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AN INVESTIGATION OF INSTRUCTIONAL ENVIRONMENT IN KINDERGARTEN CLASSROOMS

ABSTRACT

The present study aims to investigate teachers' current instructional practices in kindergarten classrooms. To this end, four-hour classroom observations were conducted in forty-five classrooms. Results indicated that on average, classrooms spent almost 44% of the time on teacher-directed instruction and almost 14% of the time on child-centered instruction. Classrooms also spent almost 42% of their time on non-instructional activities, such as meals, waiting for the next activity, and lining up for lunch or bathroom. With respect to the content of observed activities, in an average classroom, almost 41% of the time was spent with no content. Across ten content areas coded in the study, codes for visual arts, mixed, games, and language arts were relatively frequently observed. On the other hand, in the observed activities, mathematics, science, reading, social studies, drama, and music were the content areas that were less likely to be covered. Furthermore, mean level of instruction observed in these classrooms indicated teachers' support of low-level to basic skills development in children. These findings have critical implications for future research in understanding children's classroom experiences, and as a consequence their subsequent achievement in school.

Keywords: Kindergarten Education, Young Children,
Focus of Instruction, Content of Instruction,
Classroom Observation

ANAOKULLARINDA EĞİTİMSEL ORTAMIN İNCELENMESİ

ÖZET

Bu çalışma, anasınıfı öğretmenlerinin günümüz eğitim uygulamalarını incelemeyi amaçlamaktadır. Bu bağlamda, 45 sınıfta dörder saatlik gözlem yapılmıştır. Ortalama olarak, sınıflar zamanın yaklaşık %44'ünü öğretmen merkezli eğitime, yaklaşık %14'ünü çocuk merkezli eğitime ayırmışlardır. Ayrıca, zamanlarının yaklaşık %42'sini yemek, bir sonraki etkinliğin beklenmesi ve sıra olunması gibi eğitimsel olmayan etkinliklere harcamışlardır. Ortalama bir sınıfta, gözlemlenen etkinliklerin içeriklerine bakıldığında, zamanın yaklaşık %41'inde eğitim-öğretime yönelik bir içerik kaydedilmemiştir. Bu çalışmada belirlenmiş olan 10 içerik alanının arasında, görsel sanatlar, karışık (birden fazla içeriğin aynı anda gözlenmesi), oyunlar ve Türkçe-Dil etkinlikleri göreceli olarak daha sık gözlemlenmiştir. Diğer yandan, matematik, fen, okuma, sosyal bilgiler, drama ve müzik alanları daha az sıklıkla içerilmiştir. Bu sınıflarda gözlemlenen ortalama eğitim seviyesi, öğretmenlerin çocuklarda basit düzey becerilerin ya da temel becerilerin gelişimini desteklediğini göstermektedir. Bu bulgular, gelecekteki araştırmaların, çocukların formal eğitim öncesi sınıf deneyimlerini ve bu deneyimlerin onların ileri yıllardaki okul başarıları üzerine etkisini anlamlandırmalarında önemli bir katkıya sahiptir.

Anahtar Kelimeler: Anaokulu Eğitimi, Erken Çocukluk, Eğitimin Amacı,
Eğitimin İçeriği, Sınıf Gözlemleri

1. INTRODUCTION (GİRİŐ)

Public early education programs, specifically designed to improve at-risk children's school readiness skills, have become a principal context in which many young children live and learn [1]. Thus, these programs stand out as an opportunity to provide systematic support for young children's successful adjustment to school [2]. The identification of variability in the experiences offered to children in these settings is a critical focus for research. One way to assess children's experiences is to look into instructional aspect of a classroom [3, 4 and 5]. To this end, the current study including 45 kindergarten classrooms examines quantifiable descriptive information about teachers' instructional practices in terms of mode and content of observed classroom activities, as well as focus of instruction.

2. RESEARCH SIGNIFICANCE (ÇALIŐMANIN ÖNEMİ)

In light of empirical evidence on instructional practices observed in classrooms, the aim of the present study is to add to the growing body of work by systematically investigating quantifiable descriptive information about instructional practices in Turkish kindergarten classrooms. Early childhood education is a hot topic in Turkey and a limited number of empirical studies have been conducted in Turkish early education settings. Among the existing studies, except Varol's study, observed measures of classrooms were less likely to be used to examine the nature of learning environments in which children spent their time [13]. By using an observational tool, the present study aims to provide more precise information on classroom processes that are more likely to influence children's learning. In addition, this study provides important information on kindergarten teachers' current practices for researchers in Turkey and in other countries.

