



Research-Based Learning: An Interpretive Study

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Abstract

This research aimed at understanding lecturers and students' views on research-based learning (RBL) in accounting. This is a qualitative study with interpretive paradigm. The data were obtained observation, interview and documentation. Meanwhile, the stages to analyze the data included data reduction, understanding, and interpretation. The research result shows that lecturers had varied understanding on research-based learning. The research result also indicates the minimum use of RBL by lecturers in their teaching since the course was less compatible in terms of its characteristics with RBL model. An important finding in this research was that RBL could improve student's critical thinking and creativity as well as increase their confidence in writing scientific paper. However, as acknowledged by the sources themselves, it was hard to implement RBL since it demanded a huge amount of costs and the lecturer's own ability to implement RBL was still low.

Keywords: Accounting, research-based learning, critical thinking

Introduction

Currently, scientific publication has received a lot of attention from many parties, particularly higher education institutions. This is due to the issuance of Decision Letter of Director General number 152/E/T/2012 on Scientific Paper Publication which sets a regulation that starting from the graduation after August 2012, to graduate from Bachelor program one is required to produce a paper published in a unaccredited scientific journal, and for Master program one should have produced a paper published in a national scientific journal, preferably the DIKTI-accredited one, and for Doctorate program one must have written a paper accepted for publication in an international journal. All universities and the like compete to each other to increase their scientific publications, particularly in a scopus-indexed journal. In addition to this regulation, the fact that worldwide university ranking is based on the number of publications produced by a university has also contributed to this phenomenon.

The low scientific publication by researchers and academics in Indonesia has been a unique challenge for academics. Based on DIKTI's report, in 2014 Indonesia's scientific publications were still way lower

than Malaysia, Thailand and Singapura. However, in 2018 per 6 April, Indonesia's scientific publications have significantly increased to 2nd place among ASEAN countries, with Malaysia still holding the 1st place (news.okezone.com, 2018). This indicates that the research dynamic in Indonesia have somewhat improved. This increased number of publication is also contributed by the issuance of Permenristekdikti (Ministerial Regulation of Research, Technology and Higher Education) Number 20 Year 2017 which aims at motivating lecturers assuming the associate professor and professor academic offices to perform the tridarma (three pillars of higher education) one of which is to carry out research.

The Ministerial Regulation of Education and Culture of the Republic of Indonesia (Permendikbud) Number 49 Year 2014 concerning National Standards of Higher Education, Article 14 paragraph 6 states that in addition to what are referred to in the previous paragraph, the form of teaching and learning for bachelor program must be added with research. Meanwhile the paragraph 7 explains that the form of research referred to in paragraph 6 constitutes a student's activity under the guidance of a lecturer in an attempt of developing their knowledge and skills in applying theory for the society's interest in addition to be a final project.

This Decision Letter/regulation on scientific publication has been a reference in establishing strategic policies in higher education institutions, in particular the State University of Malang. State university of Malang has a vision to be a superior university and a reference in the performance of "Tridharma" of higher education institutions and the second dharma (pillar) is research. One of the ways of achieving this vision is by conducting research in pedagogy, knowledge, and technology the findings of which shall be helpful for developing sciences and people's welfare.

As an attempt to achieve the State university of Malang's ideal to be a reference in research, their academics' support is of utmost importance to produce some works in scientific publication form. One of the ways to increase the scientific publications in universities is for lecturers to begin to introduce as early as possible research-based learning to their students. Research-based learning is one of student-centered learning methods, i.e. a learning in which students are the center. Research-based learning is one learning method which employs authentic learning, problem-solving, cooperative learning, contextual (hands on & minds on, and inquiry discovery approach) guided by constructivism philosophy. Research-based learning is grounded on constructivism philosophy which includes 4 (four) aspects, namely: a learning which builds student's understanding, a learning by developing student's prior knowledge, a learning which constitutes a social interaction and meaningful learning process achieved through real-life experience ([Poonpan & Suwanmankha, 2005](#)).

This research-based learning will motivate students to think critically and allow them to solve problems using scientific inquiry. Some strategies are available to combine learning and research, they are; (1) enriching the learning materials using lecturer's research result, (2) employing latest research findings and tracing history, (3) enriching learning activities with contemporary research issues, (4) teaching research methodology contents in their teaching and learning process, (5) enriching the teaching and learning process with small-scale research activity, (6) enriching the teaching and learning process by involving lecturer in their activities, (7) enriching the teaching and learning process by encouraging lecturer, and (8) enriching the teaching and learning

process with the values every researcher is required to have (Umar, Yusuf, Uloli, Abjul, & Ntobuo, 2011).

