



SHEIKHBAHAE UNIVERSITY

SCHOOL OF FOREIGN LANGUAGES

**Enhancing Reading Comprehension and Learner Autonomy
through Teacher- constructed vs. Cooperative Concept map**

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN
TEACHING ENGLISH AS A FOREIGN LANGUAGE

By

Zahra Mehranfar

Supervisor

Dr. Ahmad Alibabae

September 2013

IN THE NAME OF GOD

Sheikhbahaee University



School of Foreign Languages

Department of English

THIS IS TO CERTIFY THAT THE CONTENT, FORMAT AND QUALITY OF PRESENTATION OF THE THESIS
SUBMITTED BY

Zahra Mehranfar

ENTITLED:

**Enhancing Reading Comprehension and Learner Autonomy
through Teacher- constructed vs. Cooperative Concept map**

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF M.A. IN FOREIGN
LANGUAGE TEACHING IS ACCEPTED AND APPROVED BY THE THESIS COMMITTEE.

SUPERVISOR: DR. A. ALIBABAE.....

INTERNAL EXAMINER: DR. K. AFZALI.....

EXTERNAL EXAMINER: DR. G. R. ZAREI.....

DEAN OF GRADUATE SCHOOL: DR. S. M. H. FEIZ

DECLARATION

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text. This work has not been submitted for any other degree or professional qualification except as specified.

DEDICATION

*To my family
for their everlasting love and support
that cannot be put into words*

ACKNOWLEDGEMENTS

I would like to express my sincerest gratitude and appreciation to Dr. Ahmad Alibabae, my thesis supervisor, for all his invaluable assistance, motivation and suggestions.

I thank Almizan school administrators for allowing me to conduct my research; my dear colleague, Zari Ilchi, for her assistance in implementing the study, and students, for their participation.

I express my especial thanks to Dr. Reza Pishghadam, the associate professor at Ferdowsi University, for fulfilling my dream of continuing my study.

Table of Contents

Title	Page
CHAPTER ONE: INTRODUCTION	
1.1. Preliminaries	1
1.2. Statement of the problem.....	3
1.3. Research question	4
1.4. Significance of the study.....	4
1.5. Definitions of the key terms.....	5
CHAPTER TWO: LITERATURE REIVIEW	
2.1. Overview	7
2.2. Learning strategies	7
2.2.1. Reading strategies and metacognitive strategies.....	8
2.3. Concept map learning strategy.....	10
2.3.1. Underlying theories.....	10
2.3.1.1. Assimilation theory	10
2.3.1.2. Information processing theory	11
2.3.2. Philosophical background of concept mapping	12
2.3.3. Psychological foundations of concept mapping	13
2.4. How to construct a concept map?	13
2.4.1. Concept map models of reading	15
2.4.2. Concept map strategies	15
2.4.3. Concept map approaches	16
2.4.3.1. Teacher-constructed concept map.....	16
2.4.3.2. Learner-constructed concept map.....	17
2.4.3.3. Fill in the map concept map.....	17

2.4.3.4. Cooperative concept map.....	17
2.4.4. Computer-assisted concept map	18
2.5. Concept mapping and achievement	20
2.6. Concept mapping applications in educational settings	22
2.6.1. Concept map as an advance organizer	22
2.6.2. Concept map as an assessment tool	23
2.7. Concept mapping advantages in education.....	25
2.8. Learner Autonomy.....	26
2.8.1. Learner`s role in an autonomous class.....	27
2.8.2. Teacher`s role in an autonomous class	28
2.8.3. Autonomous classroom and cooperative learning	28
2.9. Concluding remarks	31

CHAPTER THREE: METHODOLOGY

3.1. Overview.....	32
3.2. Participants.....	32
3.3. Instrumentation	32
3.3.1. Reading comprehension test	32
3.3.2. Learner autonomy questionnaire.....	33
3.4. Procedure	33
3.4.1. Data collection	33
3.4.2. Data analysis	36
3.4.2.1. Scoring the data	36
3.4.2.1.1. Scoring the participants` performance on the RC test	36
3.4.2.1.2. Scoring the participants` perception of learner autonomy	36
3.4.2.2. Statistical procedure.....	36

CHAPTER FOUR: RESULT

4.1. Overview 37
4.2. The results of the analysis of the performances on the RC test 37
4.3. The results of the participants` perception of Learner Autonomy 42
4.4. Concluding remarks 47

