

## Hidden Curriculum Contributing to Social Production-Reproduction in a Math Classroom

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### ABSTRACT

Many proponents of current Western societies tend to act as if social reproduction was not adequately managed by families and should be taken care of by schooling. Curriculum makers ask about "knowledge is for whom" by meaning hidden curriculum. If knowledge is for some people, curricula need to educate productive people in society. This ethnographic study aims to address that in what extent social reproduction is created as an academic knowledge via hidden curriculum in math class, and what teacher does to transmit the social reproduction to the academic learning situations in classroom. The effectiveness of teacher factor on creating a productive classroom environment and social production are the lower dimensions of the problem statement. The study was conducted in the natural classroom environment of fourth-grade math in an elementary school in a small town located in the mid-west region of USA. The results of the study prove that curricular and extracurricular activities are mostly circled by the imposition of a cultural arbitrary. Besides, an elementary math classroom allows the students to be shaped by the culture and the disappearing social patterns more than expected.

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Social production, social reproduction, hidden curriculum, elementary school mathematics, curriculum implementation.

### Introduction

Production and social reproduction are relevant terms creating "the content and the view of education" in a society. Social production requires both mental and physical work and entails "culture" having the necessities, material objects, and the production of symbols, the ordering and evaluations of objects. A society's conditions under which the production continues are produced during social production at the same time (Lundgren, 1983). Lundgren defined "social reproduction" as the reproducing processes of the existing material and existing culture base. The transmission processes by means of which culture is reproduced and transmitted to the next generation is carried out in socialization and instruction processes. However, it is understood that social reproduction would be created by teaching politically, not just with designing brochures, giving assignments, grading on papers, chatting with or listening to students, and organizing the classroom's physical environment, which includes sitting arrangement. In practice, the social reproduction is constituted in classrooms by teachers via hidden curriculum. This relationship among hidden curriculum and social reproduction was emphasized from the viewpoint of Miller's functionalist perspective by Gair and Mullins (2001) by considering the relationship of a necessary element of social reproduction. They highlighted the essential integrative and inculcating function of hidden curriculum on students with desirable values. The power of desirable values is inevitable in our daily life as well.

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Accordingly, teachers' effective use of hidden curriculum would be as using the desirable values in classroom such as giving some examples or playing some games including these values.

The learning conditions of hidden curriculum are mass products-learning conditions for all or even most learners in that ambiance. For example, a picture on the wall put by teacher has a purpose and belongs to the hidden curriculum in that classroom or school. Eisenhart (1977) defined "the working on school" many years ago by drawing a regular classroom picture. He indeed did a very realistic definition by talking about the physical setting of the classroom with design, material available, chairs of children in clusters or rows being directed by an adult toward readily identifiable tasks such as reading, writing, and mathematics (in LeCompte, 1978). Although Eisenhart's definition of school work was done many years ago, it hasn't changed a lot. Our school system is still based on identifiable tasks such as mathematics, science and technology, literature etc.

Apple (1971) assumes that hidden curriculum posits a lot of internalized assumptions by students that establishes the boundaries of legitimacy as well as serving to reinforce basic rules surrounding the nature of conflict and its uses. All the statements in a classroom are compulsory for the students since at no time are their potency is enlarged. However, not all students simply absorb the hidden curriculum and some students often creatively act to control their school environment and in fact, they explicitly reject the norms of obedience, respect for authority and so on (Apple 1980/81; cited in Gordon 1983).

Commonly, hidden curriculum is used as a means of classroom management by many teachers. This task is supported by LeCompte. She (1978) asserted that "hidden curriculum" is embodied in teacher's classroom management approach including some certain rules. She classifies the classroom management rules in five behaviors such as; do what the teacher says, live up to teacher expectations for proper behavior, keep busy, keep quiet and don't move too much and obey the schedule.

### **Social/cultural reproduction supported by hidden curriculum**

The school's culture, values and ethos become more and more important concepts in order to accumulate not only the cognitive sides of the "microcosm", but also the affective outcomes (Dewey, 1916). Dewey's awareness about the importance of values and school culture still maintain its importance.

