

# ACTIVATING METACOGNITION THROUGH ONLINE LEARNING LOG (OLL)

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## ABSTRACT

This study aims to investigate the activation process of metacognition of learners who systematically reflect on their learning using Online Learning Logs (OLL) which were designed to encourage them to think about learning. The study is qualitative and attempts to identify the metacognitive strategies of learners and their attitudes towards OLL. Twenty-five college students registered to Advanced Reading course offered by the department of English Language Teaching at Near East University, participated in the research. The findings of the study revealed that by writing in their OLLs, participants were able to activate their metacognition and use the four main metacognitive strategies; awareness, organisation and planning, monitoring and evaluation. The study indicated the effectiveness of using OLLs in learning situations and strongly recommended that they should be used more frequently.

**Keywords:** Metacognitive strategies, Online Learning Log, language learning

## INTRODUCTION

Advances in learning technologies have resulted in an unceasing exploration for more effective and viable methods of instruction. During this complicated search, most of the accepted concepts have been revisited and based on scientific research have been redefined. Theories of how human beings learn have also been modified and as a result, new theories have emerged to describe the intricate relationship between knowing, knowledge and learners. Constructivism is considered to be the most comprehensive theory to meet the changing needs of the new learners who are portrayed as knowledge constructors. "A Constructivist view of learning tells us that learners are engaged in actively making sense of the information provided to them... Each individual will construct a different message from the input provided" (Williams & Burden, 205). Various teaching methods derived from constructivist learning theory have been utilized in different disciplines to equip learners with the most necessary tools to construct faster and better-retained knowledge. In almost all of these methods, learners are guided to make use of their metacognitive strategies to consolidate and complete the process of their learning. "A metacognitive approach to teaching and learning is in fact a step away from a narrow cognitivist view of education to a more holistic view" (Quicke 1994, 249).

John Flavell, (1979) is known to be the first person who used the term metacognition when describing the control of the cognitive processes of knowledge, experience and regulation. According to Flavell (1979), both metacognitive knowledge and metacognitive experiences or regulation constitute the metacognition. Learners use their metacognitive knowledge which is defined as the acquired knowledge about cognitive processes to control their cognition. According to Pintrich (2002), metacognitive knowledge involves knowledge about cognition in general, as well as awareness of and knowledge about one's own cognition.

Anderson (2002) divides metacognition into five primary components: (1) preparing and planning for learning, (2) selecting and using learning strategies, (3) monitoring strategy use, (4) orchestrating various strategies, and (5) evaluating strategy use and learning.

Wenden (1987, 574) discusses three types of metacognitive knowledge; knowledge about person, knowledge about task, and knowledge about strategy. According to Dirkes (1985) learners use metacognitive strategies to relate prior knowledge to new knowledge, to choose cognitive strategies and to plan, monitor, and evaluate cognitive strategies. Metacognition can sometimes be further divided to subgroups such as meta-remembering, meta-understanding, self-regulation, and training and transferring schemata (Osman & Hannafin, 1992). Other descriptions have also emphasized the active control of metacognition over cognitive processes, including predicting, monitoring, coordination, and reality checking. Recent reviews of the literature have concluded that, at the least, metacognition is composed of metacognitive knowledge (knowledge of cognition) and metacognitive control processes (how one uses that knowledge to regulate cognition).

Learners in general use certain metacognitive strategies to control their cognition. The consensus regarding this control process is that it consists of three or four elements: awareness, planning, monitoring, and evaluation. In this case, it can be stated that in most cases metacognitive strategies deal with the awareness, planning, monitoring, and evaluation of learning activities.

In most of the learning environments, however, metacognitive strategies have generally been neglected and therefore satisfactory uses of these strategies have never been realized. Learners are rarely guided towards using metacognitive strategies and that is why they have never had the opportunity to control their cognition. They have never been asked to plan or evaluate their learning. Most of the learners are not even aware of what they have been studying or learning. For these reasons, learners need to be guided towards reflecting on their learning and using their metacognitive strategies to control and manage their cognition.

### *Aim of the Study*

The main of this study was to explore the activation process of metacognition through the analysis of learners' entries to Online Learning Logs (OLL) designed to activate metacognition and enhance the use of metacognitive strategies. The study also attempted to expose the learners' opinions concerning the effectiveness of Online Learning Logs.

