

Pre-Service Primary School Teacher's Perceptions towards Teacher, Teaching and Learning from the Point of Constructivism

Ozlem Isik and Orhan Kumral

Faculty of Education, Pamukkale University, Denizli, 20070, Turkey

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ABSTRACT The aim of this study is to find out pre-service primary school teacher's perceptions which are related to teacher, teaching and learning concepts through metaphors and evaluating these perceptions from the point of constructivism. The participants for this study included 112 pre-service teachers who studied in the Department of Elementary Teaching at education faculty of a university in the Western Anatolia. This is a qualitative case study. The descriptive analysis technique was used to analyse and interpret the study data. According to the results of the study, the pre-service teachers' perceptions were gathered around the themes 'host' and 'guide' for the concept of teacher, 'giving directions' and 'to offer alternatives' for the concept of teaching and, 'learning is the goal' and 'learning the tool' for the concept of learning. According to the findings, it was reached that pre-service teachers attribute meanings which are much more suitable for behaviourism to the teacher, teaching and learning concepts.

INTRODUCTION

Paradigms are more specifically, in science, the model which determines the way the scientist sees the world and enables him to explain the phenomena can be stated as an ideal theory or as a conceptual framework (Cevizci 2005). Paradigms are models or world views which are generated in such a way that they can involve one or several theories in us and which guide and shape behaviors in a certain period of time (Ozden and Simsek 1998; Simsek and Yildirim 2013). As is known, philosophy which is accepted as the origin of sciences not only guides all sciences but also has brought a new perspective to educational sciences.

In the past, humanity who dealt with education in a different point of view, has taken advantage of different paradigms in order to put forth a goal oriented and of a better quality education with the help of the developments coming through the centuries and modernism. One of these paradigms is positivism and the other is constructivism. Behaviorism, which is a product of positivist philosophy, is used in the same mean-

ing as objectivism (Cinar et al. 2006). In objectivism, it is believed that there is a reliable knowledge concerning the world. For educators the objective is to transfer this knowledge in an exactly the same way and spread it: and for students the aim is to receive it without questioning. According to objectivism, all the teachers infer the same meaning from the knowledge that is transferred. In objectivist approach, lessons are instructed by teachers and they are based upon books. Teachers are the source of knowledge and their duty is to transfer this knowledge to the students word for word. Student receives what the teacher teaches in an exact way and repeats. Constructivism, on the other hand, has changed the way the school, the teacher and the learner are seen. The learner is not the one who receives the knowledge word for word, the teacher, also, is not a person who transfers the knowledge to the learner in an exactly the same way. According to Constructivism, knowledge is constructed and generated by the learner. As a result, structures are personal. It is not something that is received passively through our senses or through various communication channels; or something that is found in the external world (Acikgoz 2008).

The education system has been under discussion for long years. That the ongoing developments, continuously occurring in education, have changed many habits and require change in Turkey education system was taken into consideration so the scheme of primary education

Address for correspondence:
Dr. Orhan Kumral
Asst. Prof.
Faculty of Education
Pamukkale University
Denizli, 20070, Turkey
Telephone: +902582961158
E-mail: okumral@pau.edu.tr

was changed in 2005-2006 school year. The Ministry of Education worked out a new scheme which is based on behaviorist theory and which supports constructivist approach instead of a rote-learning based concept, and put it into effect (TTBK 2005). According to Gunes (2004) the goal of the scheme's being formed is that rapidly advancing science and technology affect each and every field of education and require drastic changes in educational approaches. In the information and technology age that we are in multiple intelligence and constructivist education approaches have come to the forefront. In the education process, with these approaches, instead of changing the behavior of students via teacher-centered perception, the focus is on developing the student's cognitive skills and constructing the information via student-centered perception. In this way the concept that places the teacher at the center, and that anticipates the transfer of knowledge to be linked to learning centered on the teacher, has changed. Instead a concept in which students plan their own learning, learn how to attain knowledge not the knowledge itself, has come into prominence.