Dekker & Wolff (2016) conducted a study in the United States by observing less successful students. One of what were asked was what the university can do to help students get the best in their economic, social or personal lives. The answers given by those students could be classified as “high-impact educational practices,” i.e. the research conducted when they were studying at universities. The reason was that because research could improve students’ critical thinking and ability to find answers to important questions/existing problems.

It is interesting to study research-based learning for some reasons, firstly; the number of studies on research-based learning is highly limited in both Thailand and Indonesia (Srikoon, Bunterm, Samranjai, & Wattanathorn, 2014); secondly, the number of research in a university determines its status and ranking, thirdly; previous studies focus only on their objects at master and doctorate level; and finally; many studies on research-based learning are found in the field of sciences and only a few are done in social fields, particularly accounting. Based on these reasons, the researcher was motivated to explore deeper on RBL and how lecturers and students interpret research-based learning.

Research Method

This is qualitative research and it uses interpretive paradigm. Interpretive paradigm is the one which gives more emphasis on one’s interpretation of a symbol. This paradigm aims to interpret or to understand) (Creswell, 2007). This research will be conducted in three state-owned universities in East Java, particularly the one with Accounting and Accounting Education study programs for bachelor degree. The research sources are three lecturers who represent each state-owned university and 50 students of accounting department are asked to complete the questionnaire.

To make the research results accountable, there is a need to check whether or not the presented data are valid, and for this purpose a technique is required to ensure the data validity. The researcher uses triangulation technique, i.e. using several data collection techniques from the same sources. The data in this research are collected using questionnaire, in-depth interview, observation and documentation (curriculum analysis).

Questionnaire is used to assess student’s perception of research-based learning. This questionnaire is distributed to Bachelor program students of Accounting dan Accounting Education department at their final year, since they are deemed to have performed RBL activities as a preparation to make a final project. In-depth interview is done with the three accounting lecturers. These sources are selected based on student’s perception on the teaching and learning methods used by the lecturers. The lecturers using RBL as their teaching and learning method will be selected to be the sources. Direct observation is used to figure out the existing phenomenon when the teaching and learning are in progress, hence it is expected that the data from observation can explore the information not obtained using questionnaire and interview. Documentation is also made to analyze the curriculum used.

To analyze the data, the researcher needs to capture, record, interpret and present information. The steps the researcher needs to take include data reduction, understanding, and interpretation. Data reduction involves organizing data, i.e. determining category, concept, theme and pattern and coding data. Understanding is done to understand and test the data based on the previously done coding. This process can be “cutting” data obtained from interview, observation and document analysis and each is put into a specific folder according to the existing theme/pattern. The data is then interpreted. The interpretation results are then associated with the available theory to prevent it from being biased and it can be explained by the theory.

Result and Discussion

Teaching and learning methods are the way/strategy implemented by the lecturer to achieve the teaching and learning objectives. Whether or not the teaching and learning process is successful depends, among other things, on how a lecturer teaches (method). 50 questionnaires were distributed to bachelor students of accounting and accounting education department in their final years (semester 7) in three state-owned universities in East Java, namely State University of Malang, Brawijaya University and State University of Surabaya. As many as 49 questionnaires were returned. Students were free to choose the course to be used as the basis for completing the questionnaire. The courses chosen by students and their perception on the teaching and learning methods used by the lecturers are presented in [Table 1](#).

Table 1. Lecturer’s Teaching and Learning Method based on Accounting Student’s Perception

Course	Number	Teaching and learning methods
Advanced Financial Accounting	4	Problem-Based Learning
Intermediate Financial Accounting	1	Teacher Center
Public Sector Accounting	1	Content Presentation
Internal Audit	1	Research-based learning
Business Ethics	2	Content Presentation
Entrepreneurship	1	Problem-Based Learning
Accounting Computer	1	Problem-Based Learning
Investment Management	2	Problem-Based Learning
Financial Mathematics	1	Problem-Based Learning
Research Methodology	1	Project-Based Learning
Financial Management	16	Research-Based learning
Introduction to Accounting	1	Problem-Based Learning
Introduction to Business	1	Content Presentation
Introduction to Macro Economy	1	Content Presentation
Auditing	1	Problem-Based Learning
Taxation	2	Problem-Based Learning
Operating Research	1	Problem-Based Learning
Descriptive Statistic	1	Problem-Based Learning
Inferential Statistic	1	Problem-Based Learning
Accounting Theory	8	Research-Based learning
TOTAL	49	

