducing something that is needed to get the better one.

2. Karplus and Their

Atkin and Karplus develop the inquiry learning and implement it in the science program in the elementary class. Karplus and Their name this cycle as learning cycle consisting of 3 stages: exploration, introduction, and application. The first stage provides the students with an experience about science phenomena. Then they identify it

with their schemata in their brain whether they have something similar or not. The second stage encourages them to build the ideas that are got from interaction with the others. They may discuss, do some research, and interact with the teacher and peers. The last stage is the time for them to apply the theory into new situations or problems.

3. Roger Bybee

The table below shows the cycle proposed by Roger Bybee (Fauziati, 2014).

Table 1. The Cycle of IBLL

Engagement	Object, event or questions are used to engage students. Connection is facilitated between what students know and can do.
Exploration	Objects and phenomena are explored. Hands-on activities are done with the guidance.
Explanation	Students explain their understanding of concepts and processes. New concepts and skills are introduced as conceptual clarity and cohesion are sought.
Elaboration	Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.
Evaluation	Students assess their knowledge, skills, and abilities. Activities permit evaluation of student development and lesson effectiveness.

The cycles presented above have some significant benefits for the students (Sunal, 2012 in Fauziati, 2014:160-161). Those cycles are supposed to help students become aware of their prior knowledge, foster cooperative learning and a safe positive learning environment, compare new alternatives to their prior knowledge, connect it to what they already know, construct their own “new” knowledge, and apply the new knowledge in ways that are different from the situation in which it was learned.

How the teacher can maximize effectiveness of inquiry-based learning

In order to support the aim of inquiry-based learning, there are some activities that may be implemented to maximize its effectiveness. Friesen & Scott (2013) propose some of those activities: scaffolding, formative assessment, powerful, critical, and essential questions, and through line questioning.

It is still debatable how to use scaffolding in the inquiry-based learning. However, Simons and Klein (2006) mention some scaffolding activities as breaking out the task that is beyond learner's capability. Here the task is break down into smaller ones in which each of them is supposed to contain material which they are not able to do that. The students actually cannot do the task only depend on their knowledge. It is little bit higher than their level. Nevertheless, this kind of task is valuable and important in order to assess how far they would go to finish the task. More specifically it tells what actions will be taken by them to approach the solution. Friesen & Scott (2013) argue that the scaffolding activities give positive impact on problem solving, reflection, research assistance, concept integration, and knowledge acquisition.

Formative assessment or usually it is called as assessment for learning is distinguished from summative assessment in a way that it provides feedbacks of the students' competence and performance. The aim of this assessment is not to assess but to help the students in identifying their problems and suggesting solution. Related to IBLL, the teacher can conduct formative assessment while teaching and learning activities occur. According to Heritage (2010), the given feedbacks in formative assessment is most effective "when it is focused on the task and provides the students with suggestions, hints, or cues, rather than offered in the form of praise or comments about the performance" (p.5).

Questions in IBLL play important role since it is the hint that catches student's attention. These questions should make them aware of what is happening in their learning process. Providing powerful, critical, and essential questions in the classroom activities can help the teacher to implement inquiry-based learning. Powerful question according to Barron et al. (1998) should make clear connection between activities and conceptual knowledge that

is going to be developed. Furthermore it should connect students to the world outside the school and it also honors the outcomes of that program. Critical question is a kind of question that requires reasoned judgment among options, uses criteria to make that judgment, and connect the outcome with the curriculum (Case and Wright, 1997). The last, essential question is one which lies at the hearth of the subject, not trivial question (Wiggins and McTighe, 2005). This question should promote inquiry and uncovered subject.

This question is similar to essential question proposed by Wiggins and McTighe. Den Heyer (2009) tries to connect goals, objectives, specific outcomes for lessons, units, and coursed through questions about issues related to the world they live in which are relevant, provocative. These questions help both teacher and students to understand about current conditions in their life came to be.

The Application in Foreign Language Teaching

Regarding to the concept of inquiry learning and its strength, IBLL is currently recommended in Indonesian education field. It can be seen in the implementation of curriculum 2006 and curriculum 2013. In essence, both curriculums apply the idea of inquiry learning in their teaching and learning process.

1. Curriculum 2006

It is currently recommended to implement the cycles proposed by Bruce and Davidson, Karplus and Their, and Roger Bybee in Indonesian context. Those cycles hopefully can help the students to be scientist-like in which they know and understand their learning process and able to find the solutions related to the learning problems encountered in the learning process.

According to Education Ministry Regulation No. 19 of 2005, the standard process of primary and secondary education has to cover planning, implementation, assessment, and supervision. In order to make the learning process more effective and efficient, lesson plan is needed here. Furthermore, this lesson plan is conducted through systematic way such as in these stages: exploration, elaboration, and confirmation process.

The first stage is initiated by introducing and understanding the phenomenon. It aims at providing or activating the students with the prior knowledge which is important for the next stages. Here the students are actively involved in the process by validating and developing the information presented earlier. The main focus of this stage is how the knowledge is transferred, understood, and interpreted by the students. The prerequisite of this activity is the students have to be involved in the process. It is in line with the learning concept from Chinese philosopher that says “ I hear and I forget. I see and I remember. I do and I understand.” (Mel Silberman, 1999). This statement implies that the students should participate actively in the learning process so they can understand.

