

## Observations of Preschool Teacher Candidates about Health Conditions and Security of Kindergartens

**Ömür SADIOĞLU**

*Uludag University Faculty of Education Primary Education Program  
osadioglu@uludag.edu.tr*

**Pınar BAĞÇELİ KAHRAMAN**

*Uludag University Faculty of Education Primary Education Program  
pinarbag@uludag.edu.tr*

**Gönül ONUR SEZER**

*Uludag University Faculty of Education Primary Education Program  
gonulonur@uludag.edu.tr*

**Meral TANER DERMAN**

*Uludag University Faculty of Education Primary Education Program  
mtaner@uludag.edu.tr*

### Abstract

In this research, it is intended to determine and evaluate the safety and health conditions of independent kindergartens. An observation form was prepared by researchers, who went to 10 different kindergartens in 3 central Bursa districts, and 100 teacher candidates were asked to fill this form. The findings show that bathroom sinks and toilets, toys, garden toys, school staircases, school doors, entrances and exits, emergency kits, installation and environmental safety are appropriate for school safety and health conditions. However, when the school furniture was investigated, it was determined that its negative and positive results are almost equal. The playgrounds of children are close to the exit gate of the school, there are also small materials among class toys around the same place, and garden toys are partially safe and health equipment has been found insufficient.

**Keywords:** kindergarten, preschool, school security and health

As a result of the changes brought about by today's conditions in family structure, in the woman identity and in urbanization, preschool education has been gaining importance with each passing day and the number of preschool education institutions has increased greatly. The rapid increase in the number of these institutions brings about the question if the educational environments are appropriate for children (Baran, Yılmaz, & Yıldırım, 2007; Deretarla Gül, 2010; Oktay, 2002). In preschool period, where playing and learning activities occur frequently, it is needed to fulfill the growing needs of the child and to organize the physical conditions in accordance with the child's learning experiences and development aims for a healthy and stable growing (Karaküçük, 2008; Çelik & Kök, 2007).

Single-storey buildings are generally considered safe for children. However, it is now common to see multiplex school buildings, to which more and more preschool students attend (Ramazan, 2005). In multiplex kindergartens, the staircases should be gradient, well-lit and their banisters should be durable. The floor should be nonslip, anti-dust and made of hardwood that is easy to clean or is covered with featherless carpet. Halls should be wide enough to allow children to move freely, and the objects in the hall should be arranged in a manner that they will not harm children and hinder their movement. Placing the school doors so that they open up to halls, making sure they are single doors and there are no doorsteps on door entrances are some measures that can be taken (Poyraz & Dere, 2003). There must definitely be electronic alarm equipment, fire extinguishers and emergency exits for emergencies such as thievery, fire, etc. (The Building Blocks of Design, 2004).

Encircling school with walls like a prison for safety purposes is also unfavorable for children's development (Caples, 1996). There should not be any balcony in the building, windows should be planned so that children cannot climb over, open and lean out, power outlets should be where children cannot reach (Poyraz & Dere, 2003). Risks, which may be caused by electric cable contact, wiring, etc., should all be taken into account (Özbey, 2011).

It is important that the number of children does not exceed 20 in classrooms. Class equipment such as chairs and tables should be suitable for children's physical measurements and made of materials that are light and without sharp edges (Sheets & Wirkus, 1997: cited in Demiriz, Karadağ, & Ulutaş, 2003; Poyraz & Dere, 2003). Toys shouldn't have harmful paint, sharp edges and corners, small pieces, pointy or cutting tips (Hendricks, 2010). In addition to this, places, equipments, covers and toys, which are used by children, should be cleaned daily (Demiriz, Karadağ, & Ulutaş, 2003). Moreover, throughout the day, toilets should be cleaned in certain intervals, disinfected at least once and ventilated (The California

Child Care Health Program, 1998; Demiriz, Karadağ, & Ulutaş, 2003; Polat, 1993; The Building Blocks of Design, 2004).