CHAPTER FIVE: DISCUSSION AND CONCLUSION

5.1. Overview 48
5.2. Summary of the results 48
5.3. Discussions 49
5.4. Conclusion 53
5.5. Implications..... 54
5.6. Limitations of the study 55
5.7. Suggestions for further research 56

REFERENCES..... 57

APPENDICES 65

Appendix A. TOEFL reading comprehension pre/post test..... 65
Appendix B. Learner Autonomy questionnaire before the treatment..... 72
Appendix C. Learner Autonomy questionnaire after the treatment..... 74

List of Figures

Title	Page
Figure 2.1. A concept map that describes concept maps	14
Figure 2.2. Concept maps linking main concept to related nodes	15
Figure 2.3. Parking lot strategy on the left and string map on the right	16
Figure 2.4. Icons under the concepts provide links to resources	19
Figure 4.1. Graphical representation of the groups` performance on the RC pre and post tests	42
Figure 4.2. Graphical representation of the groups` perception of autonomy before and after the treatment	47

List of Tables

Title	Page
Table 4.1. Descriptive statistics for the groups` performances on the RC pre-test	37
Table 4.2. <i>t</i> -test results for the groups` performances on the RC pre-test	38
Table 4.3. Descriptive statistics for teacher-constructed group`s performance on the RC pre and post test	39
Table 4.4. <i>t</i> -test results for teacher-constructed group`s performance on the RC pre and post tests	39
Table 4.5. Descriptive statistics for cooperative group`s performance on the RC pre and post tests.....	40
Table 4.6. <i>t</i> -test results for cooperative group`s performance on the RC pre and post tests ...	40
Table 4.7. Descriptive statistics for the groups` performance on the RC post-test	41
Table 4.8. <i>t</i> -test results for the groups` performance on the RC post-test	41
Table 4.9. Descriptive statistics for the groups` perception of autonomy before the treatment	43
Table 4.10. <i>t</i> -test results for the groups` perception of autonomy before the treatment.....	43
Table 4.11. Descriptive statistics for teacher-constructed group`s perception of autonomy before and after the treatment	44
Table 4.12. <i>t</i> -test results for teacher-constructed group`s perception of autonomy before and after the treatment	44
Table 4.13. Descriptive statistics for cooperative group`s perception of autonomy before and after the treatment	45
Table 4.14. <i>t</i> -test results for cooperative group`s perception of autonomy before and after	

the treatment.....	45
Table 4.15. Descriptive statistics for the groups' perception of autonomy after the treatment	46
Table 4.16. <i>t</i> -test results for the groups` perception of autonomy after the treatment.....	46

Abbreviations

CM	Concept map
EFL	English as a foreign language
RC	Reading comprehension
ZPD	Zone of proximal development

Abstract

The purpose of this study was to compare the students` performance on teacher-constructed vs. cooperative concept map learning strategy on Iranian EFL learners` reading comprehension ability and learner autonomy. To this end, 60 Iranian EFL learners at pre-intermediate level of language proficiency were randomly assigned to two groups. Then, the two groups filled out a 38-item autonomy questionnaire and also took a 40-item pretest consisting of multiple-choice items assessing their knowledge of English reading comprehension ability. After that, one group received teacher-constructed instructions, whereas the other one received cooperative instructions. The experiment lasted for eight weeks, two one-hour sessions for each. Finally, the two groups were given the same questionnaire and test to see to what extent the two types of instructions had been effective in the learners` reading comprehension ability and also in their perception of learner autonomy. From the statistical analysis of the participants` performances it could be deduced that the cooperative group outperformed the other group on the test of reading comprehension significantly, but the result of the autonomy questionnaire did not show any significant difference across the two groups. The results suggest that concept map learning strategies make strategic learners who are meaning maker, and learn how to learn especially when they are working collaboratively. Training autonomous learners requires perhaps longer or different treatment.

