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Roles of parents in enhancing children's creative thinking skills[1]

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Abstract

Since creative thinking is an essential requirement in today's societies, educational institutions have to make some reforms in order to prepare next generation according to the needs of the societies such as giving more emphasis on creative thinking. The main aims of this paper are to reveal the parents' opinions about the creative thinking skills, to teach parents the meaning of creative thinking, and to teach parents to create home environments that enhance creative thinking skills. A combination of qualitative and quantitative methods was employed. Pretest- posttest experimental design was used and qualitative data were collected by an open-ended questionnaire. A 10-hour parent education seminar was used as an intervention for the experimental group. The participants of the research were 80 parents (40 parents in the experimental group, 40 parents in the control group) from a primary school in Ankara, Turkey. Content analysis was applied to analyze the qualitative data. The pretest results have indicated that there were no differences between parents groups according to the knowledge level about the creative thinking. According to posttest results, the knowledge levels of parents in the experimental group who were given 10-hour parent education seminar were increased. However, the knowledge levels of the parents who have not given any education in the control group, were remained the same. Besides, experimental group parents have more information about creating home environments that enhance creativity rather than control group parents. According to the findings, parents' perspectives in the experimental group on the creative thinking skills have changed after the parent education seminar. However, the perspectives of the parent in the control group have not changed.

Keywords: Creative Thinking Skills, Parent Education, Pretest- Posttest Design, Qualitative Research.

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1. INTRODUCTION

As an indispensable life skill in the 21st century, creativity has a very important role in individual growth of a child (Sefton-Green 1999). The importance of some skills that were vital in the past decreased; creative thinking is one of the necessary skills to adapt today's and future's world. Now societies require individuals having problem solving, multi-faceted thinking, well-communicating, and creative thinking skills (Burris & Garton 2006; Kaptan 1999; Richardson 2003; Temizkan & Bağcı 2008; Yıldırım 2006). Creative thinking is seen as characteristics of the employability (Creative Partnerships, 2009; Department for Culture, Media, and Sports [DCMS], 2001; Florida & Goodnight, 2005). Most employers expect individuals to have creative thinking and problem solving skills. Individuals need to be prepared completely with new technologies and changing career opportunities. In all areas of life, creative thinking skills have incredibly vital role.

Although one of the purposes of education systems is to educate citizens who acquire creative and critical thinking skills (Temizkan & Bağcı 2008), many educators suffer from their student's lack of creative thinking skills. In addition to this, most of the parents do not aware of the meaning of creative thinking skills. Therefore, it is necessary to increase the awareness of parents and teachers about creative thinking skills. The educational institutions that responsible for educating members of the community have a lot of reform in their curricula in order to meet the needs of society and business. Although there is no agreement on the definition of creativity and creative thinking skills, almost everyone agreed that one of the most important requirements of our age is creative thinking.

Aim of the study

The aim of this study was to scrutinize the knowledge levels of parents on creative thinking skills and on creating home environments that enhance creativity. In addition, this study aimed to test the effects of parent education program on the knowledge levels of parents. The following questions were guided the data collection and data analysis process in this study:

1. What do parents know about creative thinking?
2. What do parents know how to develop creative thinking skills?
3. What do parents know about creating home environments that enhance creativity?

The results of this study may facilitate parents better understand how they provide home environment that encourage creative thinking and may help them to participate in their children's education.

Taneri, O. P. (2012). Roles of parents in enhancing children's creative thinking skills. *International Journal of Human Sciences* [Online]. (9)2, 91- 108.

2. LITERATURE REVIEW

What is creative thinking, what is not?