### **Research Design**

Present study is a qualitative study aiming to investigate and reveal the activation process of metacognition. A class of students taking Advanced Reading course in the Department of English Language Teaching (ELT) was asked to reflect on their learning using Online Learning Logs.

### *Participants*

Twenty-five (18 female and 7 male) students who took Advanced Reading course in the department of ELT constituted the participants of the study.

### *Procedures*

The researcher explained students how they would reflect on their learning and write their comments about the lesson onto an Online Learning Log. They were fully guided on how to enter information onto OLLs. Students were also given structured guidelines concerning questions to consider before entering their views about the lesson.

### *Data collection tools*

Two main data collection tools were used to collect data for the study: Online Learning Logs and interviews.

### *Online Learning Log*

The researcher informed students that they would be using the internet to enter data onto their logs. A web site was designed and information about how to enter and use the OLLs was given. On the web site, participants were also informed about reflection, metacognition and learning logs. In addition, guidelines on how to use OLLs were given to students. The researcher presented an OLL session to students and answered all questions related to OLLs.

### *Interview*

At the end of the research, the participants were asked to comment on the effectiveness of OLLs. All interviews were recorded and then analyzed according to the purpose of the research.

### *Data Analysis*

Content analyses conducted to identify the metacognitive strategies used by students. First, statements about metacognition were detected. Later, they were further divided as metacognitive strategies expressing awareness, organisation, planning, monitoring and evaluation. For reliability, a second rater analyzed the same items and only those which matched were recorded as used strategies.

## **RESULTS and DISCUSSIONS**

Participants activated their metacognition and used the four main metacognitive strategies while writing in OLLs.

### *Awareness of learning*

As it can be seen from table 1, while writing in their OLLs participants reflected on their learning which resulted in the activation of their metacognition. Research participants were guided to consider issues related to their learning. All participants stated their own opinions on the topics studied in class. Majority of the participants (22 and 21) reacted to the topics studied in class and questioned the knowledge given in class. Equal number of participants (19) explained the reasons of not participating to the activities in class and expressed satisfaction to the whole lesson. Eighteen participants created examples to make information more meaningful. Over half of the participants (16) praised the instructional activities done in class. Fifteen participants revised the lesson in detail and twelve of them analyzed the knowledge/information given in class.

Almost half of the participants (11) talked about their previous educational experiences. Ten of the participants harmonized personal goals and learning and reacted positively to the content of the lesson. During this activation process, it was clearly observed that eight participants expressed satisfaction towards the methods and techniques used in class and gave some advice to themselves and/or to the instructor. Less than a quarter of the participants (6) gave reasons of not being able to understand the lesson and exalted the knowledge given in class. Four of the participants acknowledged the pleasure taken from learning, reacted negatively to the content of the lesson and stated their personal preferences and realities. Three of them talked about the incompetence of pairs or group members and criticized the interaction between the instructor and students. Finally, only two of the participants told that they deserved a higher mark, talked about the possibility of failing the course, apologized for not doing homework and tried to prove that the opinions agreed in class were false by giving personal reasons.

Table 1: Statements expressing Awareness of learning

Statements expressing Awareness of learning	N
Expressing own views about the topics studied in class	25
Reacting to the topics studied in class.	22
Questioning the knowledge given in class	21
Explaining the reasons of not participating to the activities in class	19
Expressing satisfaction to the whole lesson	19
Creating examples to make information more meaningful	18
Praising the instructional activities done in class	16
Revising the lesson in detail	15
Analyzing the knowledge/information given in class	12
Talking about previous educational experiences	11
Harmonizing personal goals and learning	10
Reacting positively to the content of the lesson	10
Expressing satisfaction towards the methods and techniques used in class	8
Giving advice to himself and/or to the instructor	8
Expressing opinions about his academic abilities	6
Giving reasons of not being able to understand the lesson	6
Exalting the knowledge given in class	6
Stating the pleasure taken from learning	4
Reacting negatively to the content of the lesson	4
Stating his personal preferences and realities	4
Talking about the incompetence of pairs or group members	3
Criticizing the interaction between the instructor and students	3
Telling that he deserves a higher mark	2
Talking about the possibility of failing the course	2
Apologizing for not doing homework	2
Trying to prove that the opinions agreed in class are false by giving personal reasons	2

### Organizing and planning learning

Content analysis of research participants' writings in the OLLs revealed that they organized and planned their own learning. As it can be seen from table 2, over half of the participants (16) made learning related promises. Fifteen participants made short-term plans for achievement and fourteen of them made learning related requests for themselves, their class or group. Almost half of the respondents (11) made requests concerning the content of the exam and changed their study strategies. Several participants (8) compared prior knowledge with new knowledge, seven of them made long-term plans for success and determined the time allocated for studying. Very few students (5) proposed solutions to learning related problems, made academic promises for the following semester (4), and made a promise that they would be successful at the examination (3).