CHAPTER ONE

INTRODUCTION

1.1. Preliminaries

The ability to read in a second language is considered to be an essential skill for academic learners, and it paves the way for independent language learning. Reader`s responsibility is not just having oral proficiency, looking at graphic symbols from left to right and decoding the printed symbols on a page; however, they should make sense of the written text (Carrell, Devine, & Eskey, 1988). Learners have to do something by reading which is deriving meaning (Novak & Gowin, 1984), and that is why reading is considered as an important skill for EFL learners. Creation of meaning is the ability to comprehend the text (Pressley, 2000) as the essence of reading (Durkin, 1993); moreover, comprehension needs relating new information to the known information (Antonacci, 1991; Pearson, Roehler, Dole, & Duffy, 1992; Pressley, 2000) which is against rote learning where no effort is done for this relationship (Ausubel, 1968; Mintzes, Wandersee, & Novak, 2000). Reading is an interactive process between the writer and the reader in which the reader construct the author`s intended meaning by activating previous knowledge (Grabe, 1991).

According to Pearson et al. (1992), reading causes cognitive processes that are developing a plan (strategy) to help learners in comprehending when reading words does not provide meaning by itself; therefore, students should explicitly be instructed strategies. Strategy instruction is rooted in the work of Pearson and his colleague in 1992 who studied the principles good readers follow and then sought ways to teach these rules to poor readers because any instructional strategy can move learning from being rote to meaningful (Novak & Gowin, 1984). Based on this idea, Novak and Gowin (1984) introduce concept map (CM) learning strategy that helps learners organize information through visual aids (Liu, Chen, & Chang, 2010), and motivate them to find

relationship between ideas (Sinatra & Pizzo, 1992); in addition, it is not just a graphic organizer, but a way to connect the text to a student's current knowledge and experience which reveals its connection with Ausubel's (1968) assimilation theory as Novak and Gowin (1984) demonstrate.

The idea is that learning takes place by assimilation of new concepts and propositions into existing concept propositional frameworks held by the learner. CM also stems from the information processing theory of learning (Zimmaro & Cawley, 1998). According to this theory, knowledge organization happens in a propositional framework, each individual's network is unique due to each person's unique experience, and propositional network is not fixed, as new information is learned, the network changes and more linkages are formed between concepts (Zimmaro & Cawley, 1998).

Soleimani & Nabizade (2012) introduce four approaches for CM, namely: teacher-constructed, learner-constructed, fill in the map, and cooperative CM. Novak and Gowin (1984) indicate that students who use their suggested strategy can take charge of their learning or in other words become autonomous. They also state that "CM can foster cooperation between student and teacher (or child and school) in a battle in which the monster to be conquered is meaningless of information and victory is shared meaning" (P.23). Ellis (2004) points out that graphic organizers empower learners to become strategic and independent which is the ultimate goal of teaching. Based on increasing cooperation and autonomy within using CM, advocates of cooperative learning (Preszler, 2004; Vygotsky, 1978) demonstrate that cooperative learning increases understanding by interaction with peers and bring success to their learning. The fact is that learners become more independent by learning from their peers (Jacob & Farrell, 2001) and according to Lowes and Target (1999), learners become more successful if they take responsibility for their own learning. When learners become autonomous, they learn how to learn which means becoming familiar with using appropriate strategies for their learning purposes (kumaravadelu, 2006).

Applying strategies facilitates language learning since strategic learners take charge of their own learning and gain favorable achievement. Even through cooperation considerable success will be gained. The present study took this assumption as its point of departure and hypothesized that implementation of teacher-constructed and cooperative CM learning strategy might facilitate

reading comprehension and autonomy which are one of the troublesome parts of English language learning.

1.2. Statement of the problem

In EFL contexts, the majority of EFL learners read the text word by word using translation procedure (Robb & Susser, 1989). While encountering a new word, they consult the dictionary for the meaning of the word which is a time-consuming activity. This reading behavior not only slows down their reading speeds, but also hinders their reading comprehension. In addition, their comprehension is measured by teaching traditional reading skills such as skimming, scanning, and inferencing. They are not familiar with the idea of constructing meaning from the text by using their prior knowledge. Moving from traditional reading programme which was teaching reading skills toward comprehension strategies which emphasize the role of strategies, prior knowledge, experience, and its connection with new knowledge will bring up confusion for learners especially young and EFL learners. Lack of exposure to people and events make it a difficult task for young learners to relate current information to their individual experience (Dolehanty, 2008). Moreover, many students are unaware of such strategies or use inappropriate ones, due to lack of strategy knowledge and limited time for reading instructions in classes (Dreyer & Nel, 2003).