According to Seferoglu and Akbiyik (2006) nowadays the most important objective of our education system which is based on constructivist approach is to educate individuals who can adapt to varying conditions, and who can think openly and flexibly. The transformation into constructivist concept dramatically changed the roles of the teachers and students. In traditional approach, the teacher is the only source and transmitter of knowledge and the student is the passive taker of the knowledge. The teacher is compelling, strict and restrictive in this role. The teacher takes the primary liability in the student's receiving and storing the necessary knowledge concerning the subject field in question. The teacher in such a condition is insufficient in providing psychological independence and confidence in the learning environment. However Brooks and Brooks (1993) as regards the constructivist education, highlight the teacher's duties in the learning environment in helping the students acquire skills such as: supporting students' autonomy and entrepreneurship, directing them to subjects which foster their curiosity and interest by encouraging them to ask questions and skills like comparison, relating, classifying, analyzing, predicting, creating and discovering (Dikici and Tezci 2003).

In Turkey, from 2005-2006 school years on a lot of effort has been made to educate pre-ser-

vice teachers who can adapt to constructivist approach, who can guide individuals in accordance with the target concept. The pre-service teachers who are receiving higher education have completed their primary and high education in accordance with the behaviorist approach. For constructivism to be applied in an effective and useful way in educational institutions, teachers should be trained in terms of this approach during their pre-service education. According to Ozden and Sim'ek (1998) it is in vain to expect a pre-service teacher who has not experienced constructivist learning during his pre-service education to exhibit behavior relevant to constructivist learning paradigm in his classroom. In this article effort has been made for primary school pre-service teachers to reveal their point of constructivism view regarding "teacher", "teaching" and "learning" concepts via metaphor use.

According to TDK dictionary (2014), the word metaphor means is explained as a word used in another sense than its own meaning due to a relation or a comparison, using a word or a concept as to have different meanings other than conventional one. When it used a metaphor, a conceptual statement is expressed by another conceptual statement, and is grounded on concurrent connections within who experience (Kovecses 2002; Lakoff and Johnson 2005). Evaluation of pre-service teachers' viewpoint of these concepts' compatibility to constructivist paradigm is essential in terms of understanding whether the pre-service teachers who will be a part of National Education System internalize constructivism or not; and in terms of detecting, beforehand, how successful the educational programs, shaped by constructivist concept, is as regards the application of the concept. Therefore, in this study, it is aimed to evaluate the pre-service primary school teachers' concordance, who are candidates to be practitioners of the education program shaped by a constructivist concept, to the constructivist concept, and it is aimed to reveal the meanings they attribute to the teacher, teaching and learning concepts by way of the metaphors they use.

METHODOLOGY

The Design of the Research

The research is a qualitative study and is designed with a case study. The case which that processes, individuals, environment, incidents

are researched with an integrative approach and how they affect the related case, and how they are affected by the related case are emphasized and that can be used when the behaviors of those who participated in the studies cannot be controlled, and when the focus of the study is to answer the questions how and why (Yin 2003; Yildirim and Simsek 2013; Yilmaz 2014). The attitude of the pre-service primary school teachers, who study at the primary teaching department in Faculty of Education and who receive education relevant to constructivist concept, toward teacher, teaching, learning concepts are dealt with as a case. Hence the study can be qualified as an entwined single-case (Yin 2003) design.

Participants

The study group of the study includes 112 students who study at the class teaching department in faculty of education of a university which is in the Western Anatolia in 2010-2012 school years. In this study, 16 participants, who were elected equally from all class levels, were interviewed personally on a voluntary basis. 96 participants, however, were applied a structured form made up of open-ended questions. Participants are shown in Table 1.

Table 1: The study group of the research

Gender	Grade			
	Grade 1	Grade 2	Grade 3	Grade 4
Female	15	22	23	15
Male	9	8	10	10

Data and Analysis

Data were collected in two ways in this study: (1) In order to reveal the metaphoric perceptions of the pre-service primary teachers who participated in the study, have regarding the learning, teaching, teacher concepts; a structured form, on which there are open-ended questions asking them to complete sentences “teacher is like a...because...”, “teaching is like a...because...”, “learning is like a... because...”, was distributed and data were collected. (2) A semi-structured interview form was prepared for this study and was used in the interviews.