3. INSTRUCTIONAL ENVIRONMENT (EĐİTİM ORTAMI)

Instructional elements of the classroom environment involve two dimensions (among others): (1) the structure of instructional activities, and (2) the foci of instruction. One way the first dimension can be characterized is as "teacher-directed vs. child-centered." This dimension refers to the extent to which instructional activity and child engagement are under the direction of the teacher (e.g., when the teacher is reading a book to the whole group of children) or under the child's control to some extent (e.g., when a small group of children is interacting with materials during a structured hands-on activity or during an unstructured free play activity) [6]. In teacher-directed activities, the teacher is the center of attention and instructs the entire group of children. In child-centered activities, the teacher is not directly instructing children. Instead, the teacher designs learning activities in which children are engaged independently or with some guidance from the teacher. A key element is that there is a choice of activities in child-centered activities. The former structure is uniform and meets the teacher's goals, as the latter is differentiated and individualized by the teacher and meets individual children's needs [7].

According to Perry and her colleagues, appropriate early childhood education requires teachers to know individual learners in their classrooms and to be able to make adjustments in their instruction to create responsive, supportive, and appropriately engaging environments [7]. Teachers using appropriate practices appear to know that different forms of instruction are better suited for achieving different goals [8], and children with varying skills can

benefit more from different forms of instruction [7]. Thus, these teachers are characterized as offering a blend of teacher-directed and child-centered activities in their classrooms.

The second dimension of instructional practices can be contrasted as "basic-skills instruction vs. analysis-inference instruction." This dimension refers to the extent to which the instructional focus involves explicit teaching of basic skills or instead more process-oriented implicit teaching of analytical and inferential thinking [7]. Basic-skills instruction requires children to memorize and master facts, so that they can successfully recall information. In contrast, analysis-inference instruction enables children to develop higher-order thinking skills so that they can better understand and apply concepts in the real world outside the classroom [9].

On the basis of these two dimensions of instructional practices, empirical evidence indicates that the characteristics of a high-level instructional support involve frequent teacher interactions with children. Also, the classroom activities include both teacher-directed and child-centered activities that emphasize inference and critical thinking. Furthermore, basic skills supplements were provided for children who enter school with low skill levels [10 and 11].

Among early elementary classrooms, there is considerable variability in the amount of time spent on different types of instructional activities [3, 5, and 6], as well as in the focus of instruction provided to children [12]. For example, evidence from observations in kindergarten classrooms indicated that in the average classroom, children were exposed to structured teacher-directed group activities or seatwork for 61% of all intervals, while they were engaged in centers or free play for 26% of the intervals over the course of a morning-long observation [5]. Also, an observational study conducted in twenty-eight Turkish kindergarten classrooms showed that 47% of the time was spent on teacher-directed activities, while 23% of the time was spent on child-centered activities [13]. However, there was wide variation across classrooms in the occurrence of these activities.

With respect to the focus of instruction, the reports of recent large-scale observational studies indicated that children were far more likely to experience basic skills instruction than analysis-inference instruction in early elementary classrooms and there was a substantial amount of variability in levels of children's exposure to these types of instruction [14 and 15]. Furthermore, a report based on observational studies that included a national sample of over 4,000 classrooms extending from pre-kindergarten to fifth grade showed that children generally experienced low to medium levels of instructional support in elementary schools (identified on the basis of absolute scores on *Classroom Assessment Scoring System* [CLASS]). Teachers often provided a low level instructional support, even in classrooms that were rated relatively higher [16].

4. METHOD (YÖNTEM)

4.1. Participants and Procedures (Örneklem ve İşlem)

Participants in this study were forty-five teachers working at eleven independent early childhood schools affiliated by the public school system in an eastern city in Turkey. Teachers were selected through the following procedure. Schools were initially selected from the list of independent early childhood public centers based on two criteria: number of half day kindergarten classrooms (i.e., serving 60-72-month-old children) and families' socioeconomic status (i.e., serving children coming from high, mid or low socioeconomic status).