Development of children in a safe environment is quite important. In this respect, it is thought that investigating whether preschool education institutions are suitable for children's safety or not is essential. It has been determined that even if there are studies related to educational environments of preschool education institutions in literature, only a few studies have been done in order to specifically determine the suitability of preschool education institutions in terms of safety. The aim of this research is to determine suitability of kindergartens in respect of safety. With this purpose in mind, contributions will be made to the literature by bringing forward proposals for betterment of current situation by determining existing problems in independent kindergartens of Bursa Directorate for National Education.

## Method

### *Participants*

Participants of this research consist of preschool teacher candidates who study in Department of Primary Education Preschool Education Program of Faculty of Education in Uludag University; sample of this research consists of a total 100 teacher candidates, 42 who take School Experience course and 58 who take Teaching Practice course. These teacher candidates have been observed in 10 independent kindergartens from central districts of the city of Bursa. This research is a screening model study aimed to show the current situation as it is.

### *Data Collection*

An observation form, which was prepared in order to determine the observations of teacher candidates on safety equipments of kindergartens, was used as a review of literature (Çukur, 2011; Demiriz et al., 2003; Hofer, 2008; Karaküçük, 2008; Kıldan, 2007; Ministry of National Education Deposit Bank, 2003). The observation form has 49 articles about school security. Questions were shown to two specialists and expert opinion on the observation form has been obtained. The questions were finalized through the expert opinions. In order to test the observation form, 3 teacher candidates were asked to read the observation form and give feedbacks. Teacher candidates have given positive feedback for the observation form and they have given suggestions for complicated or mistakable questions to have them reorganized.

The necessary editing has been done according to the suggestions of teacher candidates. Questions about school furniture, doors, staircases, entrances and exits, toys in the class or in the garden, neighborhood security, sanitary system, electricity and heating installations and emergency equipment were asked on the observation form and teacher candidates were asked to answer the questions about the schools they had investigated as yes, no or partly. In the light of these answers, the schools were checked to see if they have school security.

### *Analysis and Interpretation of the Data*

The data, which had been collected from the answers of teacher candidates to the questions in the survey, were evaluated as frequencies and percentages and listed in tables. Percentages were evaluated as "suitable, partially suitable and not suitable".

### Results

In this section, the data have been shown in tables and attempts have been made to evaluate the findings.

*Table 1*  
School Furniture, Bathroom and Toilet Safety in Kindergartens

ARTICLES		Yes		Partially		No		Suitable	Partially Suitable	Not Suitable
		f	%	f	%	f	%			
FURNITURE	Are the corners and edges of the furniture rounded?	27	27	33	33	40	40			
	Are the glasses and mirrors of the furniture made of non-breakable glass?	22	22	25	25	53	53	36.33	27.67	36
	Is there any sharp and pointed material in the environment?	15	15	25	25	60	60			
BATHROOMS AND TOILETS		40	40	20	20	40	40			
	Is the wet floor slippery?									
	Are the sinks and toilets reachable for children?	96	96	1	1	3	3	75.25	9.5	15.25
	Are the sinks and the toilets in the school safe enough?	77	77	13	13	10	10			
	Is there any unsafe or unsteady sink in the school?	8	8	4	4	88	88			

When the observation results of teacher candidates are analyzed, it is seen that 36.33% of school furniture are suitable for school safety and 36% are not. Although there are some results showing that the furniture in kindergartens are generally suitable, the observations of teacher candidates suggesting that corners and edges of 40% of the furniture are not

smoothened and the glasses and mirrors of 53% of them are not made of tempered glass are remarkable. Nevertheless, having no sharp or pointed material in kindergartens, except the furniture, can be evaluated as a positive sign.

When the observation results of teacher candidates are analyzed, it is determined that 75.25% of the sinks and toilets are suitable for school safety. However, it is determined that 40% of teacher candidates have observed that bathroom and toilet floors are slippery. Wet floors pose dangerous situations because of the risk of slipping and collapsing. For this reason, it is important to make these wet floors with nonslip materials and keep them dry (Demiriz et al., 2003).