For evaluating the data collected in this study, “descriptive analysis technique” which is a technique of the qualitative research method, was used. In the data analysis process, first,

a list of metaphors, formed by the participants was made. The forms that did not involve any metaphoric image, the forms in which there was an explanation instead of a metaphor, and the forms that were left blank were sorted out. Then, valid forms and interviews were given numbers. In this process, participants, who filled the structured form in the findings section of the research, are signed as (P). Participants who were interviewed individually were signed as (IP). In the second stage, the metaphors, which were formed by the participants, were studied in terms of common points and were attempted to be categorized. These sub-categories were combined under a certain theme, taking into consideration the common features once again. In the last stage, these were analyzed according to constructivist approach principle, with the reasons presented during the formation of metaphors and explanations made taken into account.

Validity and Reliability

According to Karasar (2008), validity is related to whether the questions in the assessment instrument represent the desired field or not and whether they are suitable to assessment purpose or not. In the study, in order to ensure internal validity, pre interviews and pre applications were made. Mistakes were corrected, evaluating the process in the interview and the structured form. Next, forms, which had been prepared, were used as a data collection tool. In a qualitative study, in order to improve validity, it is required to have detailed field recordings, to keep sound and video recordings, to take pictures, to quote from the participants and to make these quotations without any addition (Büyüköztürk et al. 2013). And in order to ensure validity, data collecting, analysis stages, how the interviews were made and how they are recorded were explained in detail, and there was an effort to attain validity by directly quoting from the interviews where necessary and thus bringing the authenticity factor to the forefront. In the study, data was collected by recording the interviews using a recorder. These interviews lasted 8 hours in total and 43 pages of raw data were attained from the interviews.

FINDINGS

Metaphoric Perceptions Related to the Concept of “Teacher”

Participants were used 115 metaphors related to the teacher concept. These metaphors were

grouped in 9 sub-categories, 2 main themes were formed out of these categories. Data regarding metaphors used, categories and themes formed are shown in Table 2.

When the Table 2 is analyzed, the participants focused more on the theme of the host that reflects behaviorist paradigm. These participants regard the teacher as the source of the knowledge, the center of exactness and as a person who makes sacrifices for his students.

A teacher is like water, if you do not water the garden, it wýll not turn green. That is to say the student wýll not prosper. When you give lots of information, he wýll prosper a lot; when you give little information, he will fade (P-64). The head mechanic teaches the particulars of the craft and his assistant performs it in that way.

Similarly, the teacher is the one who will lead the students to be sensitive to the things he determines, and who will lead them to the people as he wishes and they will follow. (P-3) the teacher saves the students from ignorance by teaching them things and he cures the society just like a hospital. (P-93)

Metaphoric Perceptions Related to the Concept of "Teaching"

Participants were used 96 metaphors related to the concept of teaching. These metaphors were grouped under 6 sub-categories, 2 main themes were attained from these categories. Data regarding metaphors used, categories and themes formed are shown in Table 3.

Table 2: Metaphoric perceptions related to the concept of teacher

Themes	Sub-categories	Metaphors
Host	The source of the knowledge and transmitter	Car, data traveller, cook, computer, day and night, spoon, green grocer, Car, data traveller, cook, computer, day and night, spoon, green grocer, encyclopedia, light, candle, window, farmer, water, fruit tree, spring water, sky, sea
	Altruist	Snowdrop, the state, candle, mother, river bank, torch, ivy, ant
	Lead	Traffic sign, driver, ship's captain, guide, head mechanic, light, traffic light, maestro, resource funder, coach, sun
	Shrew	Animal trainer, bad music, winter, lion, bully
	Formative	Baker, sculptor, water, cook, parent, actress
Guide	Beneficiary	Miner, gardener, glasses, redbull, rose, hospital, green plants
	Lead	Guide, the person who gives directions, flashlight, candle, compass, light house, road map, mate
	Versatile	Library, piano, surprise scorer, noise coming from inside, fruit nappy, heart
	One that gives a point of view	Revolutionist, window