There are many definitions of creativity and creative thinking. These terms has been described in a variety of ways. Creativity is defined as a deliberate process, in every human being to a certain extent of creativity. Creativity is valued when the created product is useful, original and unique (Ford & Harris, 1992). Creativity is a means of thinking, acting or making something that is unique for the human being (Mayesky 1998). The common point of these definitions is that creative thinking refers to the process of thinking about ideas or situations in an imaginative and unusual manner so as to comprehend these ideas or situations better and to respond them in new and constructive ways (Martin, Craft & Tillema 2002; Thacker, 1990). Creativity is deliberate process and every human being has a certain extent of creativity. Many researchers agree that creativity can be change and develop through an ongoing process, thus it can be learned (Ford & Harris 1992). Creative thinking skills are not inherent characteristics; they can be taught and developed by providing appropriate learning environments that reveal the creativity of the student (Craft 2000, Lovless 2002; Odabaşı 2004). Creative thinking requires people to look at things from new perspectives and to put information, notions and principles together in novel and innovative ways. Creative thinking can be supported by developing a unique set of thinking skills such as problem solving, analyzing, criticizing, and inquiring skills.

Most of the people think that creativity is related solely or mainly artistic or musical talent (Brzeziński 1993). Similarly, parents thought that creativity is peculiar to the genious, artistic, and talented people. However, researches showed that every child have creative potential and capable of creative expression. Craft (2010) claims that creativity is not subject specific, it is appears distinctly in different subjects. Creative thinking skills can be integrated into various subject areas (Wiles & Bondi, 1980). In many societies the need for people having creative thinking skills is increasing in all areas especially in advertisement, arts, and business (Baucus, Norton, Baucus, & Human, 2008; Dewett 2007; Florida 2002, 2005; Florida & Tinagli 2004; Halbesleben, Novicevic, Harvey & Buckley 2003; Lambropoulos & Kampylis 2009; Roberts 2006).

How and when creative thinking skills develop?

There is a body of research that emphasized the importance of the early childhood period on the development of creativity (Calvert & Vilson 2010; Lowenfeld & Brittain 1975; Mumford & Gustasfer 1988; Root-Bernsteins 2004). This is consistent with past researches on creative imagination development of children. Torrance (1963) and Fein (1981) suggested that the development of imaginative play makes its peak during the preschool years (between ages 5 to 7).

Similarly, Mumford and Gustasfer (1988) claimed that creative thinking skills began to develop around age 5 or 6 years. Calvert and Vilson (2010) maintained that early imagination is the basic building blocks of creativity, childhood experiences are the determinants of creativity and problem solving skills of adulthood. In the same way, Root-Bernsteins (2004) claimed that the early developments of imagination are gives an idea about the adult thinking.

Many researchers advocate that education enhances creativity of children; especially the pre-school and early childhood education help to develop creative plays of children (Bellin & Singer 2006; Johnson, Christie & Wardle 2005; Singer & Singer 2005; Singer & Lhycott 2002). On the contrary, according to Meador (1992), creativity of children begins to decline when they start school. This view does not mean that education reduces creativity, but it indicates the inadequacy of the methods used in education to develop creative thinking skills of children. Kemple and Nissenberg (2000) asserted that a few of the questions asked by teachers encourage students to think creatively. Parents and teachers focus on student performance in exams rather than creative thinking skills. Singer and Singer (2002)'s study also supports this view that imaginative play declines after the age of seven, since then school performance becomes higher priority in the children's life.

For that reason, fundamental changes in the education and examination system are necessary. In order to recognize children's creativity, adults should focus on cognitive process instead of only the achievement scores of children (Malaguzzi 1993). Therefore, adults should keep in mind that creativity is different from the intelligence types that usually measured in education (Tegano, Moran & Sawyers 1991).

Although preschool period is critical for the development of children' creativity, many children do not attend a regular pre-school education, especially in countries where pre-school education is not compulsory. Therefore, attitudes and behaviors of parents have a crucial role in the development of creativity of children, especially in pre-school period (Kemple & Nissenberg 2000).

The Importance of Creative Thinking in Curriculum Reform Movements

Creativity as an essential life skill has the potential to solve a variety of social, political, and economic problems. Thus, education systems should support and develop creativity (Burnard & White, 2008; Craft, 1999). Today the emphasis of instruction, in many countries, is to move teaching strategies, classroom discipline, and classroom assessments from teacher-centered instruction to the student-centered instruction (Bednar, Cunningham, Duffy & Perry 1995; Brown 2003; Dick 1995; Knobloch 2002; Korthagen 2005; Lake 1998; Shoemaker 1989; Rowland 1995). The student-centered approach helps students to think about the content creatively and critically

(Perkins 1994). At present, improving creative thinking skills of students is considered as an important aim of education. Many country have been reformed their education systems that emphasize the creative and critical thinking skills (e.g. Turkey, Greece, People Republic China, Finland, Australia).