*Table 2*  
The Safety of in-class and Garden toys in Kindergartens

ARTICLES		Yes		Partially		No		Suitable	Partially Suitable	Not Suitable
		F	%	F	%	f	%			
IN-CLASS TOYS	43 – Are the toys made of wood in general?	26	26	49	49	25	25	48,75	30	21,25
	44 – Is there any button or similar small element on the toy?	41	41	28	28	31	31			
	45 – Is there any sharp or incisive toy?	7	7	21	21	72	72			
	46 – Is there any toy that may tuck the hands or feet of the children?	12	12	22	22	66	66			
GARDEN TOYS	31 – Are the toys in the garden generally made of wood?	31	31	30	30	39	39	43	37.71	19.29
	32 – Are the garden toys clean?	41	41	40	40	19	19			
	33 - Are the garden toys well-kept and durable?	38	38	51	51	11	11			
	34 – Are the garden toys placed distantly?	43	43	41	41	16	16			
	35 – Do you think the garden toys (swing, slide, teeter-totter etc.) are safe enough?	21	21	53	53	26	26			
	36 – Is the playground in the garden slippery?	7	7	13	13	80	80			
	36 – Is the playground in the garden hard?	17	17	36	36	47	47			

Yazıcı, Yellice and Özer (2003) stated in their research that ten kindergartens, which they had observed, are in good conditions in terms of furniture and visual materials. It is stated in the research made by Karaküçük (2008) that height of sinks and toilet conditions in kindergartens are acceptable. In this regard, it can be said that these two studies are parallel with each other. Göl Güven (2009) has determined in her research that only one bathroom in kindergartens out of three is suitable for children's developments. Durmuşoğlu has also stated in his research (2008), where he wrote his opinions about preschool education environments,

that sinks, toilets, tables and chairs are not suitable for the heights of the children. In the related literature, it is emphasized that the edges of the furniture should be smoothed, the sinks and toilets should be placed steadily and fair-sized and wet floors should be nonslip (Demiriz, Karadağ & Ulutaş, 2003; Poyraz & Dere, 2003; Baran, Yılmaz, & Yıldırım; 2007).

When the observation results of teacher candidates are analysed, it is determined that 48.75% of in-class toys are suitable for school safety. 49% of teachers have observed that the toys are partially made of wood and 41% of them have observed that there are small pieces in some toys that may be swallowed. When the health and safety of the children are considered, it is worrisome, as this ratio is considerably high.

*Table 3*  
The Safety of Staircases, Doors, Entrances and Exits

ARTICLES	Yes		Partially		No		Suitable	Partially Suitable	Not Suitable	
	f	%	f	%	f	%				
STAIRCASES	8 – Are the stairs covered with a nonslip and soft material?	36	36	7	7	21	21			
	9 – Do the staircases have banisters?	60	60	2	2	2	2			
	10 - Are the height and inclination of the staircases suitable for children to climb up?	44	44	15	15	5	5			
	11 – Is there any unnecessary object on the staircases?	6	6	5	5	53	53	40.29	8.71	15
	12 – Is the door leading to the staircases wide enough?	35	35	15	15	14	14			
	13 - Are there any protective doors at the beginning of the staircases?	7	7	3	3	54	54			
	14 – Are the staircases well-lit?	47	47	14	14	3	3			
DOOR	15 – Is there a threshold at the door leading to the garden?	57	57	2	2	41	41			
	16 – Is there a threshold at other doors?	26	26	9	9	65	65	46	12	42
	17 – Do all doors in the school open outward?	36	36	15	15	49	49			
	18 – Are the door handles steady?	65	65	22	22	13	13			
ENTRANCES-EXITS	26 – Are all entrances and exits wide enough for two people?	53	53	29	29	18	18			
	27 – Is there more than one entrance door in school?	24	24	4	4	72	72			
	28 – Are all the entrances and exits under surveillance?	75	75	19	19	6	6	60.4	19	20.6
	29 – Are the playgrounds of children close to the entrance and exit of the school?	46	46	18	18	36	36			
	30 – Is the garden surrounded in a way that children can see outside but can't step out so easily?	66	66	25	25	9	9			