Table 2: Statements about organizing and planning learning

Statements about organizing and planning learning	N
Making learning related promises	16
Making short-term plans for success	15
Making learning related requests for himself, his class or group.	14
Making requests concerning the content of the exam	11

Changing his study strategies	11
Comparing prior knowledge with new knowledge	8
Making long term plans for success	7
Determining the time allocated for studying	7
Proposing solutions to learning related problems	5
Making academic promises for the following semester	4
Making a promise that he will be successful at the examination	3

### Monitoring Learning

While writing into their OLLs , it was observed that the participants monitored their learning. Almost half of the participants (11) checked whether they have understood the information/knowledge given in class. Nine of the participants agreed with the information/knowledge given in class, analyzed learning related problems in detail and made social comparisons. Even number of participants (7) asked questions about exams, made inferences, and adapted instructional messages to themselves. Twenty percent of the participants (5) disagreed with the decisions/opinions made in class, restated the views discussed in class, related the events in stories to real events and stated the reasons of not being active in class / participating to the activities. Four of the participants stated that they liked the criticisms made in class, made cultural comparisons, related topics with their world views, gave examples to support certain discussions made in class and defended not being able to understand the lesson. Only three of the participants compared their principles with instructional activities. Finally, very few participants (2) requested different homework, requested more homework, asked questions about the curriculum, told what to do/ not to do in class, and expressed the reasons of not being able to concentrate to the lesson.

Table 3: Statements about monitoring learning

Statements about monitoring learning	N
Checking whether he has understood the information/knowledge given in class	11
Agreeing with the information/knowledge given in class	9
Analysing learning related problems in detail	9
Making social comparisons	9
Retelling the lesson in detail	8
Describing the studying strategies in detail	8
Asking questions about exams	7
Making inferences	7
Adapting instructional messages to himself	7
Disagreeing with the decisions/opinions made in class	5
Restating the views discussed in class	5
Relating the events in stories to real events	5
Stating the reasons of not being active in class / participating to the activities	5
Stating that he has liked the criticisms made in class	4
Making cultural comparisons	4
Relating topics with his world view	4
Giving examples to support certain discussions made in class	4
Justifying not being able understand the lesson	4
Comparing his principles with instructional activities	3
Requesting different homework	2
Requesting more homework	2
Asking questions about the curriculum	2
Telling what to do/ not to do in class	2
Expressing the reasons of not being able to concentrate to the lesson	2

### Evaluating Learning

Evaluating learning has been accepted as the fourth metacognitive strategy. Participants in their OLL's wrote a lot about

evaluation. The analyses of these statements are shown on table 4. According to these analyses, over half of the participants asked questions about the content of the lesson. More than thirty percent of the participants (8) retold the lesson in detail, criticized the previous learning experience and related the current events with the topics studied in class. Seven participants criticized themselves and six of them rejected the knowledge given in class, expressed views on not being able to understand the lesson, and criticized the instructional techniques used in class. In addition, a few participants criticized their academic abilities (5), supported the views agreed in class (4) analyzed the discussions made during the lesson (4), made negative comments on the methods and techniques used in class (4), and refused instructors' suggestions

Table 4: Statements expressing evaluation

<b>Statements expressing evaluation</b>	<b>N</b>
Asking questions about the content of the lesson	13
Retelling the lesson in detail	8
Criticizing the previous learning experience	8
Relating the current events with the topics studied in class	8
Criticizing himself	7
Rejecting the knowledge given in class	6
Expressing views on not being able to understand the lesson	6
Criticizing the instructional techniques used in class	6
Criticizing his academic abilities	5
Supporting the views agreed in class	4
Analysing the discussions made during the lesson	4
Making negative comments on the methods and techniques used in class	4
Refusing instructors' suggestions	2