Today, primary education is intended not only to teach reading and writing skills to individuals, but to help them assess considerable amounts of information, think both critically and creatively, solve complex problems and communicate effectively (Taneri 2010). The primary education curricula in Turkey accentuate skills such as critical thinking, creative thinking, communication, problem-solving, research, and decision-making (Curriculum Review Commission 2005). The Ministry of National Education (MONE) has realized several major curriculum revisions for elementary education in Turkey. In the 2004-2005 academic year, a curriculum reform was undertaken as part of a comprehensive education reform designed to ensure student-centered education for all in line with the Turkish education system's stated aim of training well-skilled, productive and creative individuals prepared for the information age (MONE 2005).

Well planned curriculum and effective instruction techniques are not enough to teach the students creative thinking skills. Although the primary education curricula propose to enhance creative thinking skills of students, teachers have to focus on basic knowledge and skill training due to exam-oriented education in Turkey. Education is not limited to the school; several environmental factors, especially the family environment, can have a powerful impact on the academic achievement and success of the children. Therefore, parental support is necessary and vital to teach creative thinking skills to the students.

Adults influences on the development of creative thinking skills

The cognitive processes required to develop creative thinking skills are the same all people, but some individulas are more creative than others. This differences seems to related to the characteristics, experiences, knowledge, attitudes and interests of individuals. According to Ornstein and Levine (2008) families are considered as the primary socializing institution. Children's tendencies are manipulated by the adults around them (Anning & Ring 2004); parents and teachers can enhance or impede children's creativity. Brzeziński (1993) claimed that parental beliefs have a great impact on children's creative skills. If parents recognize their children's potential, they would contribute to the development of these skills by register the child to the art classes, or encourage the child's problem solving and problem finding labors more than usual. Creative individuals are thought to come from families that offering a suitable environment for the development of mental abilities (Mumford & Gustasfer 1988).

In order to develop creative thinking skills of students, teachers should be enthusiastic, and they should support parents to participate in improving creativity of students. Additionally, families reflect the function and aims of the educational institutions. Effective parental support includes some key features such as approving, praising, helping, cooperating, encouraging, and showing physical and verbal affection (Barber & Thomas 1986).

Although parents have an inevitable role to encourage children's creativity, there are some obstacles that impede parents to contribute to their children's creativity growth. For instance, parents have little or no knowledge of the games, rhymes, toys, songs, home environment, stories, household goods, and parental attitudes in developing children's creativity (Jayatilaka, 2010). Moreover, parents and teachers find it difficult to notice their children's creativity. Some of the behaviors of creative people—such as unconventionality, impatience, difficult to control, inappropriateness, and unusual viewpoint—are frowned upon by society (Shapero 1991). Besides, parents and teachers match negative behaviors such as disobedience, rebelliousness, with creativity. Since parents and teachers want to bring up compliant, obedient, polite, compassionate children, they would ignore their children's original ideas (Brzeziński, 1993). The questions should be asked that whether parents really want more creative children and whether they are prepared to live with them. First of all those misconceptions and negative attitudes of parents on creative thinking and creative people should changed and then they taught their roles in developing creativity. The parents need to recognize the fact that education not occurs only in the classroom anymore; children can learn at home, in the street, shopping and so on. For that reason, parents should learn to see each environment and situation as a learning opportunity for their child. To achieve this, first, parents need to know what creative thinking is and then learn how to develop creative thinking skills. In addition, the interaction between teachers and parents has a great influence on creating an effective educational environment (Sabancı, 2009) and students' achievement (Esa, Razzaq, Yasak, & Omar, 2010; Coleman, 2009). Moreover, if their parents actively participate in their education, students perform better (Barton & Coley, 1992; Yan & Lin, 2005).