Lynch (1989) emphasized the role of schools as the places, in which the state must ensure that the conditions necessary for capital accumulation are reproduced. Also, the political survival of elected state managers is contingent on ensuring that the democratic demands of civil society are accommodated within the school system. Even it seems that civil society determines their democratic demands, this is not common in the underdeveloped and developing countries. Because the civil society is not effective as governments in these kinds of countries, people have to learn what the state curriculum wants through schools. Actually, knowledge, norm and value transmission occur between teacher and students during the implementation of formal curriculum in classroom. However, teachers can interpret the curriculum by using daily knowledge and provide their students some opportunities to discuss the knowledge for helping their socialization.

Since socialization began in a family social reproduction could be better handled by families. Indeed families can transmit values that the nation curricula are unable to further. However, pedagogic responsibility in a society causes more likely to cultural reproduction. In general pedagogic responsibility would be thought with compulsory education together. Compulsory education meant not only subordination as regards the common values and knowledge of society, but also subordination to the values and knowledge of the dominating social stratum (Lundgren, 1983). How does compulsory education produce cultural values? In this sense Bloom's (1972) credit to the hidden curriculum versus the obvious one can help us understand the role of compulsory education on producing values. He asserts that the hidden curriculum is in many respects likely to be more effective than the manifest curriculum (cited in Gordon, 1983).

Schools are not the only institutions in charge of social reproduction (and sometimes one may wonder if they are really successfully meeting that task).

Using clarity language approach to schooling is often concerned with showing how the hidden curriculum of schooling reproduces the dominant relations of the workplace (Apple, 1979; Bowles & Gintis, 1976), how patriarchal relations articulate between the world of work and the organization of the school labor force, or how the production and circulation of textbooks is largely governed by the principles of political economy (Apple, 1988b; in Giroux, 1992). In the study, these kinds of relations were seen in the patterns used in conversations between the teacher and students.

The meaning and orientation of meaning in classrooms need to be understood for application of hidden curriculum as well as the importance of language use. Hoadley's (2005) understanding about "the orientation to meaning" focused on understanding the difference of students' performance in school, which is related to the social class background by taking into account Bernstein's means about how it is that students enter the school differently positioned to succeed and how the school reproduces these differences. Orientation of meaning refers to the transmission and acquisition of more context-independent and more context-dependent meanings (Hoadley, 2005). Context-dependent meaning is imposed on students via textbooks. Apple (2008) emphasizes the using of textbooks by estimated 80-90% of teachers in their classrooms as a primary curricular device and their homework assignments as "textbook-centered" (Finn & Ravitch, 2005; in Apple, 2008). Then, it is highly possible to see some patterns of hidden curriculum in textbooks having simultaneously economic, political, and cultural texts used by teachers as means of producing social reproduction. Accordingly, the use of hidden curriculum in textbooks is seen in this article clearly.

In the light of all related literature, the article contributes to the discussion about how teacher can use hidden curriculum in the course of producing social reproduction in an elementary math classroom. Specifically, the research question is shaped as; in what extent hidden curriculum is used by teachers in classroom environment as means of curriculum devices. In the research, the hidden curriculum is described within the scope of classroom environment, teacher behavior, talk and patterns in the textbooks. It is also interested in whether the activities cause to social/ cultural reproduction.

## Method

### Research Design

This qualitative study method including observation, field notes, interview and analyzing of documents is used as the main research approach, because the study includes the detailed reason and way of outcome as well as the definition, place and time of study. In qualitative studies, smaller and detailed samples may give us more detailed information instead of large and sketchy samples. Field notes written in situ and away from the situation contain many clues of hypothesis and the results of observations (Cohen, Manion, and Morrison, 2009). Since the study's purpose is to describe, to understand and to explain a specific situation from multiple perspectives subjectively by focusing on perceptions and the views of participants in their natural environment, the design of study is ethnographic. Some sample parts from the textbook and workbook are also used for data collection. Documents and records have the attraction of being always available, often at low cost, and being factual (Lincoln and Guba, 1985; in Cohen, Manion and Morrison, 2009).