According to the observations results, it has been indicated that 43% of garden toys are suitable in terms of safety. Also, it has been stated that 39% of teacher candidates observed that the garden toys are not made of wood, 51% of them observed that garden toys are partially well kept and durable, and 53% of them observed that garden toys are partially safe for children. However, it is seen that the number of teacher candidates, who state that garden toys are clean (41%), and those, who state that they are partially clean (40%), are close to each other. The studies made in preschool education institutions show that the elements of garden toys and other games are not safe enough (Karaküçük, 2008), the garden toys of kindergartens are not in good conditions (Göl Güven, 2009), the equipment and supplies in the gardens of kindergartens are insufficient and the playing instruments are not made of natural materials but plastic (Çukur, 2011). However, it is stated in the 54<sup>th</sup> article of Early Childhood Services Regulations that a playground and a garden must be present in preschool educational institutions in order to meet the educational necessities in a healthy and appropriate environment and they must be suitable for their purposes (Ministry of National Education, 2004). The playing instruments in the garden must be user friendly and suitable for the physical development of children.

When the observation results of teacher candidates are analysed, it is determined that 40.29% of school staircases, 46% of school doors and 60.4% of entrances and exits are suitable for school safety. Although these fields are generally considered suitable, it has been found that there are no protective doors at the end of staircases (54%), there are thresholds at garden doors (65%), not all the doors open outward (49%) and playgrounds of children are close to the entrances and exits of the school (46%). It is stated in a study made by Karaküçük (200) that lighting, staircases and banisters in kindergartens are generally safe. Both studies support each other.

Having only one entrance to the school makes the control of people going in or out easier (The Building Blocks of Design, 2004). In light of this information it is seen that having only one entrance for entering the school is a positive situation for school safety. The living and playgrounds of children should be planned apart from the main entry (Emerund, 1983: cited in Kıldan, 2007). But the findings show that playgrounds of schools that are in the scope of the research are designed close to the entrances and exits. This situation poses danger for the children.

*Table 4*  
Emergency, Instalment and Environmental Safety in Kindergartens

ARTICLES		Yes		Partially		No		Suitable	Partially Suitable	Not Suitable
		f	%	f	%	f	%			
EMERGENCY EQUIPMENT	38 – Is there any alarm device in the building in case of thievery or fire?	75	75	8	8	17	17			
	39 – Does the school have surveillance cameras?	80	80	12	12	8	8			
	40 – Are there any fire extinguishers in the school?	90	90	7	7	3	3	71.6	10.6	17.8
	41 – Is the fire extinguisher usable and reachable?	72	72	18	18	10	10			
	42 – Is there any emergency exit in the building?	41	41	8	8	51	51			
INSTALLMENT (MEDICAL, ELECTRICAL)	19 – Are the electric cables installed safely?	64	64	19	19	17	17			
	20 – Are the power sockets where children can reach them?	33	33	7	7	60	60			
	21 – Are the power sockets protected with a special cover?	34	34	14	14	52	52			
	22 – Are the heating / medical installation tubes where children can reach them?	9	9	14	14	77	77			
	23 – Are the heater cores in the class protected?	93	93	3	3	4	4	66.29	13.71	20
	24 – Are the wall-hung materials like boards or panels mounted steadily?	63	63	22	22	15	15			
	25 – Are the objects that children can use to climb up (tools with stairs, climbing ropes in playrooms etc.) near to the lamps on the ceiling, vent pipes, electric cables, power sockets or windows?	10	10	17	17	73	73			
ENVIRONMENTAL SAFETY	Is the location of the school safe in terms of traffic?	48	48	26	26	26	26			
	Is there any cemetery, prison, bar, electronic game center or any place selling alcoholic drinks?							51	20	29

When the results of teacher candidates' observation are analysed, it is determined that 71.6% of emergency instalments in the schools are suitable for school safety. However, according to the results of 51% of teacher candidates' observations, there is not any emergency exit in schools. It is thought that this is a threatening situation for school safety.