Besides, as a way of parental involvement, encouraging home environments is more essential than the family's income, education level, or cultural background (Bokhorst-Heng, 2008). However, parents are unfamiliar with the ways that help to develop creative thinking skills and how to participate appropriately in their children's education. According to Brzeziński (1993) when parents dismiss creativity and they would not interact with children with the intention of promoting creativity. The development and improvement of creative thinking skills requires that parents have more knowledge. Therefore, the schools should support parents to learn the meaning and importance of creative thinking and to create proper home environments that improve creative

thinking skills. There has been extensive research focusing on the role of education in promoting creativity, on parent teacher interaction, but very little research has been done on the effects of parents on promoting creative thinking skills. Consequently, the main purpose of this study is to investigate the opinions of parents on creative thinking skills and on creating home environments that increase creativity.

3. METHODOLOGY

A combination of qualitative and quantitative methods was employed (Patton, 1990). This study targets on 80 parents as research objects, uses an open-ended parents' opinion questionnaire (POQ) as research tools, and adopts the design of pretest and posttest to collect data and make content analysis. The research results indicate that during the 10-hour session, the knowledge levels of the experimental group parents take part in the parent education program increased.

Participants

80 parents who have a child at first grade were participated to this study. Participants were grouped as experimental groups and as control groups. All participants were asked to complete a questionnaire to reveal their opinions about creative thinking skills. Then, the parents in the experimental group were given a-10 hour seminar about creative thinking skills and the same questionnaire was administered to two parents groups again.

Demographic findings show that all participants were female and housewives. The average age of parents was 32. The demographic findings show that most of the parents had primary and secondary school education. Most parents had completed primary school (K-5) (n = 44, 55%) or graduated from elementary school (6-8) (n =19, 24%). Very few parents have been graduated from high school (n = 15, 19%) or college (n = 2, 3%).

Table 1. Parents' education levels

Level of Education	*N*	*%*
Primary School (K-5)	44	55
Secondary School (6-8)	19	24
High School	15	19
College	2	3

Content of the 10-hour Parent Education Seminar

The seminar consists of the following topics: definition of creativity and creative thinking; importance of creativity; incorrect assumptions about creative thinking; teaching creative thinking; importance of parent support; parent involvement in education; and creating home environments to encourage creativity. During the seminars, education levels of the parents were considered, and the topics were explained when necessary by giving concrete examples. At the end of each session as an assessment the parents were asked to share ideas about simple questions and/or about the session.

Data Collection and Analysis

As a data collection tool, the researcher developed an instrument consisting of two parts. First part was consisted of 3 questions related to demographics and personal aspects. The second part was included 5 open-ended questions. Since there were no statistical tests to manage the validity and reliability of qualitative studies, the interpretation of the written answers that excerpt from open-ended questionnaire were crucial. In this study, to make certain the trustworthiness, the researcher puts aside her fixed views about parents' knowledge and returns to the participants to ascertain whether the interpretations were correctly reflected their knowledge. This study includes detailed demographic and situational descriptions to increase the transferability (or external validity) of this research. This study addressed the following areas of ethical concern: protection of participants from harm (physical and psychological), prevention of deception, protection of privacy and informed consent. In ensuring confidentiality the private data that identifies participants were not reported. Furthermore, the names of the participants were not recorded and during the pretest parents were asked to choose a symbol for themselves and to draw on their questionnaire form. Parents were asked to draw the same symbol on their post test questionnaires. The data were collected during 2008-2009 academic year by the researcher.

The data gathered were subject to descriptive statistical analysis procedures and document analyses. In order to summarize the demographic characteristics, descriptive statistics were used. The answers of the open-ended questions were coded and analyzed by discriminating patterns and constantly comparing incidents to the codes to help establish clearly defined categories (Miles & Huberman, 1994; Bazeley, 2007). The codes that revealed from the written responses of the participants on the pretest and posttest questionnaires were compared in relation to the parents' group (experimental or control).

The extent of this research was limited the data collected from one public primary school in Ankara. Moreover, this study was limited to the data collected from 80 parents having a child at

Taneri, O. P. (2012). Roles of parents in enhancing children's creative thinking skills. *International Journal of Human Sciences* [Online]. (9)2, 91- 108.

public primary school. For this reason, it can be said that the study is limited to a small group of parents that makes it difficult to generalize the results in different groups of parents in other cities.