From the list of schools that met these criteria, a random selection of school administrators was contacted and informed about the study. Information letter describing the nature of the study were sent out to administrators who expressed interest in participating. The final sample of 11 schools consisted of those schools whose administrators consented to participate. Next, classrooms were selected from these schools based on the age of the children served. The target age for the children in this study was 60 to 72 months of age. School administrators identified fifty-two lead teachers. Of the 52 teachers, seven declined to participate while forty-five consented to participate in the study.

Two teachers were male while the rest was female. Teachers had an average of 4.5 years of teaching experience, ranging from 2 to 27 years. Among the 45 teachers, 35 held Bachelor's degrees, 7 held Associate degrees, and 3 held vocational high school degrees in child development. Thirty-two teachers majored in Early Childhood Education, nine teachers majored in Child Development, and one majored in Handcraft Education.

No more than six and no fewer than three classrooms were observed from any one of the schools. Trained data collectors observed each classroom on 1 day during the spring of 2010-2011 school year. Classrooms were observed for four hours during a morning-long or an afternoon-long period beginning the official start of the school day. Each observation was conducted by a single observer. The observers were comprised of both undergraduate students and two researchers, all of whom were knowledgeable about kindergarten environments and young children's behavior. All of the observers were female. Observers underwent training with one of the researchers who was trained by the author of the *Narrative Record of Preschool Classroom Observations* (Farran, 2003). Before beginning the data collection, observers were trained in data collection procedures over the course of two weeks using five kindergarten classrooms that were not included in the study. Reliability for the observation measure was calculated by percent agreement $[\text{agreement}/(\text{agreement}+\text{disagreement})]$. The reliability among five observers obtained in the field was 75%.

4.2. Instrument (Veri Toplama Aracı)

An observational tool was used to measure instructional classroom environment. This instrument was created on the basis of the *Narrative Record of Preschool Classroom Observations* [17] and the *Teacher Observation in Prekindergarten Classrooms-Building Blocks* (TOP BB) [18]. The instrument is used for recording narrative notes about what is occurring in the classroom (i.e., what the teacher is doing and what the children are doing). This study used data from four *Narrative Record* categories (episodes of time, type of activity, content of instruction, and level of instruction) to calculate the proportion of time devoted to teacher-directed instruction, child-directed instruction, and various content areas and mean level of instruction in a classroom.

In the category related to episodes of time, the beginning and end of each classroom episode were recorded to track the duration of events in the classroom. A new episode of time was started when the type of activity or the content of the activity changed. In each time segment, one code described the Mode of Instruction. The Mode of Instruction category consisted of eight codes that were used to identify instructional (i.e., Whole Group with/out Teacher [WG/T], Small Group with/out Teacher [SG/T], Small Group with/out Teacher and Center(s) [SG/TC], Centers [C], Individual with Teacher [IT]), and non-instructional activities (i.e., Meal [M], Transition [TRN], and



Out). Also, the absentees of children and/or teachers were observed in this study. Separate codes (i.e., Children Absent [CA], & Teacher Absent [TA]) were created to code these instances¹. Codes with "Teacher" indicated that the teacher was the center of attention and was instructing the entire group or small group of children. Codes without "Teacher" and/or with "Centers" showed that children were working independently or with some guidance from the teacher or there was a choice of activities at a table or in an area.

For analysis purposes, the categorical codes for Mode of Instruction were combined with the duration of time of each episode to obtain the best estimate of daily amount of time devoted to teacher-directed instruction, child-centered instruction, as well as non-instruction in a classroom. The time in the episodes organized by codes indicating the occurrence of a teacher-directed instructional activity (i.e., WG, WGT, SG, SGT, & IT), child-centered activity (i.e., C, SGC, & SGCT), and non-instructional activity (i.e., M, TRN, & Out) was added for each classroom. Then, these times were divided by the total observation time.

The content of activity category included simple codes to label the academic content during an episode. The codes consisted of reading, language arts, math, science, social studies, visual arts, music, drama, structured or unstructured games, mixed content, and none. Reading involved connected text with meaning, while language arts included learning letters, finger plays, and writing practices. As the content was quickly changing or children were at centers, the content of the episode was coded as mixed. The absence of content was identified when there were directions with no content, transitions with no content, and behavior management talks. The proportions of time a classroom spent on each of these content areas were computed.