Table 3: Metaphoric perceptions related to the concept of teaching

Themes	Sub-categories	Metaphors
Giving Directions	Transferring data	Feeding, data transfer from computer to memory stick, cycle, using a pencil, cargo ship, to breathe, to pass on experience, a tree's yielding fruit, touch game, to take someone to a match of Fenerbahçe, information exchange, water supply, saving someone who is drowning, life, clown, reading a book, sharing, being satisfied, bestowing a treasure, becoming beautiful, a magic wand, watering, master-apprentice
	Nurturing	A mum's breastfeeding her baby, nursing, growing flowers, an apple, development, a seed, a baby, a tree, gardening being a dynamo, sacrifice, patience, winter, none, a sacred duty, labour
	Molding	Taming a lion, sculptor, a water pan, maymunluktan cýkarmak, a robot, a mirror, embroidery, building a house, painting
	Enlightening Being happy	To shed light on darkness, The Sun, to give out light, a torch, to shine spring, a flower blossoming in spring, a job that is done with pleasure, funfair, to be an artist
To Offer Alternatives	Leading	Compass, basketball coach, doing shopping in the bazaar, selecting Stones to put into the bag, to unlock, a computer, pasturing the sheep, learning, abitation, a way, effective speaking, freedom
	Meeting the needs	To fill the glass, a cook's presenting the meal, orchestra, music, a gardener, eating, farming, sea, to emit light, rainbow

When the Table 3 is analyzed, the participants focused more on the giving directions theme which reflects the behaviorist paradigm. It can be asserted that pre-service teachers regard the teaching concept as transferring knowledge to the student and educating them.

Teaching is like the touch game. In the game, everybody touches each other and switch the "mother"-status of the game. Knowledge, by the same token, is transferred from a person to the other. (I.P.-8) Teaching is like a magic wand. The teacher gives the fund of knowledge that he wants to transfer by way of teaching and realizes this. (P-68) Teaching is like enlightening. A person who does not know anything or does not have any information on a certain subject is in the dark concerning that subject, and when the teacher teaches this to the student, he is enlightened, he, somewhat, comes out of darkness. (P-17)

Metaphoric Perceptions Related to the Concept of "Learning"

Participants were used 107 metaphors related to learning concept. These metaphors were

grouped under 7 sub-categories, 2 main themes were attained from these categories. Data regarding metaphors used, categories and themes formed are shown in Table 4.

When the Table 4 is analysed, the participants centered on the theme "learning is the goal" which reflects behaviorist paradigm. It can be stated that the pre-service teachers regard the learning concept as knowledge acquisition, enlightenment and as a need.

Learning is like an apple tree. Even if you learn a little, still, you water the tree. Too much knowledge is knowing too much. (P-58) Learning is like the sunrise, because a person without knowledge is in the dark, he is enlightened as he learns. (P-27) Learning is like baby food. Students are nourished when they acquire knowledge. (P-71)

The themes in this study finding represent the behaviorist approach and represent constructivist approach. Data regarding themes formed are shown in Table 5.

When the Table 5 is analyzed, the themes "host", "giving directions" and "learning is the goal" represent the behaviorist approach; while the themes "guide", "offering alternatives" and

Table 4: Metaphoric perceptions related to the concept of learning

Themes	Sub-categories	Metaphors
Learning is the Goal	Knowledge acquisition	The root of a tree, fueling the car up, transfer from the memory stick, a book, bearing, acculturation, growing up, leafing, finding a treasure, to receive light, seize the day, sapling, spring, drinking water, a technological devise with a receiver on, a computer, baby food, an apple tree
	Accumulation of knowledge	To carve the mould, to save the information, an unpaid bill, to fill an empty jar, to carry a bag, water filling in the storage, to fill in the glass, racking up in a competition, to satisfy hunger, a book, beam of light, a building, pomegranate, to get stronger
	To be moulded	A seed, folklore, flower, to wear a dress, ethics, model, to mold dough, a cloud, a tree
	Light	Sunrise, dark room, nature, spring, light
	Need	water, bread, feeling hunger, meal, toast, painkiller, Sun, fruits
Learnings Tool	Effort	bought from bazaar, air, water, to breathe, legs of the table To swim against the current, love, life, labyrinth, do a jigsaw puzzle, to hold fire, go up a high building, liver saute, discovery, 1 lira, iron, effort, running
	Life	Seasons, life, to be, reading a fun book, a long journey, music, eternity, to live, diet

Table 5: Main themes attained regarding the concepts of "teacher", "teaching" and "learning"

Paradigm	Concepts		
	Teacher	Teaching	Learning
Behaviorist	Hostn =93(81%)	Giving directionsn=73 (76%)	Learning is the goaln=57 (53%)
Constructivist	Guiden=22(19%)	To offer alternativesn=23 (24%)	Learning is tooln=50, (47%)

“learning is tool” represent constructivist approach. As the teacher concept “host”, as the teaching concept “giving directions” and as the learning concept “learning is the goal” are mostly perceived themes. The themes in the behaviorist approach involve metaphors in which the teacher leads the student to the right way and in which acquiring knowledge is an end, whereas the themes in the constructivist approach involve metaphors in which the teacher guides the student, offers alternatives and it involves metaphors in which learning processes are used to structure knowledge.