4. RESULTS

The results revealed that most of the parents had wrong assumptions about creativity, creative thinking skills, and the prominent characteristics of creative individuals. According to the pre-test results, there was not a significant difference between knowledge levels of parents in control group and those of parents in experimental group about creative thinking skills. As it clear from the results, before the seminars parents believe that creative thinking skills peculiar to genius, intelligent, smart, successful individuals. Moreover, parents thought that creativity requires to achieve difficult things that nobody manage before. Some of the parents look through a religious windows; they mixed up God's creativity and creative thinking skills. The following quotations show the parents opinions about creative thinking before 10-hour seminar:

> *I think only geniuses have creative thinking skills. (Blue Rose-Pretest-Exp. Group).*

> *Creative thinkers can easily manage or overcome difficult things. (White Tulip-Pretest-Exp. Group).*

> *Creativity means intelligence. Namely intelligent people are creative. Creative people innovates many things. (Two Star-Pretest-Control Group).*

> *Only God can create something from nothing. Children can not create, but I think they can produce something. (Crescent- Pretest-Control Group).*

The results showed that the experimental group illustrated noteworthy gains on both creative thinking skills and creating home environments versus the control groups. That is, parents' views changed considerably after the seminars. It can be understand from the following quotations, parents in experiment group recognize the meaning of creative thinking skills.

> *Not only have the geniuses had creative thinking skills. In my opinion all children can be taught creativity. Children can be provided opportunities at home to be creative. The school is not the only place to enhance creativity. (Blue Rose-Posttest-Exp. Group).*

Taneri, O. P. (2012). Roles of parents in enhancing children's creative thinking skills. *International Journal of Human Sciences* [Online]. (9)2, 91- 108.

> *In my opinion creativity is not to do difficult things, but to think in a different manner… Thus, in the home parents must not become annoyed with the stupid or nonsense questions of the children. (White Tulip- Posttest-Exp. Group).*

In contrast, opinions of the control group parents on the creative thinking skills remained the same. Results revealed that parents who did not participate in seminars thought that creativity is a skill that only the genius people have. This result is also supported by the following quotations:

> *In my opinion intelligent people are more creative than others. They invented a lot of thing. (Two Star-Posttest-Control Group).*

> *Creativity belongs to God, it is not a skill taught at the school or home. (Crescent- Posttest-Control Group).*

It can be concluded that the awareness of parents about the creative thinking skills was increased after parents were given a seminar. The results also revealed that knowledge levels of experimental group parents were further than those of control group parents in relation to creating home environments to encourage child's creative thinking skills.

The results revealed that the question "What kind of home environments encourage creative thinking skills", has been left unanswered by most parents in both groups. Examined responses revealed that almost none of the parents knew how to change home environment in order to enhance creative thinking skills. In addition, most of the parents thought that helping the child's homework, purchasing various toys, and books, and letting children free when playing games are adequate to encourage children's creativity. Similar to this finding, some parents stated that television viewing and computer games have an effect on the improvement of children's creative thinking skills. It can be concluded that parents' views about producing home environments that encourages children's creative thinking skills were almost identical to the control and experimental groups according to the pre-test results. The following quotations taken from pretest responses illustrate these findings:

> *I have no idea how to create a home environment. (The Sun-Pretest-Exp. Group.*

Taneri, O. P. (2012). Roles of parents in enhancing children's creative thinking skills. *International Journal of Human Sciences* [Online]. (9)2, 91- 108.

Computer games and Internet pages allow my child to think creatively. (Purple round-Pretest-Exp. Group).

…need to buy plenty of books. (Three Star- Pretest-Exp. Group).

My kids usually play games on the street, and they watch television at home. I help my children do their homework at home. (Two Star-Pretest-Control Group).

I would often help my daughter's homework. My daughter helps me with housework. We do not do anything else. (Green Apple- Pretest-Control Group).

