*Original Research / Orijinal Araştırma*

# The Effectiveness of Child-to-child Education For Prevention of School Accidents In A Primary School: A Randomized Controlled Trial

# Bir İlkokulda Okul Kazalarının Önlenmesinde Çocuktan Çocuğa Eğitimin Etkinliği: Randomize Kontrollü Çalışma

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## Abstract

**Aim:** The study is carried out to compare the effectiveness of the school accident prevention education given by the educator to the child-to-child education. **Method:** The study's sample included students in the second, third, and fourth grades of a primary school (n: 321).First, the Educating Educator (EE) and Child-to-Child Education (CCE) groups were created. Afterward, 'training on prevention from school accidents' was given to EE group by the researcher. One day after the training given to the EE group, five students were selected from among the students in the EE group. These students provided 'training on prevention from school accidents' to the students in the CCE group. The researcher used the Individual Identification Form and the Behavior Scale for Safety Measures in School Accidents to collect data. After the training, the post-test was applied to both groups. Demographic and descriptive data were evaluated with number-percentage. Baseline differences between groups were assessed using "t-test, Wilcoxon signed rank test, Mann Whitney U test". **Results:** After the training given to the EE, and CCE groups, a statistically significant increase was found between the pre-test and post-test knowledge average scores ($p<0.001$). There was no statistically significant difference between the posttest knowledge average scores of the two methods applied to the EE and CCE groups ($p>0.05$). **Conclusions:** This study found that EE and CCE methods are both effective and that both methods are similar in terms of changing students' behaviors related to safety measures for preventing school accidents.
**Keywords:** accident, child-to-child education, child, school.

## Özet

**Amaç:** Çalışma, eğitimci tarafından verilen okul kazalarını önleme eğitiminin çocuktan çocuğa eğitim ile etkinliğini karşılaştırmak amacıyla yürütülmüştür. **Yöntem:** Araştırmanın örneklemini bir ilkokulun ikinci, üçüncü ve dördüncü sınıflarında okuyan öğrenciler (n: 321) oluşturdu. İlk önce Eğitici Eğitimi (EE) ve Çocuktan Çocuğa Eğitim (ÇÇE) grupları oluşturuldu. Daha sonra EE grubuna araştırmacı tarafından 'okul kazalarınından korunma ile ilgili eğitim' verildi. EE grubuna verilen eğitimden bir gün sonra EE grubundaki öğrenciler arasından beş öğrenci seçildi. Bu öğrenciler ÇÇE grubundaki öğrencilere 'okul kazalarınından korunma ile ilgili eğitim' verdi. Eğitimler sonrası her iki gruba da son test uygulandı. Araştırmacı, veri toplamak için Okul Kazalarında Güvenlik Önlemleri için Bireysel Kimlik Formunu ve Davranış Ölçeğini kullandı. Demografik ve tanımlayıcı veriler sayı-yüzde ile değerlendirildi. Gruplar arasındaki temel farklar "t testi, Wilcoxon işaretli sıralar testi, Mann Whitney U testi" kullanılarak değerlendirildi. **Bulgular:** EE ve ÇÇE gruplarına verilen eğitim sonrasında yapılan ön test ve son test puanları lehine istatistiksel olarak fark saptandı ($p<0,001$). EE ve ÇÇE gruplarına uygulanan iki yöntemin son test bilgi ortalama puanları arasında istatistiksel olarak anlamlı bir fark bulunmadı ($p>0.05$). **Sonuç:** Bu çalışmada, okul kazalarını önlemeye yönelik güvenlik önlemleri ile ilgili öğrenci davranışlarını değiştirme açısından EE ve ÇÇE yöntemlerinin her ikisinin de etkili olduğu ve her iki yöntemin de benzer olduğu bulundu.
**Anahtar kelimeler:** kaza, çocuktan çocuğa eğitim, çocuk, okul.