As a cure, graphic organizers such as CM make difficult concepts easy to understand and help learners in extracting meaning from the texts (Gajria, Jitendra, Sood, & Sack, 2007). By using strategies learners are expected to move from being receptive to autonomous discoverer learners (Novak & Gowin, 1984), and can be responsible for their own learning and those with whom they interact; Interaction in small groups will bring autonomy (Jacob & Farrell, 2001). Jacob and Farrell also point out that collaboration with peers will cause independent learning, and students can get help from both peers and the teacher. However, for promoting cooperation, the appropriate atmosphere should be fostered (Sapon-Shevin, 1999; as cited in Jacob & Farrell, 2001) which is problematic in EFL environment where the teacher is seen as the authority and active role of the learner has been ignored (Littlewood, 2000). The studies on strategies and autonomy are still few for EFL learners whose learning is restricted to six hours a week in institutions. The current study investigates the effect of explicit teaching of CM learning strategy through two of its approaches (teacher-constructed CM and cooperative CM) on reading comprehension and learner autonomy.

1.3. Research question

As this research aimed at investigating the effect of teacher-constructed and cooperative CM learning strategy on learners` reading comprehension and autonomy, the following research question was formulated in this study:

1. Does learning through teacher-constructed concept map differ from cooperative concept map in terms of L2 learner`s reading comprehension and learner autonomy?

1.4. Significance of the study

The significance of this study is two-fold: theoretical and practical. From theoretical aspect it emphasizes Ausubel`s meaningful learning theory, and information processing theory. From practical view, it focuses on applying learning strategies in classes to provide strategic and consequently autonomous learners. English language plays an important role in academic success of every student due to the fact that most of the scientific texts are written in English. This makes it vital for students to have a good language proficiency to be able to use up to date resources. Researchers point out that there is a positive relationship between language proficiency and reading comprehension ability while reading comprehension ability relates to the use of appropriate strategies (Sheorey & Mokhtari, 2001). In Iran the most prevalent method of instruction for reading comprehension is traditional method which focuses on skills and questioning students about text content with little explicit attention to the strategic aspects of processing and comprehending text. It is suggested that by teaching learning strategies, autonomy will be brought to classes and learners become more independent and meaning maker (Mintzes, Wandersee, & Novak, 2000).

It is hoped that the present study will contribute to the learning and teaching of reading by applying CM to classes. Since CM assists learners in deriving meaning by making relations between concepts, it is considered as a tool for nourishing learners in becoming autonomous and strategic. Another contribution of CM is to facilitate collaborative learning (Magntorn & Hellden, 2006). Students learn autonomy faster by cooperative learning in which they interact with peers to gain better achievement (Murphy & Jacob, 2000). Positive interdependence is the feeling among

group members that they sink or swim together; In other words group members realize that one`s victory belongs to all members of the group and if one fails, all will suffer as well (Johnson & Johnson, 1994). Also findings of this study are significant in changing learners` habits from totally traditional, passive, and instructor-centered to an active, autonomous and cooperative-centered habit. According to Novak (2008), if CM be included as a section in exams, it will be necessary to teach it. Novak (2008) is hopeful that by the year 2061 this idea comes to pass. This study can help textbook writers and curriculum developers add some CMs to EFL textbooks in order to help students increase their awareness and use of CM learning strategy within teacher-constructed and cooperative CM approaches and finally become meaning builder and autonomous.

1.5. Definitions of the key terms

- **Concept map learning strategy**

Novak and Gowin (1984) define a concept as “perceived regularity in events or objects” which is shown in circles or boxes, and concept maps as intended to “represent meaningful relationships between concepts in the form of propositions. Propositions are two or more concept labels linked by words in a semantic unit” (Novak & Gowin, 1984, p.15).

- **Cooperative concept map learning strategy**

Cooperative concept map is drawn and completed in groups and causes better learning (Novak & Canas, 2007). This approach is rooted in social development theory of Vygotsky (1978) which emphasizes the fundamental role of social interaction in the process of cognitive development and finally leads to student`s independent solving problem.

- **Learner autonomy**

Learner autonomy has been introduced by Holec (1981) which means how students feel responsible for their own learning by making decision on their plans based on their needs. Its focus is on student-centered learning which emphasizes the learning context and cooperative learning

(Wang, 2010). The greatest way of implimenting autonomy in classes is teaching strategies which provide independent learning gradually (Littlewood, 2000).

- **Teacher-constructed concept map**

Teacher-constructed or expert-constructed map is the one which is prepared by the teacher before coming to class on the topic to serve as a guide or scaffold in learning (Novak & Canas, 2007).