Evaluation of Perceptions Related to the Concepts “Teacher”, “Teaching” and “Learning” in Terms of Constructivist Approach

The principles that Glathorn set out (1994) as the basic learning principles (Saban, 2004a) of the constructivist theory are simplified within the scope of their common points, the metaphors formed by the participants were evaluated in the light of these principles in terms of constructivist approach.

1. Learning is not a Passive Take-in process, But an Active Meaning Formation Process. It is a Re-construction of Earlier Understandings of Individuals

That learning is not a take in of knowledge as it is, but it is structured by the student is a prominent view in constructivist approach. In the constructivist education process, individuals who are learning, construct recent data and understanding on the previous data as a consequence of real-life experiences. They change their previous concepts or reconstruct them. We see that the participants perceive knowledge acquisition as a passive act.

Learning is like data transfer from a memory stick. The student can learn something by inserting the memory stick into the computer whenever he needs. For instance, the student learns something when he goes to school. He can acquire knowledge and learn when he wants to; in this sense, the student can learn if he directs attention during the lesson, if he does not, he cannot. Similarly if he does not insert the memory stick he cannot get anything (I.P.-3).

2. Learning is Subjective and Student-centered. Personal expectations, Motivation and Personal Development are Important

Constructivist approach is student-centered. Activities are designed in accordance with the student’s interests. The teacher is a guide in this process. The teacher’s being the authority in class, his ignoring student’s needs do not comply with constructivism.

We can compare the teacher to a lion tamer in that the lion tamer tries to elicit the desired behaviors by using punishment and reward in order to make those animals perform the show. Learning is the taming of the lion tamer. Because the teachers as well manage this process using punishment and reward to teach something to the students just like the lion tamer does to teach what he wishes to. (I.P.-1)

3. Learning is social. Learning Improves Thanks to Interactions with Others and It Is Related to Real Life

Learning is social in constructivist approach. An individual who is learning can get help from his mother, his father, his teacher, from an adult or a peer when dealing with the problems of life. Here, help is not to tell what to do or not to do to an individual; but to offer opportunities to him, and guide him in the learning process.

Learning is like a plant’s growing. When learning is in question, only one thing is not enough, there must be enough water, enough soil... All of them are as they should be, water, soil, they are all elements that generate learning. A student who is learning...First he is a seed for the flower to blossom. And for example, that seed can be a student in the process of learning. Learning starts with the student. Then, be it its water or its photosynthesis, sunshine, soil, its branching out, learning’s branching out... The one who looks after it is the gardener. Learning is possible with the help of others as it cannot be achieved all alone (P-4).

4. Learning is continuous. It Does Not Start and End in One Certain Place and Time

In constructivist approach learning is continuous. It cannot be achieved without the individual. A person structures data in his mind by means of the experiences he goes through as

long as he lives. This process does not start and end in a certain time. The idea that states if knowledge is not repeated, it will be lost and then retrieved again later on do not comply with the constructivist approach.

Learning is like leafing. Natures have a balance in itself. For instance sun rises. The sun always rises, it is necessary for humans, or for nature, for the trees in nature, for all kinds of living things. I compare the teacher to the sun. if we think of a tree as a student, that tree leafs out by means of the sun. Towards autumn, a tree turns yellow. It can be seen in this way; knowledge acquired from the teacher fades and is lost if it is not repeated, and as learning is continuous, it is learned again when the sun rises once more (I.P.-7).