Source: Processed Data, 2017

Based on the data from the questionnaire collected by the researcher, it could be seen that 20 courses were used as the basis for students' answers. From the data above, it could also be seen that more than 50% of the teaching and learning activities used Problem-Based Learning method, a method which gave more emphasis on student-centered learning to develop student's critical thinking. Only one of twenty courses still used a conventional method in its teaching and learning activities in the classroom, i.e. Intermediate Financial Accounting course. The conventional teaching and learning method placed students as the learning objects who played the role of passive information receivers and students mostly learned individually by receiving, taking notes, and memorizing the materials. It also gave more emphasis on lecturing method. This was of course had been out of date to be applied in the teaching and learning activities of "kids these days" where any information could be easily accessed (internet of things). Therefore, learning paradigm needed to change as well, from merely being the object of sciences, students should be able to be the subjects of science (conceptualizing, finding, and integrating sciences).

Four courses used the textbook-based content presentation method. This meant students learned the knowledge merely on its surface, they just replicated what was in the textbook and explained it in front of the class, without knowing the essence of science they were learning. The remaining three courses used Research-based learning method.

The next stage performed by the researcher to obtain data was in-depth interview with the sources. The steps were as follows; firstly, the researcher organized all data from the interview transcript obtained from the field, secondly; reading the interview transcript thoroughly to obtain important and relevant information which was then subjected to data coding, thirdly; grouping data based on the meaning obtained from the sources, and fourthly; collecting relevant information and eventually interpreting the essence of phenomenon experienced by the sources.

After finding out the lecturer's teaching and learning method based on student's perception, the next step was in-depth interview with the lecturers teaching the such courses as internal audit, financial management, and accounting theory. Then, the researcher gave codes for those sources, they were code D for lecturer sources (D1, D2, D3). The first source was the lecturer in charge of audit internal course, who was a male and had been extremely frequent to teach audit internal course for the last 4 years from State University of Malang, and to this source the researcher gave code D1. Furthermore, the second source was female and her teaching expertise was in financial management, from Brawijaya University and was coded D2. Finally, the lecturer who was in charge of accounting theory course was male, and had mastered the course, from the State University of Surabaya and coded D3.

From the interview with the first source, it was revealed that the selection of a teaching and learning method was adjusted with the characteristics of course they taught. As suggested by the first source as follows:

"I adjust it with the course, miss, I mostly teach introduction to accounting course, hence I think it is not too suitable to use presentation method where students are required to be in front of the class and present the material. The material is about calculation; thus I mostly use lecture. The case is different when the course is internal audit, I've made it student-centered since the students presented and discussed it in the classroom" (D1)

The first sources put greater consideration on the selection of certain methods for certain courses. In his opinion, some courses could not be taught using certain teaching and learning methods or models and vice versa. For example, one course would be compatible with problem-based learning method while other courses were incompatible if this method was used.

Another sources argued that a lecturer's teaching method was significantly influenced by their experience of being a lecturer. Meanwhile, the sources D2's stated as follows:

"The teaching and learning methods I applied develops as my experience grows. Thus as my experience taught me, for example, some days ago I used method A and turns out it was less effective, therefore I will modify it to make it better in the following semester.... I adjust it as well with the applicable curriculum.... "(D2).

Sources D2 used varied methods for one course and conducted trial & error and judged the effectiveness of use of the method. In addition, the use of method was also adjusted with the existing curriculum. These were the factors which would influence a lecturer's decision in choosing the teaching and learning method to be used.

Research-based learning was classified as a student-centered learning method, i.e. a learning where students became its center. Research-based learning was a teaching and learning method which used authentic learning, problem-solving, cooperative learning, contextual (hands on & minds on, and inquiry discovery approach guided by the constructivism philosophy. Research-based learning was based constructivism philosophy which included 4 (four) aspects, namely: a learning which built student's understanding, learning by developing prior knowledge, learning which constituted a social interaction and meaningful learning which was achieved through real-life experience (Poonpan and Suwanmankha, 2005).

To discover further the student's perception of RBL, the researcher interviewed three students coded M1, M2 and M3. The first sources (M1) said that the internal audit course used a small portion of research article in the learning as suggested by M1:

".... this course lecturer sometimes used article in teaching us and asked students to analyze and present the result of analysis performed by students.... (M1)"

From this quote, students interpreted RBL as a teaching and learning method which used only research articles in the classroom. Furthermore, the second sources (M2) also suggested the same that the lecturer of the financial management course he took also used several relevant research articles as their reference, yet these articles were neither analyzed nor presented. This was stated by M2 as follows:

".... My lecturer used some international articles as references yet we were not asked to analyze or to present them. Furthermore, the lecturer did not give us any instruction. It was the lecturer who mostly explained them.... (M2)."