Level of Instruction category characterized the instruction that was occurring. Level of Instruction was rated on a scale of 0 to 4, with 4 being the highest level. The ratings from 1 to 4 were used if the teacher was engaged in intentional teaching. In other cases, the level of instruction was rated as None (0). In the present study, the level of instruction was not coded during center time since the teachers in the study were observed not to have any intentions to teach during this time. Instead, they only monitored children with rare interactions with them. In Low Level Instruction (1), the observer could not judge the intent to teach a specific academic skill even if the teacher was interacting with materials. Basic Skills Instruction (2) involved the teacher's drilling, direct instructing, reading a story without asking questions, or asking low level questions. Some/Inferential Learning (3) occurred when the teacher was instructing children using a mix of closed- and open-ended questions (what, when, why, or how) and children were interacting and participating with the teacher. In High/Inferential Learning (4), the teacher was instructing, interacting with children using inferential, open-ended questioning. Children were participating, sharing information, and directly interacting with the teacher and with each other. The teacher was purposely making connections between the information being taught to the child's outside world. Questioning and discussion by children and the teacher linked the academic information to the child. To measure the focus of instruction in a classroom, the ratings of the teacher's level of instruction were averaged across all

¹ In nine classrooms, the teacher and/or children were absent some portion of the observation period. Mean proportion of time the teacher and/or children were absent was 6.2%, with a range from 0.4% to 10.4%.

the episodes in which the teacher was observed to be engaged in instruction.

5. RESULTS (BULGULAR)

Table 1 displays descriptive information for the proportions of the type and content of activities and mean level of instruction the teachers offered to children in their classrooms. Examining data about how the class time was divided reveals the following: in the average classroom, 43.5% of the four hour observation was spent on teacher-directed instructional activities altogether, and 13.7% of the observation period was spent on activities that enabled children to control the activity. However, the percentage of observation time spent on each of these modes of instruction varied a great deal across classrooms. Some classrooms spent a small portion of the observation time on teacher-directed instructional activities while others spent a majority of their time on this type of instructional activities. The variation across classrooms was also large in the percentage of observation period spent on activities led by children, ranging from 0% to 27.9%. This indicates that some classrooms did not allow children to have control over the activity and their engagement in the activity.

As seen in Table 1, classrooms doing less instructional type of activities were observed to spend their time on non-instructional activities, such as meals, waiting for the next activity, and lining up for lunch or bathroom. Unfortunately, in an average classroom, 41.6% of the four hour observation time was spent on non-instructional activities. Some classrooms provided more opportunities for children to engage in learning-related activities, while others offered relatively fewer opportunities for learning and mostly occupied children with non-instructional classroom activities.

In the present study, the observer also recorded the content of the activity occurred in each episode. As seen in Table 1, on average, almost 41% of the observation time was spent with no content. Thus, more than one third of the time children waited for the next activity, had lunch, watched TV while waiting for dismissal, or used bathroom. The proportion of observation time spent with no content ranged from 20% to 60% across study classrooms.

With respect to visual arts, drama, and music that can be considered together as art activities, study classrooms spent more time on visual art than the other two forms of art activities. More specifically, an average teacher was observed to occupy children with visual art activities for almost 16% of the time, with a range from 3.8% to 31.7%. In visual arts, children mostly cut shapes to produce paper crafts, such as penguins, mushrooms, trees, and spiders. They colored pages and practiced drawing with crayons or watercolor paint. They played with playdough. They rarely used recyclable materials, such as rope, plastic bottle, and toilet paper roll. These visual art activities were mainly teacher-directed (see Figure 1). In these activities, children were given a model or shown how to put the parts together to form a product. Teachers repeatedly emphasized the importance of completing the task by resembling the model or instructions given. Personal expressions were not welcomed during teacher-directed visual art activities.

On average, children were observed to be engaged in music for 4.5% and in drama for 1.6% of the observation period. Some classrooms spent no time on activities including these contents, while others spent more than 10% of their time on them. In music activities, children listened to a CD of songs; sang songs; learned new songs; and danced freely or engaged in musical play with choreography. In drama,

teachers asked children to dramatize a story that they read before; used drama to support the theme in their daily plan; and asked children to perform an act without preparation. Figure 1 displays that activities including music and drama were more frequently directed by the teacher.