Table 5. Health and cleaning conditions in kindergartens

ARTICLES		Yes		Partially		No		Suitable	Partially Suitable	Not Suitable
		f	%	f	%	f	%			
GENERAL HYGIENE OF THE SCHOOL	1 – Are the floors of the school clean?	79	79	15	15	6	6	65.5	22	12.5
	2- Are classes, play garden and the school building big enough?	35	35	39	39	26	26			
	3- Is the garbage preserved properly in classes, kitchens, bathrooms or toilets?	77	77	19	19	4	4			
	4- Is the auxiliary staff attentive to cleaning hygiene?	84	84	15	15	1	1			
	5- Are the cloths and covers clean enough?	82	82	16	16	2	2			
	6- Are the toys and tools that are used by children cleaned on a daily basis?	36	36	28	28	36	36			
	7- Are the classroom floors made of material that can easily collect dust?	13	13	16	16	71	71			
CLASSROOM HYGIENE	8- Are the classroom floors clean?	75	75	17	17	8	8	73.5	16.75	9.75
	9- Is the dust over furniture like cabinets and tables removed every day?	75	75	17	17	8	8			
	10- Are the classes ventilated regularly?	73	73	17	17	10	10			
BATHROOM AND TOILET HYGIENE	11- Are there toilet papers in bathrooms and toilets?	97	97	3	3	0	0	81.67	12.17	6.17
	12- Is there sufficient amount of liquid soap in bathrooms and toilets?	93	93	5	5	2	2			
	13- Is there any paper towel in bathrooms and toilets?	93	93	4	4	3	3			
	14- Is the number of toilets and bathrooms enough when the number of students is considered?	33	33	41	41	26	26			
	15- Are the toilets and bathrooms clean enough?	81	81	15	15	4	4			
	16- Are the toilets and bathrooms cleaned every day?	93	93	5	5	2	2			
KITCHEN HYGIENE	17- Is the kitchen bench clean enough?	80	80	17	17	3	3	79.8	17.6	2.6
	18- Is the kitchen floor clean enough?	78	78	18	18	4	4			
	19- Are hygienic measures taken in the kitchen?	75	75	25	25	0	0			
	20- Are the dishes clean enough?	83	83	17	17	0	0			
	21- Are the tables and chairs that are used by children when they eat clean enough?	83	83	11	11	6	6			
ENVIRONMENTAL CONDITIONS	22- Is there any marsh or sewerage around the school?	7	7	2	2	91	91	84	10	6
	23- Is the air pollution around the school irritatingly high?	5	5	18	18	77	77			
HEALTH EQUIPMENT	24- Is there an infirmary in the school?	17	17	6	6	77	77	15	7.75	77.25
	25- Is there a doctor in the school?	10	10	0	0	90	90			
	26- Is there a nurse in the school?	2	2	1	1	97	97			
	27- Is there a fully-equipped medicine cabinet in the school?	31	31	24	24	45	45			

It is determined that 66.29% of schools' plumbing systems, which are included in the scope of the study, are suitable for school safety. 52% of teacher candidates have observed

that power sockets in schools are not protected with a special cover. In preschool educational institutions, windows should be high enough where children can't reach them, electrical cables should be hidden and power sockets should be in places where children cannot reach them. Some products like head gates, which are designed in order to improve the safety, are considered dangerous objects for children (Demiriz, Karadağ and Ulutaş, 2003; Poyraz and Dere, 2003). In this context, it is considered glad that the plumbing systems of these schools are installed safely.