**Participants and the physical conditions in the study.** The students in fourth-grade classroom, 20 students in total as 12 boys and 8 girls, and their teacher volunteered for this study. The children in the classroom come from working class families. So, they have similar socioeconomic and cultural background except one student. This student is Spanish with her cultural background and native language.

The study was performed in an elementary school in a little town of Midwest part of USA for two months between November and December. Although the classroom teacher taught between 8:15 am and 3.00 pm, mathematics course took place 50 minutes daily in a school program. Seeing few soldiers in the hallway is an interesting detail about the school environment. To the extracted knowledge from the informal

interview with third grade teacher, these soldiers were in the school to help for some school activities, such as organization of some papers and put them in teacher boxes.

The classroom has a box in the corner having many living mice. Another sample having habitat is located in the entrance part of classroom. The instructional representations and the diagrams appeal to the students' visual qualities about teacher's instructional goals about mathematics, science, literacy, etc. Each box on each table named as check account box is used for controlling the students' academic and ethical behaviors. That is, it is used for a classroom management tool. The teacher marked the students with plus (+) on the check account cards when they did a good job; conversely she marked them with minus (-) when they fail to perform the course requirements or to act well.

## **Data Collection**

The teacher's interactions with the students in class time observation and the context supported with the exercises are considered during the data collection by following the ethnographic research approach. This methodology requires the researcher's immersion in the culture or subculture under study. Although the data featured in this article come from the direct classroom observations, it was not possible to be involved in whole class culture except math because of the limited observation time. However, during the observation time, sometimes the researcher was involved in the class culture by checking the students' work. Additionally, the customary actions, the patterns reflecting beliefs, culture, knowledge, the students' attitudes and the teacher are already focused elements. The data are embellished with informal conversations and the interview with teacher. The textbooks, workbooks and samples of children's work are used as resources including some hints to see implementation of hidden curriculum and to understand how hidden curriculum has an effect on producing sociality in an elementary school classroom.

The observations were performed eight times with a cycle of two times in a week. The observation time was equal to the course time, that is, each observation period was around fifty minutes. The field notes and interview with the teacher are the data collecting ways. The impressions from daily classroom activities, textbook, workbook and student tasks such as doing seatwork exercises, answering teacher's questions may include many hints of implementation of hidden curriculum. Especially, the subtle role of textbooks in schooling is inevitable (Apple, 1986).

## **Data Analysis**

The primary data consist of field notes extracted from the observations. The observations include the talk and other interactions such as behaviors, signs and gestures. The teacher's meanings and the interactions in the classroom are made "visible" and therefore observable through the field notes in the observations.

By following two modes of definitions of hidden curriculum about deliberate and unplanned influence in classroom, the way of learning situations are described from two perspectives; A conscious, deliberate influence associated with the manifest or formal curriculum and an unconscious influence associated with the hidden curriculum (Gordon, 1982). During the conscious activities, teacher prefers to apply the visible side of curriculum content by using the examples from the textbooks and the workbooks or managing the interactions in the classroom. Whereas, the same teacher would use unconscious activities including unintended behaviors, gestures, silent symbols-wallpapers, pictures, statues, working corners or working materials-and the social/cultural symbols such as: rituals, musical patterns etc., used in the classroom communication during implementation of invisible side of the curriculum.

The difference between the conscious and unconscious activities of teacher is categorized for being able to see the productivity patterns. Also, the main cultural patters, material objects and symbols are highlighted and defined by differentiating the conscious and unconscious activities. In the classroom, cultural patterns include language, such as; nursery rhyme and stories, food habits, celebration traditions, and their reflections on the textbook. Also, the physical arrangement of classroom is considered for defining the

cultural patterns. The importance of the physical environment has remarked in many studies on hidden curriculum (Apple, 1993; Mussin, 2001).