As can be seen in Table 1, another content that was relatively highly observed in the present study was mixed. As can be seen in Figure 1, this type of content was mostly recorded during center time this indicated the occurrence of child-centered instruction. Since there were not any planned activities offered by the teacher, children were observed to be engaged in various play activities, such as building with blocks; completing puzzles; playing with playdough and board games; engaging in pretend play; and coloring and drawing.

Table 1. Descriptive statistics for components of instructional practices
 (Tablo 1. Eđitimsel uygulamaların bileřenlerine ait betimsel istatistikler ve dađılımlar)

Variable	Mean or %	SD	Minimum	Maximum
Type of activity^a				
Instructional				
Teacher-directed	43.47	-	20.83	71.67
Child-centered	13.69	-	0.00	27.92
Non-instructional	41.61	-	23.33	60.00
Content of activity^a				
Reading	4.07	-	0.00	15.00
Language arts	6.35	-	0.00	22.08
Math	1.27	-	0.00	8.75
Science	1.12	-	0.00	8.75
Social studies	2.84	-	0.00	18.75
Visual arts	15.82	-	3.75	31.67
Music	4.49	-	0.00	12.08
Drama	1.62	-	0.00	16.67
Games	8.74	-	0.00	32.50
Mixed	12.90	-	0.00	27.92
No content	40.69	-	20.42	59.58
Level of instruction ^b	1.48	0.28	1.00	2.11

Note. ^aValues indicate percentage of four-hour observation time. ^bValues indicate mean level of instruction across episodes in which an intentional teaching was observed.

In these classrooms, on average, children were engaged in games almost 9% of the time. These games were mostly structured by the teacher as seen in Figure 1. Teachers divided children in groups to play competitive physical games or board games in which children practiced about numbers, shapes, and colors. Some teachers spent no time on such an activity; others spent almost 33% of their time.

In terms of academic content, including reading, language arts, mathematics, science, and social studies, an average study classroom spent more instruction time on language arts activities than any other activities: on average, children were engaged in language arts for six per cent; reading for four per cent; social studies for almost three percent; and math and science for only one per cent of the observation time (see Table 1). It is also important to note that one or more than one of these content areas was not observed in some classrooms. Furthermore, these academic contents were more likely to be offered to children in teacher-directed instruction (see Figure 1). However, children with varying skills could benefit more from different forms

of instruction. Thus, it seems that teachers in these classrooms did not consider the importance of offering a blend of teacher-directed and child-centered instruction to better support the learning of young children with varying skills.

