

ORIGINAL ARTICLE

The Effect of Learning Log on the Academic Performance of University Students: The Case of Psychology Second Year Students in Jimma University

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ABSTRACT

The main intent of this study was to identify the impact of using learning log as a learning strategy on the academic performance of university students. Second year psychology students were included as subjects of this study. In the beginning of the study, the students were divided into two: experimental group (N = 60) and control group (N = 60) based on random selection. However, later, six and four students from the experimental and the control groups respectively didn't attend classes the whole semester, and as a result the study was carried on 54 experimental group and 56 control group students. The experimental group students used learning log on a weekly basis while the control group did not. Instructors of two selected courses (Psychology of Gender and Psychopharmacology) were given orientation on how to encourage their students to use learning log. The courses and the instructors were selected on the basis of their accessibility for the purpose of data collection. The experimental group students were informed that their learning log entries would be given some weights by their instructors. They were also made to write reports reflecting on their experience of using learning log.

It was then found out that there was a significant mean difference between the performances of the students who used learning log and those who did not especially for the course Psychopharmacology, but the mean scores did not show a significant difference for the course Psychology of Gender. The reflective reports of the students also roughly indicated that the students developed positive attitudes towards using learning log. Based on the findings, it is recommended that large-scale studies be conducted to comprehensively investigate the application and implications of reflections on learning through the use of learning log on colleges and university studies.

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INTRODUCTION

Learning is crucial to human beings to change their activities and their circumstances, and this ability is vital for human survival. But, what is the relationship between learning and memory? Though the two words are not interchangeable in psychology, their meanings in contemporary research may overlap, both in respect to the kinds of performance that are regarded as providing evidence of learning and memory and in respect to the mental processes that are thought to underlie performance at learning and memory tasks (Howe, 1980).

The term “memory” in psychology usually denotes an interest in the retention of knowledge, and it may imply an interest in the processes of input, retrieval and other activities that contribute to information being remembered. The use of the term “learning” in psychology normally implies some concern with change in people’s behavior, or in their knowledge. The various phenomena denoted by the two words do not form entirely separate classes: no new ability can be acquired without the learner retaining of information, and people’s activities are frequently influenced by knowledge or skills retained in memory.

One of the different skills that make students academically competent is their strategies in improving memory. What are, then, the techniques that enhance the transfer of information to the long-term memory? What are the strategies that could help college students to overcome forgetting? There are various control procedures and skills that contribute to materials being retained in memory (Mekonnen, 2004). To mention, but a few: using immediate review, using different sensory channels, organizing or decoding information to be stored, elaborating new

ideas, thinking of their applications, connecting new learning with the previous ones, restating an idea in one’s own words, discussing the material, visualizing or crafting mental pictures of events, processes, etc, testing oneself on the material, looking for principles instead of lots of facts, and learning beyond mastery are included.

A cursory look at the preceding techniques indicates that tips of improving memory include improving both information storage and retrieval. Learning how to store and retrieve information efficiently is indispensable because the ability to retain information in memory contributes to a person’s competence in tasks of comprehension, reasoning, and thinking. Thus, since learning is approached as a highly versatile and adaptive process, students should be encouraged to follow appropriate strategies that suit the nature of the task and their knowledge and experience.

How can we help students to be critical thinkers, active learners and success oriented? There could be so many things that university teachers do to improve the quality of their instructions. The teaching-learning techniques may vary from person to person depending on the program type, level of the students and orientation of the subject teacher. Many lines of research evidences indicate, however, that many instructors have been using the traditional mode of teaching and encouraging their students to be passive learners. So, the new assumption about the purpose of education is assisting students to learn more effectively without the constant intervention of a teacher. This can be achieved through developing the skills of autonomous learning.

Autonomy is a term used in many different ways. Though the notion of autonomy in learning is a many-faceted one and is subject to much debate, Boud (1988) boiled it down into three groups of educational ideas. First, it is a goal of education, an idea of individual behavior to which students or learners may wish to acquire: teachers assist students to attain this goal. It is the most common notion of autonomy. A fundamental purpose of education is assumed to be to develop in individuals the ability to make their own decisions about what they think and do. Secondly, it is the term used to describe an approach to educational practice, a way of conducting courses that emphasizes student independence and responsibility for decision-making. This domain of what might be called practical autonomy is the one to which most attention has been given by practitioners in recent years. It involves providing students with opportunities to exercise significant degrees of decision-making with respect to the content and organization of courses. Thirdly, it is also an integral part of learning of any kind.

What are the elements of autonomous learning? According to Boud (1988, P.42), there are four principal elements in autonomous learning: the learner, the teacher, the task and the environment. As all of the elements interact together, the successful outcome of an autonomous learning experience depends on the extent to which each element is consistent with the others.