The posttest results revealed that there are significant differences between parents' responses on this question. Parents in experimental group became aware of the importance of home environment on the development of children's creativity. Most of the parents who attended the 10 hour-seminar realized the importance of spending more time with their children. Moreover, after the seminar, awareness of parents about the impact of toys on children's creativity was increased. That is, parents' preferences about toys, which they purchase for their children, have changed; parents wanted their children to play with less structured toys, such as puzzle, Lego, and play dough. They realized even household goods can be used as a toy to promote children's creativity. Results showed that parents begun to realize how to deal with their children's unusual opinions as well. That is, parents learned to be patient against their children's questions. In addition, parents get detailed information about thinking provoking activities such as brainstorming. Parents realized that excessive rule making would limit their children's creativity; on the contrary tolerating the unusual behavior of the children would increase it. According to parents, by giving children more responsibility, they will facilitate children's develop self-confidence and take risk. These results can be seen more clearly the following quotations:

First of all, you as a parent need to learn to tolerate your child's questions. Then, you need to start answering the question of children's questions patiently. Besides, you do not restrict your child by being too prescriptive. Giving more responsibility at home makes my son confident. (The Sun-Posttest-Exp. Group).

Taneri, O. P. (2012). Roles of parents in enhancing children's creative thinking skills. *International Journal of Human Sciences* [Online]. (9)2, 91- 108.

When we reduced the time to use computers, television, electronic toy, my child thinks more creative… now I see everything in the house as an educational tool. (Purple round- Posttest-Exp. Group).

I do not feel any worries any longer when my child changes the heroes of the stories, add new events or characters in a well known folk tale. I let him to make mixture of cartoons, books, and even real events, like a fable soup. Brainstorming, asking interesting questions, playing with puzzles, Lego, and play dough can be useful. (Three Star- Posttest-Exp. Group).

I remove some phrases from my daily conversation, such as "what a stupid idea this", "nonsense", "it is impossible", "be a good child." I believe in blue strawberries anymore… I mean the less rule you make, the more your child be creative… I will be careful when I purchase new toys. (White Tulip- Posttest-Exp. Group).

On the contrary, opinions of parents who did not participate in the seminars about generating home environments that supports children's creative thinking skills remained the same. That is, the parents still believe in that to help children's homework is would be enough to promote creativity. The following quotations exemplify this finding:

"I help my children's homework, especially the projects that require cutting and pasting papers." (Two Star-Posttest-Control Group).

"I try to spend time with my daughter at home. I usually help her homework. She sometimes helps me preparing dinner. I hardly meddle with my daughter's games."(Green Apple-Posttest-Control Group).

It can be concluded that the 10-hour parent education seminar was very functional for parents to learn the ways of generating home environments that promote creative thinking skills.

5. CONCLUSIONS

This study was an attempt to investigate the knowledge levels of parents on creative thinking skills and on creating home environments that improve children's creativity. Additionally, in order to examine the effects of 10 hour- parent education seminar on the knowledge levels of parents, pretest- posttest experimental design was used. It should be noted that there is a significant body

of research that argues that creative and critical thinking skills are essential part of curricula today (Baucus et al, 2008; Burris & Garton, 2006; Dewett, 2007; Halbezleben et al, 2003; Kaptan, 1999; Richardson, 2003; Temizkan & Bağcı, 2008; Yıldırım, 2006). In actual practice, little efforts have been made toward the development of these skills.

The results of this study demonstrate that the parents were unfamiliar with the definition of creativity, characteristics of creative people and the meaning of creative thinking skills. This finding is in accord with previous research showing that recognizing children's creativity is quite a difficult for parents and teachers (Brzeziński, 1993).

The results also suggests that after attending the seminar parents comprehend that creative thinking skills is not inherent characteristics; it can be taught and developed in various ways. This result is consistent with Ford and Harris' (1992) findings because they stated that creativity can alter and expand throughout the life and a continuing process, thus it can be learned. Similarly, Craft (2000), Lovless (2002) and Odabaşı (2004) maintained that creative thinking skills can be taught and increased by on condition that fitting learning environments that reveal the creativity of the student.