#### *Participants' opinions on Online Learning Logs*

As it can be seen from table 5, participant generally had positive attitudes towards Online Learning Logs. Majority of the participants stated that they found it very useful (20). Fourteen participants agreed that OLLs enabled them to comment on the things they had learned and make promises about learning. Some participants wrote that OLLs were fun (14) and they liked them a lot (14). Almost half of the participants thought that OLLs enabled them to think on the things they had learned and think creatively. Eleven of them decided that OLLs enabled them to communicate with their instructor, have better and faster communication with their instructor, talk about their instructional problems, and think thoroughly. Ten participants felt that they were doing something very useful and through OLLs thought about the things they were not able to do in class. Several respondents(9) had the same opinion that OLLs enabled them to study the topics covered during the lesson , reflect on their learning , question the things they had learned , think better, understand what they had done during the lesson, and interact with the instructor. Eight participants stated that OLLs enabled them to make promises about the future and to express things easier. Seven participants believed that OLLs helped instructors to understand students' problems. Six participants agreed that OLLs enabled them to revise and remember the points covered during the lesson, learn computing and the internet, and new things. Twenty percent of the participants decided that OLLs enabled them to understand what they felt about the lesson, approach activities done in class differently, evaluate the lesson, express their thoughts, realize their feelings towards their classmates and improve interaction with their instructor. Four participants expressed that OLLs enabled them to communicate with their classmates and write about things they could not discuss orally with their instructor. A few of the participants agreed that OLLs enabled them to feel relieved (3), think about the previous events while writing what had happened during the lesson (3), give several messages (2), explain their comments to the instructor (2), reflect on the things they had learned in class (2), and connect real life with the lessons ( 2). It was very significant to observe that there were only two negative comments. Three participants believed that OLLs did not have any use and two believed that they were boring.

Table 5: Participants' opinions on Online Learning Logs

	<b>N</b>
<b>Opinions on Online Learning Logs</b>	
Very Useful	20
Enables you to comment on the things you have learned	15
Enables you to make promises about learning	14
It is fun	14
I liked it a lot	14
Enables you to think on the things you have learned	12
Enables you to think creatively	12
Enables you to communicate with your instructor	11
Enables you to have better and faster communication with your instructor	11

Enables you to talk about your instructional problems	11
Enables you to think thoroughly	11
You feel that you are doing something very useful	10
You think about the things you weren't able to do in class	10
Enables you to study the topics covered during the lesson	9
Enables you to reflect on your learning	9
Enables you to question the things you have learned	9
Helps you to think better	9
Enables you to understand what you have done during the lesson	9
Helps you to interact with the instructor	9
Enables you to make promises about the future	8
Enables you to express things easier	8
Help instructors to understand students' problems	7
Enables you to revise and remember the points covered during the lesson	6
Enables you to ask questions about the points you weren't able to ask in class	6
Enables you to learn computing and the internet	6
Enables you to learn new things	6
Enables you to understand what you feel about the lesson	5
Enables you to approach activities done in class differently	5
Enables you to evaluate the lesson	5
Enables you to improve interaction between your instructor	5
Enables you to express your thoughts	5
Enables you to realize your feelings towards your classmates	5
Enables you to communicate with your classmates	4
Enables you to write about things you cannot discuss orally with your instructor	4
Enables you to feel relieved	3
It does not have any use	3
Enables you think about the previous events while writing what have happened during the lesson	3
Enables you to give several messages	2
Enables you to explain your comments to the instructor	2
Enables you to reflect on the things you have learned in class	2
Enables you to connect real life with the lessons	2
I found it boring.	2

## CONCLUSIONS

Analyses of the findings revealed that participant were able to activate their metacognition through reflecting on their learning situations in class using their OLLs. By using their metacognition, they were actively involved in controlling their cognition. Most of the participants became fully aware of their learning, they knew what and why they had been studying certain topics. Results also indicated that research participants managed to organize and plan their learning. Findings clearly showed how participants attempted to monitor their own learning. During the monitoring stage, they were most of the time very analytical and inquisitive. It can also be observed from the findings that the research participants evaluated their learning by using their metacognition. They evaluated their lesson, classmates, instructor and themselves. The analyses of participants' opinions about OLL, revealed the effectiveness of the whole activation process. There were only two negative comments out of 47 about OLLs, the other comments were all positive and consequential because it demonstrated how functional and constructive the entire process was.