Some authors (e-g, Boud, 1988; Vshit, 2003) contend that the relationship between the teacher and the learner is the most important feature of autonomous learning. This relationship is likely to be strongly influenced by the past learning experiences of both the teacher and the learner.

As it was mentioned above, students are important elements of autonomous learning processes. While studying the nature of self-directed learning, many researchers have come to agree with the idea that some characteristics of learners influence their independent learning behavior. For example, the past experience of students, in particular their contacts with traditional teaching /learning methods (which generally do not encourage them to act independently) is to result in difficulties for the students if they are suddenly asked to act as autonomous learners.

What is self-directed learning? Self-directed learning has been described as "a process in which individuals take the initiative, with or without the help of others," to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes (Knowles,1975). As the term suggests, self-directed learning views learners as responsible owners and managers of their own learning process. Self-directed learning integrates self-management with self-monitoring (the process whereby the learners monitor evaluate and regulate their cognitive learning strategies) (Bolhuis, 1996; Garrison, 1997).

The benefits of self-directed learning are best described in terms of the type of learners it develops. The literature on self-directed learning asserts that the learners demonstrate a greater awareness of their responsibility in making learning meaningful and monitoring themselves (Garrison, 1997). They are curious and willing to try new things (Lyman, 1997), view problems as challenges, desire change, and enjoy learning (Taylor, 1995). Taylor also found self-directed learners to be motivated and persistent, independent,

self-disciplined, self-confident and goal-oriented.

Students do not come to a learning situation with empty minds. In fact, they come with existing background and experience. The students' beliefs, opinions and attitude can have useful implications to the current learning. Acknowledging and building on the learners' existing constructs and experiences is a useful strategy that teachers need to have in their teaching repertoire. This method encourages the integration of the learner's experiential knowledge with received knowledge (input from lectures, from reading and from peers). This process involves reflection (Gibbs and Habeshaw 1989).

A number of approaches to both teaching and learning can be available. However; the learning side of the process is emphasized in this paper as the aim of the study is to examine how practicing reflective learning through learning log activities can impact on university students' academic performance.

Among other scholars who forwarded ideas about learning strategies, Claxton (1999) proposed a reflective human learning approach that he believes is simple, approachable, and realistic representation of what learning generally implies and what the characteristics of a good learner are. According to this author, a successful learner must be resilient, resourceful and reflective. Of these three, reflection is of great relevance as learning log is one form of reflective learning.

Reflection then seems the heart of effective learning. Underpinning this assertion is the fact that in reflective practice learners are encouraged to assess themselves as learners. They are also given a chance to evaluate and reflect on their learning, to

examine the relevance of the incoming information to their realities and to explain how the learning might affect them. Related to this, Shon (cited in Wallace1991) believes that both professionals and laymen (students can be included here), especially when surprised by unexpected development, reflect back on action. Shon continues to explain that in such situations people may ask themselves questions, such as: What features do I notice when I realize this? What are the criteria by which I make this judgment? What procedures am I enacting when I perform this skill? How am I framing the problem that I am trying to solve?

In trying to answer the above and similar questions, students will describe how the learning went on, evaluate the worth of the learning in terms of their own realities, and assess their reactions to the learning situation. They will also express their strengths, weaknesses, likes and dislikes and the specific plans they might make in relation to the learning in focus. Wallace (1991) himself comments that in the answers to the above exploratory and evaluative questions, which he says would be expressed in a much less abstract way and much specific manner, lie the path to self-development. In other words, such exploratory and evaluative questions help students to reflect on their learning.

Three forms of learning are involved in the process of reflection: contemplation, reflective skills, and experimental learning. Thinkers such as, Boud et al (1985), Gadamer (1976), and Kold (1984) have examined the process of reflection. Contemplation is the process of thinking about an experience and reaching a conclusion without reference to the wider social reality. Reflective skill is a process in which learners often produce new skills whereas experimental learning is a form of

learning in which theory is tried out in practice and the end-product of the experimentation is a new form of knowledge (kydd, Crawford & Riches, 1997).

Since the way we think about what we are doing makes us more or less intelligent in doing it, reflections enhance learning. Students will usually think more intelligently if they have a sound plan for working through a problem than if they just guess or act by trial and error.

Learning log is one of a number of reflective activities that are believed to improve learning in a number of ways. Simply defined, it is a sort of keeping documentary record of what a student is learning as she/he progresses through the unit or section; the learner documents his/her reflections on his/her progresses, problems encountered, and ways by which she/he might resolve them (McKinney, 2003). It is a learning strategy in which students summarize measure and evaluate their own daily progress. In order to keep a documentary record of what they are learning as they progress through the unit, it is strongly recommended that learners keep a Learning Log (Tripp 1993, Marshall, 1997). This idea has been used successfully in many university units and will benefit individuals, as it requires them to organize their learning in a more conscious way.