Data analysis is based on the dialogues in the recitation part of the lessons, interview with the teacher and observations. The criteria of sample choosing from the field notes and the teacher interview and sample sections from the textbook are based on whether there are the patterns reflecting hidden curriculum by considering the data collection methods (classroom environment, classroom activities, interview and textbooks). Also, the patterns are separated to their cultural bases, such as language, food, traditions about celebrations. The scope of classroom's physical environment, activities, exercises in textbook, and the teacher's viewpoint manipulated the sample choice for data analysis.

**Table1.** Data collection and data analysis methods

Data collection Method or Data Source	Coding patterns for data analysis		
	Cultural patterns	Material objects	Symbols
Textbooks	X		X
Environment and ambiance	X	X	X
Classroom activities	X	X	X
Teacher's talk (interview)	X		

In order to increase the reliability of the study, I triangulated the data with field notes, interviews and the examples or vignettes from the textbook or workbook. Six vignettes, extracted from the field notes, are featured in this part of the paper. They include the patterns and the interactions in the classroom environments and some examples from the textbooks or workbooks. The vignettes did not occur in the same order as described in this paper. Also, they did not follow each other directly.

**Generating social reproduction processes in the classroom via using hidden curriculum.** The patterns in the classrooms are not limited with the family, but they also comprise a set of learning states including the practices, procedures, rules, relationships, structures, and physical characteristic which constitute a given setting (Martin, 1976). Dorset (1993; cited in Ryan, 1993)) points out that the schools must create opportunities for students to discover what are the most worth knowing, not only to be citizens but also good workers and good private individuals.

Hidden curriculum, that is, the norms and values, is taught in schools implicitly, but effectively and that are not usually talked about in teachers' statements of end or goals (Jackson, 1968; cited in Apple, 1971). Because hidden curriculum includes students' social skills as part of a school community, it can be a useful tool for supporting social reproduction, that is, a kind of sustainable social production in classroom environment.

*Patterns from the books (textbooks-workbooks).* Doyle (1990) asserts that classroom knowledge provides a framework for comprehending how classroom systems work and curriculum can be represented and enacted in these environments. Therefore, the classroom knowledge should be the basic frame for understanding teaching and learning in practice. The academic knowledge, which plays a very important role in the classroom knowledge that Doyle mentioned. In a classroom, teachers mostly prefer to present academic knowledge by the textbooks, which are the major pedagogic device (Bernstein, 1990; 1996; cited in Apple, 2008). The common belief is that text-books and text programs with accompanying teacher's guides are the primary sources for the content covered and the pedagogical strategies used in most classrooms (Doyle, 1996). Since texts are simultaneously economic, political, and cultural, they can act as a lever to pry lose the complex relationships between what counts as legitimate content and the realities of inequality in the larger society (Apple, 2008). Even the role of context is not seen as the most important part of the constructivist curriculum, the literature emphasizes its importance and role on students' production process.

Some examples from the textbooks or workbooks facilitated to see hidden curriculum having capacity for social reproduction in a classroom atmosphere. An example from the textbook below shows that how social reproduction can be produced by the means of hidden patterns in the textbooks, such as connecting the weather condition of Africa land to a party tradition of American society.

For  $6 \times 6 = 36$

*“Once upon a time, there were twin-sixes from Africa. They wanted to visit their cousins who lived across the desert. They hadn’t seen each other for many years. They set out on their journey. After hiking for many days they got low on water. Just when they started to get very worried, they came upon a pool of clear, cool, spring water. The twins sixes were so happy to find water. They were very thirsty sixes. After getting a drink they made it to their cousin’s house where they had a glorious party. (Remember: When 6 are with 6, they are very thirsty sixes (36))”.*

Some patterns related to Africa such as *desert, hiking, journey* and *spring water*, frame the basic information about Africa’s topography. Besides, the patterns used in social relationships, such as “after getting a drink made it to their cousin’s house for a glorious party” repeated a social expectation of people in American society. A hidden message able to be understood from the whole passage above is that being together, doing something together and sharing something to each other, such as water, make people happy. Considering the patterns in the textbook sample, it can be asserted that the textbooks or workbooks can facilitate the sustainability of social production or social reproduction of some social behaviors.