This study suggests that if parents' incorrect assumptions about creativity, creative people, and creative thinking skills are removed their attitudes would change; they would try to find ways of promoting their children's creative thinking skills. Brzeziński (1993) stated similar view that if parents get rid of the wrong ideas about creative thinking, they would try to improve it.

According to the results of this study, before the seminars held many of the parents were unfamiliar with the ways that help to develop creative thinking skills and how to participate appropriately in their children's education. As pointed out by Brzeziński (1993) and may others, the progress of creative thinking skills depends on parents' attitudes. If parents did not notice their children's creative thinking skills, they would not act together with children with the intention of encouraging creativity. The opposite of this thought is also accurate.

As the results revealed that after attending the seminar parents become aware of that developing children's creative thinking skills is not only schools' responsibility. The findings also indicates that parents who attended the 10 hour-seminar thought that the more time they spend with their child, the more occasions they have to identify their children's creative thinking skills. Many researchers affirmed that children would be more successful if their parents enthusiastically engage in their education (Barton & Coley, 1992; Yan & Lin, 2005). These researchers simply tried to disclose the importance of parental involvement, but Bokhorst-Heng (2008)'s results clearly explained that encouraging home environments as a method of parent participation is vital promoting children's creative thinking skills.

After the seminar, awareness of parents about the effects of the toys on the children's creativity increased. Parents indicated that preferences about their children' toys have changed; parents wanted their children to play with less structured and can be configured toys that can promote creative thinking skills. They realized even household goods can be used as a toy to promote children's creativity. Levin (1998) also supports this finding that highly structured toys decrease children's creativity and often increase violence in children's play.

The findings also suggest that parents before the seminar did not know how to create appropriate home environments that enhance creative thinking skills. This is consistent with the research of Jayatilaka (2010), which identifies that parents have lack of knowledge about the affects of home environment, types of toys and games, household goods, and parent children interaction on children's creative thinking skills.

The results of this study suggest that parents believe that reducing television viewing and computer play times of children is a way of promoting children's creative thinking skills. This finding is in harmony with the researches of Childs (1979), Petterson, Peterson, & Caroll (1987), Harrison and Williams (1986) and Valkenburg (2001) they claimed that viewing more television reduces creative thinking skills and imaginative plays. The question of whether and how technological equipments affects children's creativity and imagination has been argued. On the one hand, technological developments are believed to make people's lives easy, but they prevent children from developing creative thinking skills. They claimed that television viewing hinders imaginative play and creativity. On the other hand, although, television viewing is believed to produce a passive intelligence and to reduce imaginative capacities, there is enthusiasm about educational television viewing that fosters children's creative thinking skills (Valkenburg 1999; Valkenburg & van der Voort, 1994; van der Voort & Valkenburg 1994). According to Anderson et al. (2001), viewing educational television programs may increase creativity. Therefore, there is no precise information on television viewing stimulates children's imaginative play or creative thinking skills (Childs 1979; Petterson et al.1987; Zuckerman, Singer & Singer 1980).

The finding of this study also shows continuing educational attempts of the researcher to explain parents the meaning of creative thinking and to teach the parents the way of creating home environments in which children develop creative thinking skills. According to the results, the parent education seminar has a great influence on knowledge levels of parents. It can be concluded that the education seminar of parents was effective. No matter how well the curriculum planned it cannot be reach full success without parental support. Since the success of students in the school is affected by parent involvement, teachers who want to increase the parent involvement try to

arrange seminars for the parents and to get rid of cultural differences between the home and school environments.

This study demonstrated that both the emotional and physical environment of home can contribute to the improvement of creative thinking skills. When the parents are aware of the effects of toys, equipments, games and activities on children's creative thinking skills, they can easily create 'creativity-developer' home environments. In addition, they can understand the impact of asking questions on children creativity and can learn to look from a different perspective to 'silly', 'childish', and 'nonsense' questions of the children.

Several issues came up in this study relating to methodology and participants that may be important for future research. In terms of methodology, this study represents an attempt in which the researcher made use of both qualitative and quantitative data analysis. It is hoped that the reader will gain some sense of how qualitative and quantitative data analysis may be used for further study. Future directions for research include investigation of the changes on the students' creative thinking skills after their parents create creative home environments.

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