## RECOMMENDATIONS

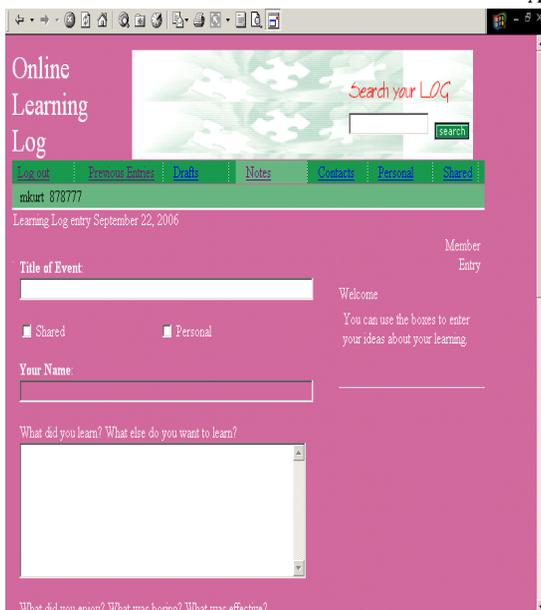
It should be noted that the OLLs proved to be very effective in activating metacognition of learners. The researcher,

therefore, believes that OLLs should be implemented and used in all necessary learning situations. It is also derived from the conclusions that metacognitive strategies are easily used by learners if there is an adequate amount of guidance and assistance. It is recommended then that these strategies be taught to learners at the earliest time. Finally, the researcher believes that further research should be conducted to seek whether there is any relationship between the conscious use of metacognitive strategies and achievement

## REFERENCES

- Anderson, N.J. (2002) The role of metacognition in second language learning. **Eric Digest**, EDO-FL-01-10.
- Dirkes, M. Ann. (1985, November). "Metacognition: Students in charge of their thinking." **Roeper Review**, 8(2), 96-100. EJ 329 760.
- Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), **The Nature of Intelligence** (pp.231-235). Hillsdale, N.J.: Lawrence Erlbaum.
- Osman, M. E., & Hannafin, M. J. (1992). Metacognition research and theory: Analysis and implications for instructional design. **Educational Technology, Research, and Discussion**, **40**, 83-99.
- Pintrich, P.R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. **Theory into Practice**, Autumn 2002.
- Pintrich, P. R. et al. (1996). Assessing metacognition and self-regulated learning. In G. Schraw (Ed.), **Metacognitive assessment**. Lincoln, NE: University of Nebraska Press.
- Quicke, R. 1994. Metacognition, pupil empowerment and the school context. **School Psychology International**, 15,3,247-60
- Van Gyn, G. H. (1996). Reflective practice: The needs of professions and the promise of cooperative education. **Journal of Cooperative Education**, 31, (2-3), 103-131.
- Von Glasersfeld, E. (1995). A constructivist approach to teaching. In L. Steffe & J. Gale (Eds.). (1995). **Constructivism in education**, (pp.3-16). New Jersey: Lawrence Erlbaum Associates, Inc.
- Wenden, A. (1987). Metacognition: an expanded view of the cognitive abilities of L2 learners. **Language learning**, 37 (4), 573-97.
- Williams, M. & Burden, R. L. ( 1997) **Psychology for language teachers: A social constructivist approach**. Cambridge: CUP.

Appendix 1: Online Learning Log



The screenshot shows a web browser window with a pink-themed interface. At the top left, it says "Online Learning Log". In the center, there is a search box with the text "Search your LOG" and a "search" button. Below this is a navigation bar with links for "Home", "Learning Log", "Notes", "Calendar", "Forum", and "Help". The user's name "mkurt 678777" is displayed. The main content area is titled "Learning Log entry September 22, 2006". It includes a "Title of Event" text box, a "Member Entry" section with a "Welcome" message and instructions: "You can use the boxes to enter your ideas about your learning." There are radio buttons for "Shared" and "Personal". Below that is a "Your Name" text box and a large text area for "What did you learn? What else do you want to learn?". At the bottom, there is a partially visible text area for "What did you enjoy? What was boring? What was effective?".

What did you learn? What else do you want to learn?

What did you enjoy? What was boring? What was effective?

What do you plan to do next?

Submit