***Patterns related to the physical environment.*** The physical organization of the school itself and the organization of the classroom can be arranged by educators or teachers consciously. The stimuli in the classroom such as, science, math, literacy charts, materials used for these subjects, colors, animals, plants, setting of the students’ desks, baskets near the desks and samples of the students’ work play an important role on the implementation of hidden curriculum. The arrangement of all these items is executed by the teacher.

The students’ seating plan is one of the patterns in the classroom environment. In this fourth-grade math classroom, the children are sitting around the mini tables on the mini chairs, not in a row. In general, the classroom organizations are determined by the school. And the school follows the state rules. The hidden idea about this kind of seating plan may be constituted for the convenient classroom environment allowing them to act independently and to help to each other if they need. The teacher supports the students by sitting at the table behind the students. This organization underlines that being an individual is important for the school’s educational goal even so that the idea of collective work is better than doing individual work.

The physical arrangement of a classroom is an important factor for creating the learning states. Martin (1976) emphasized the importance of setting for seeing the effects of hidden curriculum. She asserts that hidden curriculum can be understood by examining aspects of the setting and discovering what learning states they produce.

The teacher established a management system by shaping the realm of possible behavior under classroom conditions. Each group of students has a money box on their desks made from paper and used for classroom management. The teacher used the fake check papers, if the group corresponds to the class, obeys the classroom rules and contributes to the classroom management. The checks were put in the money box by the teacher and the students were awarded the prize by considering their money amount on hand for each month. This application made students familiar to use check and to the importance of money, which are

required for daily life. In a non-value system money made a thin-air. But, classroom is a kind of value system and the students have to obey the rules of this system. It is controversial that the classroom rules support the social production among students in a classroom. It would be highly possible that classroom rules help for socialization and for shaping convenient classroom environment for production. By means of the behaviors defined in this study, teachers establish a management system of discipline reflecting the realm of possible behavior under classroom conditions.

The soldiers in the hallway of the school are the unusual patterns in the classic school environment. These private soldiers help for organization of the materials used in some school activities, such as paper organization, delivering the required material in the teacher boxes. From the point of relationship among hidden curriculum and the social production, it is clear that the soldiers influence the students in the hallway and schoolyard with their appearances and the self disciplined behaviors. The aim of the school administration for charging the soldiers in the school is to educate the students about the organization of school materials and the importance of organized life implicitly.

*Patterns related to the academic activities in math class.* A curriculum is more than just a written text, it is also social and cultural knowledge reconstituted through the teacher and students as actions with effects (Hewitt, 2006). Dreeben (1968) asserts that students tacitly learn certain identifiable social norms mainly by coping with the day-to-day encounters and task of classroom life (cited in Apple, 1971). The academic tasks in the classroom are planned as structured activities, such as doing workbook exercises, asking some questions about the exercises, etc. Since these kinds of activities might have a lot of patterns, which would be effective on producing the social reproduction in classroom, I analyzed some of the dialogues in the classroom during the recitation part of the lessons according to the relationship of these data with hidden curriculum and social reproduction. The dialogues below illustrate the hidden curriculum patterns from the classroom. The student groups' mini stories about some numbers (number 0, 8...) show us how the students were exposed to the hidden patterns in a textbook.

T- What we know about "0" (zero)?

Student- It looks like *around the world*.

T- 5 times one is...? How about "1" (one)?

Student- One is *a mirror*.

...

T- What are the largest –odd-two digits?

T- It is the *alligator mouth* (67- sixty seven).

Student group 1. Eight, eight *got sick on the floor*.

Eight times eight is sixty-four.

Student group 2.

Eight times eight equal sixty four.

I don't know why but it was done before.