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## Introduction

Despite the progress made over the past two decades, according to WHO's child mortality report for 2018, 6.3 million children and young adolescents are believed to have died in 2017 due to preventable reasons. Approximately 30% of child deaths in the 5 to 14-year-old age group occur because of injuries. Drowning and road injuries alone account for 14% of all deaths in this age group. More than ten million children are taken to the hospital every year worldwide after being injured.[1] According to data from the CDC, 10-25% of children and adolescent injuries in the United States occur in schools.[2] Since there are no statistics concerning school accidents in Turkey, only some of the school accidents that occur are known as a result of media coverage.[3]

According to the WHO, accidents are defined as "unplanned events occurring at an unexpected moment that cause injury, loss of life and property".[1] In order for an accident to be considered a school accident, it should occur during school hours, or during transportation in a vehicle provided by the school administration when the student is being taken to somewhere outside the school for school activities (e.g., sports events, tours) or for teaching purposes.[4]

Students may be injured not only in school buildings, but also in the schoolyard, on the sports field, in the school garden, or elsewhere on campus. Accidents caused by falling over or running into each other are more common in young children..[3] A quarter of school-related injuries occur during recess and physical education classes. Approximately 40% of school-related accidents are caused by issues or deficiencies in the immediate environment. However, studies show that children's behavior, rather than physical conditions, causes these accidents..[5,6] Since injuries are one of the leading causes of death for children and adolescents, prevention of accidental injuries in children is an important problem. Training programs should be provided in order to prevent injuries in children, situations and behaviors that may cause injury should be identified, and children should be given the skills to avoid these. Children's awareness of risk factors should be increased, and they should be encouraged to only engage in activities and games that are suitable for their level of ability and competence.[7,8] The study conducted by Akkan et al. concluded that education aimed at preventing school accidents positively affects the behavior of children.[9]

Primary school provides the best opportunity for children to learn about life, and for them to acquire specific habits that will ensure they can benefit from health-related practices throughout their lives. Educating them at a young age helps to minimize the negative effects of accidents and instills an enduring concern to remain safe and secure. The report prepared by the WHO school health committees on school health emphasized that training about school health should be given by the school's medical team. When nurses provide education about accident prevention and first aid in schools, this may be disseminated by the students to their families and to the community at large.[10,11] Since children consider what they learn to be important and are keen to share these issues with those in their environment, they are important means by which information gets passed on in a community. Giving children the opportunity to share information they have learned with other children in their age group is an approach that enables children to help each other.[12] For these reasons, our study was planned to determine the effectiveness of the school accidents prevention education given to children in the primary school and to compare the effectiveness of the education provided by the educator to children and the child-to-child education.

## Methods

*Study design*

The aim of this randomized controlled experimental study is to evaluate the effectiveness of the school accidents prevention education given to children in the primary school and to compare the effectiveness of the education provided by the educator to children and the child-to-child education.

*Participants and procedure*

The research was carried out in Gaziosmanpaşa Primary School located in Balıkesir city center. After taking issues such as cooperation with school administrators, accessibility, and the time available into account, primary school was chosen for the research. Purposive sampling, which is one of the non-probable sampling methods, was used.[13] The population was composed of students in the kindergarten, and the first, second, third and fourth grades at primary school (n: 585). In selecting the research sample, kindergarten and first grade students were excluded from the study since they could not read or write, so the sample was consisted of students in the 2nd, 3rd and 4th grades (n: 321).

Following ethical guidelines, all students in the classes were included in the study, regardless of the number of students. Then classes 2 (A-B-C), 3 (A-B-C), 4 (A-B-C) were selected for the Educating Educator (EE) group and classes 2 (D-E-F), 3 (C-D-E), 4 (D-E-F) were selected for the Child-to-Child Education (CCE) group by drawing lots using the single-blind method.

*Data Collection*

The researcher used the Individual Identification Form and the Behavior Scale for Safety Measures in School Accidents to collect data. The training materials were the Training Presentation on the Prevention of School Accidents and the Activity Booklet for Preventing School Accidents.

*Individual Identification Form:* This was prepared by the researcher in line with the literature. The form has a total of 20 questions, made up of questions about demographic information (five questions), information about parents (six questions), and information about school accidents (nine questions).

*Behavior Scale for Safety Measures in School Accidents:* Gür developed the Behavior Scale for Safety Measures in School Accidents in 2004.[14] The reliability coefficient of the scale was r = 0.74, and the Cronbach's alpha reliability coefficient was α = 0.81. The five-point Likert-type scale consists of 40 items ("Always": 5 points; "Never": 1 point). The scale can be applied to all students of primary school age, except for the first-year students. Items 2, 3, 4, 5, 7, 10, 12, 20, 21, 22, 26, 32, 34, 36, 37, 38, and 39 are reverse scored. As a result, each student is able to obtain a minimum of 40 and a maximum of 200 points. The higher the score obtained from the scale the greater the student's awareness of safety measures intended to prevent school accidents. In this study the Cronbach's alpha reliability coefficient was found to be α = 0.81.