The second sources also interpreted RBL only as a learning which presented some references they could use for learning. The last sources gave his/her opinion as follows:

"....in my opinion, RBL is a learning which uses studies be it in the form of articles or books or other results of research conducted by either the lecturer himself/herself or others in the learning.... (M3)."

This third sources had a better understanding on RBL. Based on this last sources' understanding, RBL was implemented using results of contemporary research and the lecturer's own research as the learning materials in the classroom.

Furthermore, in-depth interview was also carried out with the lecturers. The sources had slightly varied interpretations of RBL as suggested by the following sources:

"In my opinion, RBL is a learning model, hence when we use RBL for our teaching and learning, then the curriculum and teaching and learning equipment should all be research-based, ranging from the syllabus, lesson plan, teaching material, media and its evaluation should be research-based...." (D3).

Sources D3 interpreted research-based learning not merely as a teaching and learning method, rather he thought of it more as a learning model hence the teaching and learning equipment should also be research-based.

However, the next sources held a little bit different view on RBL as seen in the following interview quote:

"Research-based learning is basically (about) what we do is based on research findings, hence for a teacher or educator it is about what they do which is then evaluated, reflected on, evaluated again until a conclusion is drawn that it lacks this and that (and) that has been equivalent with research-based. Even if the research is in the context of a case, a case study in the classroom, rather than the result of a generalization. Such an action has been research-based or they merely average, applying the method they are currently practicing based on what they observe, what they experience, what they reflect on which, in turn, will improve the learning quality...." (D2).

Based on this sources' statement, it could be concluded that research-based learning is a teaching and learning method which uses results of research as learning sources and materials which were then evaluated and reflected on. The selection of teaching and learning method/model would have an impact on the quality of such teaching and learning output. [Cabral & Huet's \(2011\)](#) research found that RBL could improve the teaching and learning quality. Similar statement was also revealed by the next sources who interpreted research-based learning as a teaching and learning whose main literature came from journal/articles and books of research result. The quote of interview with this sources was as follows:

"Well...in my opinion, research-based learning is a learning which is based on journal/article or research conducted by the lecturers themselves or it can also be from other's research....(D1)".

However, unlike sources (D1) who suggested that the use journal or research result as literature was not suitable for financial accounting course as he suggested as follows:

"In the course I teach, the use of research results is not supported since I teach financial accounting yet when I teach internal audit I used research results....." (D2).

Based on these sources' statements, almost all lecturers selected to be the sources have used RBL method in their teaching and learning activities with various modifications which was adjusted with the characteristics of course they teach, as stated by the sources below:

“it was last semester that I applied RBL method, and I really enjoyed this method. It was really applicative and matched the new curriculum established by university, i.e. BBK (D1)”

RBL was highly suitable for use in teaching and learning activity at university level, particularly in the State University of Malang (UM), since this method was really close to the newly established curriculum in UM, namely Real Life-Based Learning (*BBK-Belajar Berbasis Kehidupan*). Learning using research results would be more contextual and real just like the real life they frequently encountered. Departing from research results, students would be highly open-minded and could express their opinions actively in the classroom, hence they would “find” the essence of sciences, rather than merely its surface.

The RBL implementation could also be correlated with the use of journal articles in the teaching and learning, aiming at developing student’s critical thinking, as stated by the sources below:

“sometimes if the journal I have matches the materials I teach, I will then ask my students to analyze the phenomenon I present, the research method used, and the findings in my research. I usually divide them in groups to enhance their teamwork skill. From then on I can lead my students to think critically, by criticizing my own paper. This, in turn, allows me my students' ability (D2)”.