Student group 3. Eight and eight *got a date and danced on the dance floor* and had  
by sixty-four children.

Student group 4- Eight got stuck in the quad, and then made sixty-four.

During the groups' repetition of these rhymes on numbers, the teacher encouraged to the students about working on the number relations. Because the seating arrangement is already set around the tables, it is not difficult for her to motivate the students as a group. After the teacher's mini sample stories, the student groups created the short stories about number eight and read these stories to the class. After all, she

emphasized the importance of number "0" by a short story again. For reviewing the multiplication by "0", the teacher said;

How could we remember "0"?

Zero is the *chief*. It *controls everything to itself*. If two chiefs come together, they *die*.

All these examples from some academic activities in math classroom show that the teacher used lots of comparisons for teaching the numbers. The hidden curriculum can be seen in these comparisons. Specifically, the comparisons are generally chosen among the real life patterns reflecting some social roles or behaviors such as *chief controls everything*, or *got a date and danced on the dance floor*. The probable behavioral pattern 'if two chiefs come together, they *die*' is supportive for creating the relationship structure between two chiefs in the students' minds. The comparisons occasionally underline the properties of patterns; for example, the shape of the world or the function of the mirror.

All these examples from the hidden curriculum patterns aim to teach the students some behavior patterns, knowledge in different disciplines or functions of some materials in teaching the numbers and to make social relations.

**Patterns extracted from the teacher's talking.** The structuring of social relations is related to the structuring of knowledge and the socialization of students from different social class. Even it seems that hidden curriculum aims to produce same kind of people, it may also produce some inequalities between the students coming from different cultures. Some parts from the interview with the classroom teacher help us understanding her awareness and viewpoint about production and hidden curriculum.

I- Could you give me some examples about the daily patterns that you use for teaching a math subject?

T- "I try to supplement with whatever extracurricular...I believe you need to relate it more with life; you need to pull in different theories...I would set up a thematic unit a lot like I talked about with the dinosaurs, and I would try that's what I would like to do with the holidays like Thanksgiving and Christmas". For example, next Thursday we are planning a Thanksgiving meal, and so we are going to the flyers...And they (the students) have to figure out how many cans of beans we are going to need. They are going to figure out how much per person it cost for "Thanksgiving meal" and would be better for you to cook it at home or go out to a restaurant...Nona (Spanish student) might go to a different place and celebrate something different..."

The teacher's talk gives use an idea about her awareness of the power of patterns coming from daily life. She also intends to reproduce the cultural and social patterns via using the cultural, religious and social patterns belong to the society, such as Thanksgiving meal or Christmas. The teacher supposes that she would perform better and efficiently if she uses some cultural or social patterns in her classroom. She sometimes asked for the cultural celebration patterns of the Spanish student, Nona. The academic achievement of ethnically diverse students will improve when classroom instruction is delivered through their own cultural and experiential filters (Au and Kawakami, 1994; Gay, 2000; Kleinfeld, 1975; Ladson-Billings, 1994, 1995). As regarding the social aspect of curriculum, it can be seen that a more participatory curriculum which is socially constructed by people includes using the particular values, interest, and biases formed by cultures, life styles, geographical regions, languages, and so on. From a functionalist perspective, it is emphasized that the hidden curriculum is a necessary element of social reproduction since it has an essential integrative function and inculcates students with desirable societal and cultural values (Gair and Mullins, 2001). In the study, use of particular patterns of celebration habits and different language have illustrated that hidden curriculum is performed by teacher clearly. Therefore, the teacher's highlights of some extracurricular patterns paved the way for social reproduction in elementary math classroom.

The created social relations and conversations by teacher in the classroom atmosphere and the rituals repeated by whole class or small-groups endorsed social production and reproduction. More often, the teacher used these kinds of activities for motivating her students. Also, she supposed that being enthusiastic plays a very important role on students' motivation. Then, some entertaining and social activities having enthusiasm to the classroom topic are required for students' motivation. When the question was asked to the teacher about what to do for student motivation, she responded to this question like below.