*Training Presentation on the Prevention of School Accidents:* This was a PowerPoint presentation on how to prevent school accidents prepared in line with the literature. In addition, the Training Presentation on the Prevention of School Accidents was prepared under the consultancy of experts in the field of pediatric nursing. It included rules about walking in school, behavior in school, behavior in the schoolyard and behavior in school vehicles.

*Activity Booklet for Preventing School Accidents:* The researcher prepared an eight-page Activity Booklet for Preventing School Accidents in line with the literature. The topic of preventing accidents in the booklet is explained through exercises including mazes, joining-the-dots, identifying right/wrong behavior, finding the difference between two pictures, drawing, and word searches. On the last page of the booklet, students were asked to draw a picture about accident prevention.

*Measures and Procedure*

The study was implemented with students in the second, third and fourth grades at Primary School, who complied with the research criteria, and who had written consent from their families in the study. The study was carried out in four stages.

**Stage 1:** For all three grades, the EE and CCE groups were determined using the simple random sampling method. The Individual Identification Form and Behavior Scale for Safety Measures in School Accidents were applied as a pre-test to students in both groups. The application of the pre-test took 30-40 minutes.

**Stage 2:** The researcher gave the Training Presentation on the Prevention of School Accidents to the students in the EE group during one lesson hour. A PowerPoint presentation (rules about walking in the school, behavior in school, behavior in the schoolyard and behavior in school vehicles) and the Activity Book for Preventing School Accidents were used.

**Stage 3:** The researcher randomly selected five students (one student for each topic) from among students in the EE group one day after each training presentation. Students selected from the EE group provided Education on Preventing School Accidents using the child-to-child education method to students in the CCE group under the researcher. For example, following the completion of the presentation by the EE given to class 2A, five students were randomly selected from the class. The next day, they taught class 2D using child-to-child education. Each student taught only once and each student described only one of the five different educational topics. The PowerPoint presentation and the Activity Book for Preventing School Accidents used in the EE group were used in the training. The lessons given to all the classes were completed in 17 school days.

**Stage 4:** Twenty days after the researcher had provided education to the EE group, and 20 days after the EE group had taught the CCE group using the child-to-child education method, the groups took the Behavior Scale for Safety Measures in School Accidents as a post-test (Figure 1).

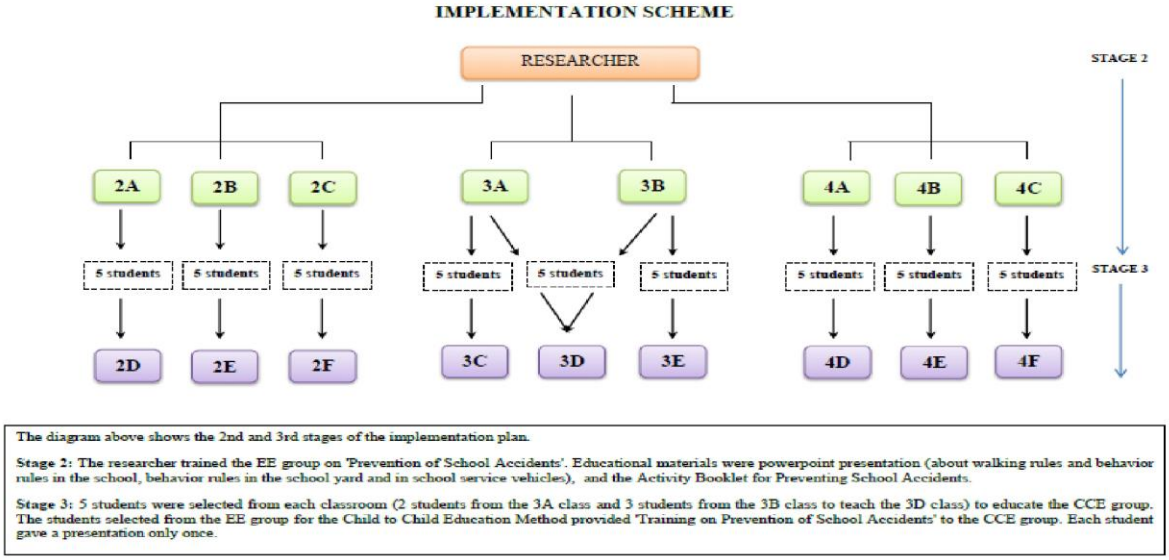
*Ethical Considerations*

The parents of the students filled in an Informed Consent Form related to the research. Permission was obtained for the research from the Clinical Research Ethics Committee at the Faculty of Medicine at University (Permit11.09.2017-E.44075) and the Provincial Directorate of National Education Research.