Findings show that environmental safety conditions in 51% of schools are favourable. It is stated in the study made by Karaküçük (2008) that the school buildings in the scope of the research are safe in terms of environmental conditions. However, the fact that 32% of teacher candidates against 54% state that there is a cemetery, prison, bar, tavern, electronic game center or a place selling alcoholic drinks within 100 meters from the school shows that there are many school buildings that are not structured in accordance with environmental safety. No matter which type, all school buildings should be at least 100 m away from public places like taverns, coffee houses, bars, electronic game centers and places that sell alcoholic drinks (Ministry of National Education Deposit Bank, 2003). When the findings of the research are analysed, it can be said that environmental conditions have not been taken into consideration when building kindergartens.

When the observation results of teacher candidates are analysed, it is seen that general hygiene of the school is favourable for school safety at the rate of 65.5%, classroom hygiene at the rate of 73.5%, bathroom and toilet hygiene at the rate of 81.67%, kitchen hygiene at the rate of 79.8% and environmental conditions at the rate of 84%. However, health equipment has been found insufficient at the rate of 77.25%. It is seen that the numbers of teacher candidates, who state that the tools used by children everyday are cleaned properly and the ones who state that they are, are even (36%). This situation gives rise to the thought whether the kindergartens are cleaned regularly and properly. Göl Güven (2009) has stated in her research that the floors are not cleaned regularly in three schools that are in the scope of the research and one school doesn't even have any cleaning worker. In the research of Durmuşoğlu (2008), kindergarten teachers have stated that they found the floors sanitary. Moreover, most of the teachers in the research have indicated that education materials were sanitary, safe, made of high quality materials and easy to clean. Cleaning the tools and toys used by children every day are important in terms of school health (Demiriz, Karadağ and Ulutaş, 2003; Poyraz and Dere, 2003; The California Child Care Health Program, 1998).

77% of teacher candidates have stated that there is not an infirmary in the school; 90% have stated that there is not a doctor; 97% have stated that there is not a nurse; and 45% have stated that there is not a fully equipped medicine cabinet. Concordantly, it has been determined in the research made by Karaküçük (2008) that there is not a health room in kindergartens. This shows that school are inadequate in terms of health equipment and they don't pay much attention to health conditions.

### Discussion

In light of the findings of this research, which has been prepared to study school safety, and according to the observation results of teacher candidates, the kindergartens have been found safe in terms of sinks and toilets, in-class toys, garden toys, school staircases, school doors, entrances and exits, emergency installments, plumbing systems and environmental safety. However, it has been found that suitability and unsuitability rates are equal to each other when the school furniture is analysed. Furthermore, the majority of teacher candidates state that the edges of the furniture are not smoothed, the glasses and mirrors are not made of shatterproof glass.

When the kindergartens are analyzed in terms of school health, it has been determined that general hygiene, classroom hygiene, toilet and bathroom hygiene, kitchen hygiene and environmental conditions are suitable for school health. However, health equipment has been found insufficient. While the sinks and toilets are generally safe, according to the observations of teacher candidates; floors are slippery, there are no protective doors at the staircases, there are thresholds at garden doors, all the doors open outward, and playgrounds of children are close to the entrance of the school.

In-class toys have been found safe in general. However, observations of teacher candidates show that small materials, which can be swallowed like buttons, can be found among toys. Most of teacher candidates have observed that garden toys are not made of wood and they are partially well kept, steady and partially safe.

When results of the research are analyzed, it can be said that the school environments generally seem suitable for school safety but they have deficiencies. In order to maintain an effective education process in preschool educational institutions, it is important to satisfy the needs of school safety. When viewed from this aspect, it is important for teachers and school administrators to participate in in-service-trainings about school safety.

It would be constructive to create standards on subjects about school safety such as entrance and exit plans, staircases, in-class arrangements, outer spaces and subjects about school health like kitchen, toilet, bathroom, toy, and classroom hygiene. Only the kindergartens able to meet these criteria would be given license. It would be a useful step for children to have education in a safe environment.

In order to improve the conditions of kindergartens, it is needed to be in cooperation with every person, institution and foundation. Moreover, the physical conditions of schools should be periodically surveyed in order to ensure their suitability for school safety. Kindergartens' suitability to the school safety should be observed in different regions with more comprehensive, quantitative and qualitative researches.

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