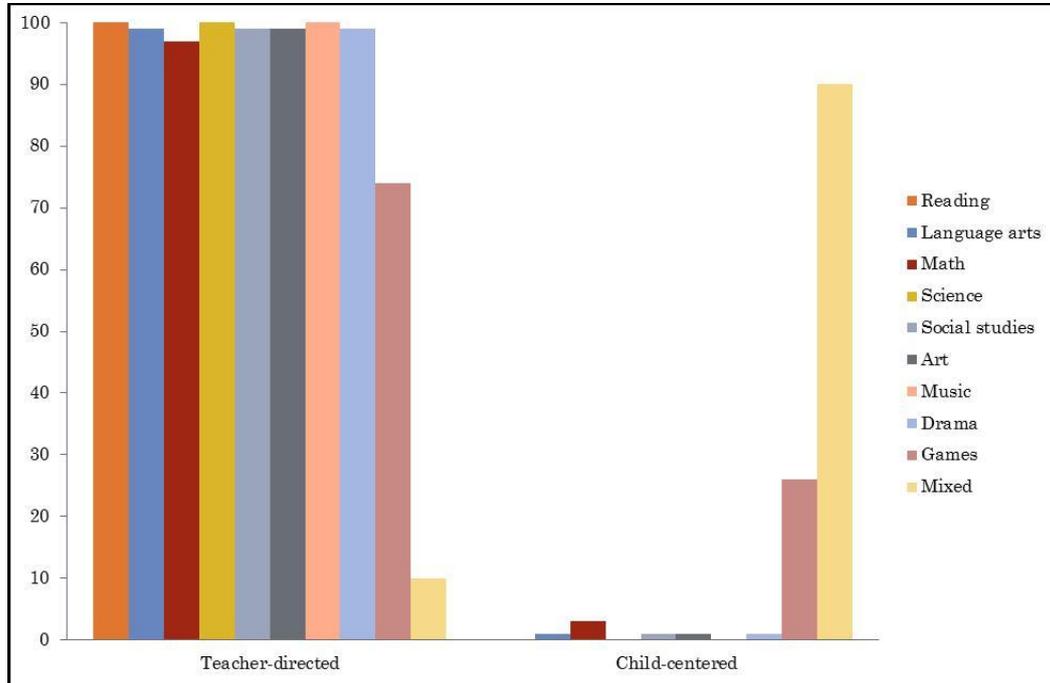


Figure 1. Proportions of minutes spent on various contents by type of instructional activity
(řekil 1. Eđitimsel etkinlik t¼rlerine g¼re eřitli ieriklere harcanan s¼renin y¼zdeleri)

Table 1 also shows the mean, standard deviation, and the range of the observed level of instruction across study classrooms. The level of instruction was 1.48 for the average teacher. The observed level of instruction in the present study ranged from low-level to basic skills. In classrooms offering low-level instruction, children were exposed to an activity demanded them to use fine and gross motor skills, such as playing competitive games that involved running, cutting with scissors, working with puzzles, and building blocks. In such classrooms, children were observed to listen to a CD of songs and to sing songs that did not have instructional content. As seen in Figure 2, the content of activities with low-level instruction included language arts, visual arts, music, and games.

In classrooms offering basic skills instruction, teachers directly instructed children. They read books without asking questions or asking closed-ended factual questions. Teachers using basic skills instruction required children to recall information by memorizing and mastering facts. These teachers did limited or no connections between the concepts learned in the classroom and the real world outside the classroom. Figure 2 shows that the content of activities with basic skills instruction was mathematics and social studies. Mean level of instruction observed during reading, science, and drama was between basic skills and some inferential instruction. Teachers focusing on these contents offered children some meaningful learning activities that required them to use higher-order thinking skills to understand and apply concepts in the real world outside the classroom.

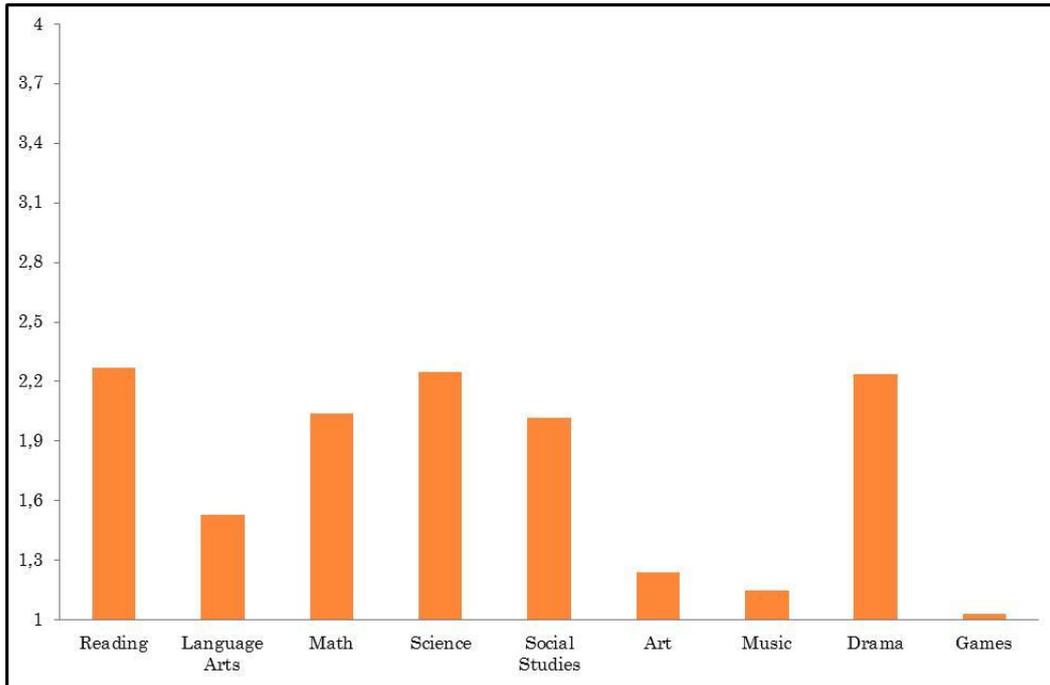


Figure 2. Mean level of instruction by activity content
(řekil 2. Etkinlik ieriđine gre ortalama eđitim dzeyi)

6. DISCUSSION (TARTIřMA)

Consistent with recent views of effective teaching as involving cognitively rich instruction [11, 14, 19 and 20], level of instructional support in this study was measured with the combination of the amount of classroom time spent on teacher-directed instruction and child-centered activities, and the level of focus on the improvement of analytic and inferential thinking in their instruction. With respect to observed practices, the relatively low level of instructional support was observed in some study classrooms.