How can a student organize learning log? There is not a single way of organizing a learning log that can work for all learners. The choice depends on the individual's own way of recording, expanding, organizing and retrieving information. However, the following format can serve as a guide to begin to practice using learning log:

Create a special place in which to make your learning log-this could be a section of your exercise book. Keep your log on a weekly basis during the course. It may also be useful to do your log for a particular day in order to gain some insight into the sequence of activities. It will also help you to remember to do it.

Write about whatever seems important to you to reflect on your experience about learning as a learner. Write from your point of view using the pronoun 'I'. For example you may begin as," Over the week, I have come across a variety of useful points in the course---." And go on explaining the points that interested you and why they are important. You might also want to write responses to a few questions such as the ones given below. Then, develop the responses into a full composition of one page or less or a little longer:

- Was I successful in my learning over the week? Why?
- What have I considered important in my learning over the week? Why?
- Of the learning over the week, which ones have I liked most? Why?
- Which contents or activities have I found most difficult? Why?
- What have I planned to do in order to tackle this difficulty? (E.g. make revision, discuss with a friend, ask my instructor, etc.)
- What activities or learning tasks did I respond to most easily this week?
- Which activities gave me the most difficulty this week? Why? (Missed classes? Didn't attend lecture properly? -----?)
- What learning activity or event took me by surprise? Why?
- What can make me proudest about my learning this week? Achievements in tests? Active participation?

- What do I feel most dissatisfied with regarding my learning activities this week?

[Adapted from Academic Study Skills and Orientation (unpublished), University of Exeter, 2004/5]

A learning log also requires students to begin to organize their learning. Rather than simply going through the motions of classroom activities, they must identify and pursue what it is they're trying to learn. This awareness allows them to see a purpose in the activities that teachers require of them to do in the classroom and at home, leading to an overall understanding of what the class is all about.

Learning log improves learning in a number of ways. On the surface, it helps students to identify what they have learned and the areas in which they need to improve. Writing a learning log helps to reflect on what learners have learnt and what they are trying to achieve. The learning log clarifies what they already know and thus helps them to prepare themselves for future study. Reviewing their accomplishments will also help them sustain the motivation needed for autonomous study. Developing this skill takes time and practice, but ultimately helps students become more active and aware learners. Generally, learning log improves students' learning in at least the following ways. Using learning log:

- Helps learners identify what they have learned and the areas in which they have to improve;
- Allows them to see learning patterns and preferences ;
- Enables them to document their reflections on their progress, problems encountered and ways they might resolve difficulties with;
- Helps them to document their activities so that notes can be accessed for future study;
- Requires them to organize their learning;
- Enables them to write down questions for their tutor and advisor as they arise;
- Allows them to communicate their responses in ways that they feel comfortable

Generally, learning log is believed to improve learning in various ways. For one thing, it helps to identify what students have learned and the areas in which they need to improve. For the other, learning log requires students to organize their learning; instead of simply going through the motions of classroom activities, they must identify the purpose: what is it they are trying to learn. This awareness allows them to see a purpose in the activities that instructors require of them in the classroom and at home, leading to an overall understanding of what the instructors' class is all about. To make the whole story short, learning log helps students become more active and aware learners.

Although the idea of learning log has been used successfully in many universities and colleges so as to organize their students to react to learning in a more conscious way, it seems that there are no reported evidences in our country about its exercise and effectiveness. This, in turn, demands empirical evidences on the preference of one teaching-learning strategy to the others. Thus, the basic purpose of this study was to investigate the impacts of using learning log on the academic performance of second year psychology students at Jimma University. More specifically, the study tried to answer the following two basic research questions:

- Is there a significant performance difference between students who used learning log and those who did not?
- What is the students' attitude towards their practice of reflective learning through the use of learning log?

It is hoped that the results of this study would help instructors to become increasingly aware of the need to revamp teaching methodologies, and test different strategies of teaching and learning such as the learning log. The results of the study will also encourage students to adapt or to follow appropriate learning, thinking, and study strategies. Moreover, the study may be of use to other educational researchers, pedagogists, and educational psychologists who may need some picture of the art in research on reflections in learning psychology and other subjects to which learning log can be applicable.

METHODS AND MATERIAL

Second year psychology students were included as subjects of this study. The students were divided into two: experimental group (N = 54) and control group (N = 56) based on random selection. The experimental group students were oriented on using learning log while those students involved in the control group had been taught using the usual methodology. Instructors of two selected courses (Psychology of Gender and Psychopharmacology) were given orientation on how to encourage their students (the experimental group) to use reflection in learning in general, and learning log, in particular. The experimental group students were informed that their learning log entries would be given some weights by their instructors so that they would work on the log seriously. The weekly learning log activities were continued for a solid semester, and the

performances of all students were evaluated based on mid and final -semester paper and pencil tests.