T- "... I believe that you need to have fun when you are teaching. It is hard all the time but I believe that enthusiasm is the key one...if you are enthusiastic; your kids are enthusiastic about it. It may not be something that you are enthusiastic about but you need to be enthusiastic about it. And that's why we do the things with the acronyms and the cheers and things like that to. That's something that the kids like. And like I said, the enthusiasm is the one way..."

One of the points that the teacher emphasized in her talk is that using the positive remarks for encouraging the students. She also makes an effort for being a good model for motivating her students including the Spanish girl (see the talk between interviewer and teacher below).

I- How do you encourage your students?

T- *"I think a lot of... it is if you notice*

and use positive like remarks...Well, you know, instead of just passing to her (a student) back I made a point for her to come up to my desk and say I am so proud of you. Just those words are self-esteem in itself...

T- "We (refer to the whole class and the teacher herself) try to use the Spanish terms when speaking with Nona and her younger brothers...I mean the mapping comes to mind, too, whatever we know in Spanish or English and Spanish we are going to say that to them like, *uno momento*, one moment, you know, we will try to say things like that..."

The teacher interpreted the students' behaviors and decided for using the prizes under the students' social and cultural tendency. Cultural patterns including language and some symbols were used by teacher in order to motivate the international students. She was aware of the importance of rewarding for students' performance in classroom and using some terms belonging to different language or culture for this such as '*uno momento*'. Using of any patterns belong to a language by considering their frequencies is part of the teacher's hidden curriculum practices.

In a different conversation with the teacher, she put into words the intentional use of extracurricular activities for teaching a subject. But also she was not clear about if using different course materials and the extracurricular activities may be different. The following conversation provides some evidence for this.

I-What sorts of examples do you use as teaching a subject matter? Could you please give me an example?

T- "I try to supplement with whatever extracurricular...we don't usually go by the book because I don't believe...I am one of those teachers that is not a person. I believe you need to relate it more with life; you need to pull in different theories. What I do is I go through...well like I found that multiplication the fun way, but I go through and I get like teacher magazines, like Mail Box Magazine, every month and I go through and I see what concepts that I teach in math and these are like the best of the best ideas that come out of this magazine that are chosen.

The way of interpretation of classroom patterns by the teacher influences on the classroom environment. Therefore, hidden curriculum provides the teacher with some opportunities to create a classroom environment pursued by social production patterns. For example, samples from the textbook or workbook manipulated the teacher to organize the classroom work in small groups. The word problems regularly asked by teacher involve tangible and intangible patterns, such as mirror, alligator mouth, and so on. Sometimes the students were asked to calculate the money collected in the boxes on their tables to their model behaviors. In this particular instance, money saving are promoted by the teacher as part of hidden curriculum. The teacher creatively used the *money boxes* on students' desks for making sense them about how mathematics may help them understand their own daily lives. Also, the prelusory *animal house* placing in the corner of classroom displayed some animals such as hamster, lizard and bird. These organizations in the classroom environment formed by teacher provide the students with some real life experiences with their friends. This means that students become socialized at the same time by talking about these animals or their check accounts.

The interview with the teacher proves that she served the purpose of orienting the students to do some works for social reproduction. Considering this fact, it can be asserted that teacher factor plays an important role for creating a convenient classroom environment for repeating the patterns and her leadership to teach for being productive in the society made easy reproduction of social productivity.

### **Results, Conclusions and Recommendations**

Different teaching offers made to the students by the teacher within the class have a lot of patterns supporting the assumption that hidden curriculum is executed in math classroom. These patterns were offered to the students by textbooks, physical ambiance, teacher's academic activities and talk.

Hidden curriculum supports or hinders positive social development in a classroom environment. In the study, the teacher generally used the supportive extracurricular patterns consciously, such as using the check boxes for managing the classroom. Also, she used some cultural patterns belong to a different culture, such as "uno momento" (one moment) in Spanish, for emphasizing that there are some other people talking a different language in the country and the students should be broad-minded to this diversity.