This went really well with the objective of the research-based learning method which constituted a teaching and learning method using authentic learning (requiring real-life example), problem-solving (answering case and being contextual), cooperative learning (together), contextual (hands on & minds on), and inquiry discovery approach (finding something) which was based on the constructivism philosophy (i.e. continuous and sustainable development of students). This finding confirmed the result of research by [Khwanchai, Tanthip, & Toansakul \(2017\)](#), [Nuchwana \(2013\)](#), [Saptuti Susiani, Salimi, & Hidayah \(2018\)](#), [Sota & Peltzer \(2017\)](#), [Srikoon, Bunterm, Nethanomsak, & Tang \(2018\)](#), [Tungkasamit & Junpeng \(2013\)](#), and [Wannapiroon \(2014\)](#) who found that RBL could improve student’s critical thinking and creativity as well as their working skill. Furthermore, [Blume et al. \(2015\)](#) also found that research learning could develop student’s competence in solving the problems actually existing in the field. [Lander, Seeho, & Foster \(2019\)](#) also provided an empirical evidence that RBL could increase student's confidence to prepare scientific paper. RBL was also interpreted by sources as the student’s involvement in the lecturer’s research, as suggested by the sources below:

“I quite frequently invited my students to carry out research. This can encourage student to learn to make research for their final project. I usually invited them to participate in collecting and processing data. In addition to inviting them to participate in my research activity, I also usually invite them to attend research dissemination seminar organized on and off the university. I do this to allow them to learn how to communicate their research findings in a forum (D3).”

Sources D3 also interpreted RBL as student’s involvement in lecturer’s research to enable students to learn valuable lessons in solving problems scientifically. However, this student’s involvement in lecturer research was limited to data collection and processing process and they were not involved in the process of data interpretation.

In addition to their activities in classroom, it turned out that the lecturers also gave them a chance outside the classroom to take part in the research process conducted by the relevant lecturers. Furthermore, the lecturers had led students to

attend seminar on research result dissemination. This confirmed [Widyawati \(2010\)](#) who suggested that research-based learning was one of student-centered learning (SCL) methods which integrated research into the teaching and learning process.

An important finding of this research was that RBL could improve students' critical thinking and creativity as well as increase their confidence in preparing scientific papers. However, as acknowledged by sources themselves, it was hard to implement RBL due to the high costs required and lecturer's low willingness to implement RBL.

The interview with sources showed that some obstacles were in the way when they wanted to implement RBL. One of them was the lack of commitment from the institution to implement this RBL. This was as suggested by sources D2 below:

Actually, I myself is more than willing to use this RBL, yet the lack of support and commitment from the institution makes me think it'll be useless, it won't run well.... (D2)"

Similar statement was uttered by another sources that the currently existing gave less support for the implementation of this RBL, however, the good news was that one university would use their own curriculum known as real life-based curriculum which allowed accounting lecturers to introduce this RBL. This was as stated by the following sources:

"The current curriculum does not require the use of such RBL, however in our university, a new curriculum known as BBK which allows us to insert a bit of RBL into our teaching and learning will be implemented.... (D1).

In addition to the institution commitment and curriculum, the absence of willingness from the lecturers and adequate HR to implement this RBL had been the most common obstacle encountered by accounting lecturers, hence even when the institution had instructed the use of this learning model in their teaching and learning activity, the result could not be maximum. Another fact found by the researcher was that most lecturers had remarkably huge amount of teaching schedules. This in turn had rendered these lecturers unable to provide time to update their teaching and learning models. This was suggested by D3 as follows:

"All of us here have too much teaching times, hence we barely have time to think or design a certain learning model or to use particular teaching and learning methods for particular courses, and this all because, well, we just have no time.... (D3)."

Unlike the previous sources, sources D1 stated that the implementation of RBL was costly as he suggested below:

"It takes a lot of costs, miss, to apply this RBL since we have to subscribe to reputable international journals. It can even cost us hundreds of millions for one-year subscription, and it seems that our institution has no concern in this yet, there are just too many rooms for improvement.... (D1)."

From this explanation, it could be seen that another obstacle encountered was the relatively great cost needed since the institution should provide reputable international journals for the literature to facilitate the implementation of this research-based learning and it took a great amount of money to subscribe to such journals as proQuest, Emerald, Ebsco, etc. This obstacle was stated by one of the sources who stated that in his/her institution, the available journals were highly limited and some journals could not even be accessed for free.

Conclusion

This research aimed at understanding how the sources interpreted research-based learning. The research result indicated that these sources interpreted research-based learning as a learning model while others interpreted as a method. The research also found that the number of lecturers employing RBL in their teaching and learning was low since the characteristics of their course was less compatible with RBL model. An important finding in this research was that RBL could improve students' critical thinking and creativity and increase their confidence in preparing scientific papers.

As acknowledged by the informants, it was extremely hard to implement RBL due to the large amount of money needed and the lecturer's low willingness to implement it. Meanwhile, the limitation of this research was that the researcher found it hard to extend the research period due to the fact that each sources was too busy.

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