The data (performance of the students) were described using mean (\bar{x}), and standard deviation (δ). Then, in order to draw inferences about the meaning of the data (i.e., to test the null hypothesis which asserted that there is no significant difference in academic performance between students who practiced learning log and those who did not), a test of significance differences between mean scores of the experimental and control groups were calculated using a t-test (at $\alpha = 0.05$).

RESULTS AND DISCUSSION

The major intent of this study was to investigate the importance of reflections on learning in general, and the impacts of learning log on the academic achievement of university students, in particular. Accordingly, the study was designed to answer two basic research questions, viz: (1) Is there a significant performance difference between students who used learning log and those who did not? (2) What is the students' attitude towards their practice of reflective learning through the use of learning log? Second year psychology students were included as subjects of this study. The results that show the performance differences between students who used learning log and those who did not are presented in the following tables.

Table 1: Means and standard deviations on the performance of students who used learning log (group I) and those who followed traditional method of learning (group II) in psychopharmacology course

	Group I	Group II
Mean	56.3	52.0
S.D	10.0	11.0
N	54	56

Based on the above descriptive data, the computed value of Z is found to be 2.08. Therefore, our null hypothesis, which stated that there is no significant difference between the achievements of the two groups taught through different methods, is rejected. Rather, there is significant mean difference between the two groups of students (at $\alpha = 0.05$ level). This result appears to support the view that as learning log paves the way for reflections on learning, those students who use learning log can perform better than those who do not.

Obviously, there is a broad consensus among scholars (e.g., McKinney, 2003; Joyce and Weil, 1996; Marshall, 1997) that although each academic discipline takes a

unique approach to the study of different issues, empirical works on student learning in a number of disciplines indicate that students can reflect on their learning strategies when asked to do so.

Similarly, an experiment was also done on another course known as Psychology of Gender. The same research procedures that were used for the course Psychopharmacology were also applied here. The following table pulls together the results of the experimental and control groups.

Table 2: Summary of the performances of students (experimental and control groups) on Psychology of Gender

	Experimental Group	Control Group
Mean	67.1	63.8
SD	11.6	10.9
N	54	56

The computed value of Z score (1.54) at $\alpha=0.05$ level proved that there is no significant performance difference between students who used learning log and those who did not. The two modes of teaching did not bring an observable difference in academic performance of the students in the course Psychology of Gender. But, one may not safely assert that learning log cannot be applied as a learning strategy for the course 'psychology of gender', and

bring about positive results in students' academic performance. The fact that the practice of using learning log as a learning strategy for this course showed that the performances of students who used learning log were not significantly different from those who did not. This situation might have had some causes. One possible explanation may be inadequate support and encouragement on the part of the teacher. As the strategy is quite new to the students,

they need persistent support from their instructor on how to effectively implement this strategy.

In an attempt to see the students' attitude towards keeping learning log as a useful way of developing one's knowledge of oneself as learner, the experimental group students were asked to write reflective reports on their impression of using the learning log. The analysis of the reports showed that most of the participants i.e. 75% reported that they have found the experience of practicing learning log interesting and engaging. They stressed that the opportunity helped them to take their learning seriously and to be aware of their strengths and weaknesses.

Conclusion and Recommendations

Perhaps the most important educational finding is the one that confirms the purpose of teaching to increase the capacity to learn. And, the most essential part of pedagogical strategy is updating or revamping teaching-learning methodologies accordingly. University professors, thus, have to move into the study of teaching as an inquiry by faculties, schools or departments. As practitioners, they have to use the knowledge base as a mirror for the study of their own practice and draw on the models of teaching that are the products of disciplined inquiry into teaching to find tools they can explore with their students. This study, therefore, investigated the impacts of using learning log, a reflective learning strategy, on the academic performance of psychology students at Jimma University.

The impact of learning log on the academic performance of psychology students was observed in Psychopharmacology course. Those students who practiced the use of learning log performed better than those

who didn't use. Nevertheless, there was no significant difference between the achievements of the two groups with respect to the course Psychology of Gender.

As one of the major challenges of teaching is to build learning communities that represent "safe space" or an opportunity in which students can keep themselves on the move as a learner, the primary purpose of teaching-learning process should be to approach learning as an active thinking process.

Studying the impacts of learning log on academic performance of university students is indispensable to create tremendous benefits for students so that they can keep themselves on the smooth move as learners. This study tried to show the practical implications of reflections on learning psychology. The study, however, was delimited to one department based on two courses. Therefore, further in-depth study is needed to see the impacts of learning log on other subjects as well. Further large-scale studies are also recommended to comprehensively investigate the application and implications of reflections on learning through the use of learning log on college and university studies.

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