Classrooms varied widely in how much of the four-hour observation time was devoted to different modes of instructional activities, while they looked similar in the focus of their instruction. In some classrooms, almost 72% of the observed time was spent on teacher-directed instructional activities. In others, only 21% of the time was devoted to this mode of instruction.

Also, in some classrooms, almost 28% of the activity observed was organized as child-centered instruction; in others none of the activities observed could be coded in this mode of instruction. Classrooms that did not offer many child-centered activities used teacher-directed instruction during activities identified as instructional. Thus, in such classrooms, teachers did not allow children to have much freedom to choose their activities. However, it is known that different forms of instruction are better suited for achieving different goals [8], and children with varying skills can benefit more from different forms of instruction [7]. In the present study, all distinctive content areas (e.g., reading, math, and visual arts) were explicitly taught by the teacher. They were rarely observed when children had freedom to choose their own activities. This indicates that participating teachers were less likely to support children's learning of new content by designing activities in which children could practice learning new content independently or with some guidance from the teacher.



Classrooms spending less time on instruction occupied children with non-instructional activities, such as meals, waiting for the next activity, or lining up for lunch or bathroom. Thus, in such classrooms, it would be hard to observe high amount of engagement in learning, and as a consequence perhaps, high level of achievement gains.

Furthermore, the present study investigated the focus of the instructional tasks provided by teachers. Findings showed that when an average teacher provided instructional activities, she/he focused on the development of low to basic skills in children. Even in the classrooms that were rated relatively high, children were mostly exposed to basic skills instruction. This finding is similar to one obtained by Varol [13]. On the basis of narrative notes taken during observations, Varol reported that classrooms offering activities related to mathematics, science, social studies, and language arts covered basic level information in these disciplinary areas. The present study extends this finding by rating the focus of instruction in each episode and thus, providing quantifiable information on the level of instruction observed in kindergarten classrooms. Investigating the focus of instruction in kindergarten classrooms, this study also confirms the findings from observations in elementary schools that children are exposed to basic skills instruction far more than they are to analysis-inference instruction [14 and 15].

All these findings indicate that children in early education are exposed to an instruction that requires them to memorize and master facts so that they can successfully recall information. This may be explained by the demands of the curriculum used in pre-kindergarten to first grade. Children need to master certain skills, such as knowing the alphabet, sight words, and counting up to 10, in order to proceed to the next grade. However, the curriculum in later grades asks children to synthesize, analyze, and criticize the information. Thus, in order to achieve some goals, teachers may feel pressure in the early grades to use explicit teaching of basic skills; however, a merely basic-skills oriented instruction in early education is unlikely to promote children's success later in school.

7. CONCLUSIONS AND RECOMMENDATIONS (SONUÇ VE ÖNERİLER)

This study sought to examine current instructional practices in kindergarten classrooms. The study showed that not only the structure of instruction, but also the focus of instruction was important in determining the level of instructional support provided for children in classroom settings. Findings indicated variability across classrooms in the amount of time devoted to teacher-directed instruction and child-centered instruction. However, classrooms were observed to be similar in the focus of their instruction. There are several directions future research might take to extend the present work. This study provided an observation measure to assess the level of support for learning in the classroom context. Future research might examine the instructional classroom environment in even more depth. For example, researchers could observe both the teachers and individual children's behavior so they would evaluate the classroom context not only through teachers' view, but also through children's point of view. Also, other aspects of the classroom environment (e.g., emotional environment and classroom organization) could be observed to provide a better assessment of the context.

Finally, future research can build on this essentially descriptive study to determine if teachers' instructional behavior can be experimentally manipulated. Is this behavior changeable? If so, perhaps interventions can be developed to alter this important



classroom characteristic to provide an instructionally more supportive classroom environment that also prepares children for the demands of school in later grades.

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