In the second stage which is more teacher guided, the students have to organize information got from the previous stage scientifically. Indeed they do it with the help of the teacher in which he/she provides model or examples and explain them. There are several ways in explaining the material such as lecture, computer simulation, discussion of the finding from the first stage, multimedia presentation, focus group discussion, listen to recordings, and explain the material from the textbook. In this stage the teacher should decide something important for example how the exploration experiences can be developed to focus on the basic idea or skill to be taught, how the idea or skill is best explained, how the idea or skill should be modeled or demonstrated, what technique should be used to make sure all students understand it, and what student practice is needed using the new knowledge (Sunal, 2012: 13 in Fauziati, 2014: 161-162).

The third stage, confirmation, is conducted to help the students confirm their new knowledge. But before that they need to perform what have been learnt and the teacher should give feedbacks. The feedbacks are so important that they will not lead to misconceptions or errors. Some activities such as games, simulation, question and answer discussion, paper and pencil problems, and other manipulative activities can be done to provide positive and negative feedbacks. Then, they are ready to transfer the new ideas into different situations and times. This phase is followed by a brief summary containing sequences of important ideas and events experienced while they are learning.

Those three stages are similar with the steps in Genre-based instruction. The exploration stage, similar with building knowledge of the text and modeling, is used to build student's knowledge, understanding, and interpretation. Here the knowledge is presented and the students are actively involved in compiling and arranging information so they get an input for the learning process. In the elaboration stage or joint construction of the text, the students work together with the teacher and other students to gain the language skill through examples. Their understanding is tried to be implemented through the guide from the others such as in discussion, presentation, simulation, and focused students' activities. The last is confirmation stage or individual construction that gives more emphasis on students' independence. They work alone to apply the schemata in their head into a new situation. The teacher's role is giving feedback after they finish their work in which positive reinforcement is necessary here.

2. Curriculum 2013

There is no significant difference in implementing IBLL in curriculum 2006 and curriculum 2013. Both of them emphasize on how the students can construct their own knowledge that is stimulated with a good learning process. As stated in the Education Ministry Regulation number 65, the year of 2013, education process should be based on scientific principles. Under the term scientific approach, IBLL is chosen to encourage the students mentally and physically demonstrate the scientific behaviors. Hopefully through this method the students are curious about anything around them, their skills are improved, they exhibit positive attitudes, and they can improve the speaking competence as well as their critical thinking. The students as inquirers learn thorough the problems in real situation. Five stages are provided to accommodate that aim: observing, questioning, collecting information or experimenting, associating or information processing, and communicating.

The learning activities are initiated with observation in which the teacher engages the students by displaying texts or videos. Then they are encouraged to ask questions in order to develop their hypothesis about the phenomena. In addition, they may ask about the linguistic features or generic structure of the text. In this

stage, the students are supposed to have their ideas about those aspects. The next stage gives them more opportunity to investigate their hypothesis through gathering information and experimenting. With the guidance of the teacher and peers, they collect any information needed and do some practices. Associating or information processing invites them to analyze the result of their practice collaboratively. Suggestions or feedbacks from the others are needed to clarify, confirm, or extend their idea. The last one is communicating their finding in the form of presentation or other activities. The finding reveals the knowledge constructed by them in the previous processes.

CONCLUSION

Although at the beginning IBL is intended for science as it is classified as scientific approach, this method also can be implemented in language field. The former figures introducing inquiry learning are Piaget, Vygotsky, and Brunner. They argue that the students are able to construct the knowledge by certain requirements. Furthermore, this idea is explored more detail by Bruce and Davidson, Karplus and Their, and Roger Bybee in which they provide the cycle in order to help teachers applying this method in their class. Indonesia adapted the concept of inquiry learning and implemented it in curriculum 2006 and 2013. Hopefully, Indonesian students are able to construct the knowledge and continue the paradigm of long lasting education.

AUTHOR'S BIOGRAPHY

Sri Rejeki is an alumna of UNY majoring English Education Department for her undergraduate degree. After graduated from that university, she taught in several institutions such as SMK Piri Yogyakarta, SD Model Yogyakarta, and Puri Kids Yogyakarta. She also has experienced two-years teaching in Language Training Center under UMY (Muhammadiyah University of Yogyakarta). She has published an article entitled *Konsistensi Pemerintah* published by Kompas Yogyakarta. She also has published 2 books entitled *Menguasai 16 English Tenses* published by Bangkit publisher, Yogyakarta (2012) and *Ya, Saya Vegetarian* published by Familia

publisher, Yogyakarta (2013). In addition, she has translated a novel entitled *Sherlock Dan Enam Napoleon* published by Indoliterasi publisher, Yogyakarta and she was also an editorial team of a book entitled *Karnaval Caci Maki; Menelusuri Makian dari Hasrat sampai Nilai*, EKSPRESI Buku (January, 2012). Currently, she is taking her graduate degree in Graduate School of English Education Department, Sebelas Maret University, Surakarta. Furthermore, currently, she is working on the publication process of some articles entitled: "A Study on The Strategy in Teaching English for Students with Special Needs, Journal of Social Science and Humanities, Pertanika", and "Promoting Assessment for Learning: Students' Perception toward Informal Assessment Conducted in English Classroom, Journal of Advanced Letter".

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