As consistent with the research aim, the examples in the textbooks or in the workbooks have the patterns maintaining a social life and letting be productive in the society.

Also, the ambiance includes hidden patterns in seating plan, tables and brochures. Some patterns in the physical environment were used on the purpose of managing the classroom, such as putting money boxes on the students' tables. The teacher's expectations and activities in the classroom environment do not solely reflect fourth grade math curriculum, but also they reflect the social, cultural and political patterns belong to the society. The awareness of teacher's about using social patterns for creating a convenient classroom atmosphere to reproduce these patterns is other verification of the role of hidden curriculum on supporting social reproduction.

In societies the possession and control of social and cultural capital play a very important role for creating privilege and preferability among schools, because reproducing the conditions for production in society is intended by hidden curriculum embedded in curricula.

An effective education system makes the expected school work possible. But the important one is what the expected work is. Schools can provide many opportunities for reproducing the production of social and cultural behaviors by hidden curriculum patterns. The typical structures of school activities create situations, in which children are likely to learn certain norms of behavior (Dreeben 1968). The study's primary assumption is manifesting the relationships between social reproduction and hidden curriculum by examining the everyday classroom interactions and the teacher's curriculum implementation. By considering the whole classroom and teacher, the performed study intends to elucidate if the hidden curriculum patterns create the social production-reproduction process by emphasizing how the teacher conducted the transmission of social production to the academic knowledge in the classroom.

The typical structures of school activities create situations, in which children are likely to learn certain norms of behavior (Dreeben, 1968). If a hidden curriculum is a way of learning and uses the life experiences, the students may learn about life unwittingly and repeat that information in the classroom environment and then through their lives. Certain activities, such as writing the stories about the numbers, directly exemplify norms of conduct and the use of characteristic sets of activities, such as giving credit to the well behaved student group in the classroom, and checking the students name on the chart if they do a good job with their academic work, create the patterns of interpersonal interaction. These patterns compose a social sanctioning on the classroom norms. Therefore, interpersonal interaction occurs via the teacher's regulations of the activities. The study remarks that how these patterns during the teacher's performance form the social relations and how they are of use on the students' attempts socially.

So far, all results have endorsed that all students in a classroom environment are affected by hidden curriculum, but like Apple's (1980) emphasis, not all students simply "take in" the hidden curriculum; that students often creatively act to control their school environment, and that, they in fact expressly reject the norms of obedience, respect for authority and so on. Since the social production may not be provided for all

students in an elementary classroom due to these students' resistance to the effects of the hidden curriculum, the teacher needs to create an environment for repeating the patterns of social production.

All the remarkable social relations, which contribute to the social production, should be repeated in the classroom atmosphere by the students for assimilation of the social patterns. The hidden aimed classroom environment is convenient for this assimilation and for transmitting social production to the academic learning in an elementary math classroom, indirectly to the daily life and to the society.

However, the reproduction of social patterns can take place in the educational realm or in an elementary math classroom thereby overriding the theoretical and practical grounds in addition to feeling and emotion, intimacy and connection in the classroom. The teacher in the study had given enough opportunity to the students to reconsider their knowledge, beliefs and values, which already had and met in the classroom by hidden curriculum and to use all these knowledge, beliefs and values in that environment.

A brief summary of research on the reproductive classroom environment by using hidden curriculum including social productivity patterns suggests a rich and a detailed picture of that children are taught how to deal with the issues met in the daily life in an elementary math classroom and relate to the structures of society, policy, economy to which the students belong by the patterns of interaction exposed in the classroom environment.

The study intends to make teachers aware of the importance of interpretation of classroom patterns creating a productive classroom environment and the importance of the sustainability of this interpretation. It can be used for a further research about the extracurricular activities' implementation in a math classroom at elementary level. Also, it can be a different glance for curriculum makers and teachers to learn the students' performance when values and cultural things are used and practiced in classrooms by emphasizing the power of society on the education policy of the nation versus the power of education on the society.

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