DISCUSSION

It can be seen that the metaphors which were formed by pre-service primary teachers regarding the teacher concept were intensively perceived as "the source of knowledge and the transmitter" category. The other categories that were formed related to this concept were designated as "altruist, the lead, shrewd, formative, beneficiary, guide, versatile, the one that gives a point of view". In the study of Eren and Tekinaslan (2013), too, the teacher concept was regarded as affectionate and compassionate; as the source of knowledge and as a guide. In the study of Aydın and Pehlivan (2010) carried out with pre-service Turkish teachers, also, % 48 of the participants regard the teacher as the source of knowledge. The pre-service Turkish teacher having a generative and formant perception, also, complies with the formative category in the study. In the studies conducted by Saban (2004b), Yılmaz, Gokcen and Yılmaz (2013) in collaboration with pre-service primary teachers, the categories "source of knowledge", "formative" and "guide" are in the forefront. In the study which Cerit conducted (2008), it is similarly clear that the teacher is the source of knowledge and the transmitter, a parent, a friend, a guide and a person who enlightens his community. Moreover, in these researches, similar to the study, it has been concluded that the education which pre-service teachers received connected to their past livings, does not have the characteristics to direct them to modern education concept; and that the pre-service teachers have rather traditional perceptions. According to Saban (2002) the pre-

service teachers who get into education faculties, bring along their personal attitudes which they develop regarding concepts such as learning, teaching and school, depending on experiences they gained from their teachers with whom they are in communication and in interaction and who had different characters in their school years. The participants' regarding the teacher as a lion tamer or a bully can tell us how big is the effect of the teachers they encountered with in their lives before education faculty on their perceptions.

In the study, metaphors related to teaching concept concentrated on the "transferring knowledge" category. Other categories formed regarding this concept are "nurturing, molding, enlightening, to be happy, to lead and to meet the needs". Categories "to be happy" and "to lead" in the teaching concept comply with the categories "happy time" and "a constructivist process" in Eren's and Tekinaslan's study (2013). As to the study conducted by Shaw and Mahlios, (2008) themes "nourishing" and "guiding" were attained related to the teaching concept. These themes bear a resemblance to the categories "nurturing" and "leading" in the study. We see that metaphors related to learning concept concentrated at the categories "need" and "knowledge acquisition". The other categories formed related to this concept are designated as "accumulation of knowledge", "to be moulded", "light", "effort" and "life". While in Eren's and Tekinaslan's study (2013) the sub categories "a tough and inquisitive process" and "human need" were formed, the prominent perceptions "knowledge acquisition" and "transferring knowledge" are not involved in the study.

When metaphors that make up the perceptions "knowledge acquisition and accumulation" related to the learning concept, and "knowledge transfer" perception related to the teaching concept and their rational foundations are studied, the knowledge being ready and its being transferred from the teacher to the student in an exactly the same way come into question. In the research Martinez, Saulea and Huber conducted (2001), experienced teachers' and pre-service teachers' metaphors related to learning and teaching concepts were compared in terms of constructivism. According to this research, while the metaphors of pre-service teachers related to constructivism has the percentage of 56%, the metaphors of experienced teachers in a constructivist perception has the percentage of 38%. Furthermore, 22 percent of the metaphors formed

by the pre-service teachers are based on behaviorist approach, while 57 percent of experienced teachers are observed to be more inclined to behaviorist approach. In this research, however, according to the metaphors formed related to teaching and learning concepts, it was concluded that they were closer to the behaviorist approach with the percentages of 76% and 53%. If we take into consideration that the other study was conducted in 2001, in spite of the time gap, it can be observed that the pre-service teachers we educated are closer to perceptions related to the behaviorist approach than to the perceptions related to the constructivist approach.

CONCLUSION

It has been concluded that, in this study in which metaphoric perceptions of pre-service primary teachers related to teacher, teaching and learning concepts are analyzed in terms of constructivist approach, pre-service teachers are closer to the perceptions related to behaviorist approach, and that they cannot internalize it although they have theoretical knowledge concerning the constructivist approach, or they do not prefer the constructivist paradigm when defining these concepts. In addition, it has been made clear that it is rather difficult to change the perceptions and attitudes developed on account of past experiences. It has been observed that the studentship experiences of pre-service teachers in their own education life have left a mark on the pre-service teachers' perceptions regarding behaviorist approach.

RECOMMENDATIONS

In line with these results, it may be suggested that the programs be reformed in such a way that the pre-service primary teachers who are intended to conduct education activities in the light of constructivist approach, can internalize constructivism all through their education. Moreover, though there are studies devoted to the teacher concept, there are only a few studies devoted to the learning concept. It is suggestible that more research be done devoted to these concepts as it will create coherence in the studies.

NOTE

This study is produced from the master thesis under the second author's supervision.

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