*Data Analysis*

The study used "*SPSS- package program*" to analyze the data. Demographic and descriptive data were evaluated with number-percentage. Baseline differences between groups were assessed using "*t test, Wilcoxon signed rank test, Mann Whitney U test*". The degree of significance was taken as $p < 0.05$.

**Figure 1:** Implemention Scheme




## Findings

*Sociodemographic Characteristics*

***Table 1*** shows the findings about the students' sociodemographic characteristics. Of the EE group students, 46% were female, 66.7% of the students' mothers were housewives and 54% of their fathers were private sector employees. Table 1 shows the socio-demographic characteristics of the students and families. There was no statistically significant difference between the EE and CCE groups in terms of sociodemographic characteristics ($p > 0.05$).

**Table 1.** Distribution of students' sociodemographic characteristics

| Variables | | EE (n=150) | | CCE (n=171) | | Test statistics | P |
|---|---|---|---|---|---|---|---|
| | | N | % | n | % | | |
| **Gender** | Female | 69 | 46 | 90 | 52.6 | 1.406 [a] | 0.236 |
| | Male | 81 | 54 | 81 | 47.4 | | |
| **Occupation of Mother** | Housewife | 100 | 66.7 | 122 | 71.3 | 2.794 [a] | 0.424 |
| | Private Sector Employee | 36 | 24 | 29 | 17 | | |
| | Self-Employed | 8 | 5.3 | 10 | 5.8 | | |
| | Government Employee | 6 | 4 | 10 | 5.8 | | |
| | Unemployed | 4 | 2.7 | 4 | 2.3 | | |
| **Occupation of Father** | Private Sector Employee | 81 | 54 | 107 | 62.6 | 2.615 [b] | 0.459 |
| | Self-Employed | 36 | 24 | 35 | 20.5 | | |
| | Government Employee | 29 | 19.3 | 25 | 14.6 | | |
| | Illiterate | 4 | 2.7 | 3 | 1.8 | | |
| **Educational Level of Mother** | Literate | 8 | 5.3 | 18 | 10.5 | 4.006 [a] | 0.405 |
| | Elementary Education | 72 | 48 | 86 | 50.3 | | |
| | High School | 50 | 33.3 | 50 | 29.2 | | |
| | University | 16 | 10.7 | 14 | 8.2 | | |
| **Educational Level of Father** | Illiterate | 5 | 3.3 | 3 | 1.8 | 4.941 [a] | 0.293 |
| | Literate | 6 | 4 | 16 | 9.4 | | |
| | Elementary Education | 53 | 35.3 | 64 | 37.4 | | |
| | High School | 48 | 32 | 52 | 30.4 | | |
| | University | 38 | 25.3 | 36 | 21.1 | | |
| **Place of Longest Residence** | Village | 12 | 8 | 10 | 5.8 | 1.439 [a] | 0.487 |
| | District | 28 | 18.7 | 26 | 15.3 | | |
| | Province | 110 | 73.3 | 135 | 78.9 | | |

Note: EE=Educating Educator; CCE= Child-to-Child Education[a] Pearson chi-squared test results [b] Fisher-Freeman-Halton test results

*School accident characteristics*

***Table 2*** shows the findings regarding student accidents. Seventy-eight percent of the students in the EE group stated that they had had an accident at school in the past month. Of these, 48.7% had had an accident in the garden and 75.2% during recess. Looking at the cause of the accident, 28.2% of students had had an accident while playing games. We found that 80.3% of the students had been injured because of their accident. Of the CCE group students, 60.2% had had an accident at school in the past month, 45.6% of the these had had an accident in the garden and

72.8% during recess. Of the students 35% had had an accident due to carelessness and 86.4% of the students had been injured after the accident.

**Table 2.** Distribution of school accident characteristics

| | | EE (n=117) | | CCE (n=103) | |
|---|---|---|---|---|---|
| | | N | % | n | % |
| **Have they had an accident at school in the past month?** | Yes | 117 | 78 | 103 | 60.2 |
| | No | 33 | 22 | 68 | 39.8 |
| **Where did they get the accident?** | In the classroom | 25 | 21.4 | 23 | 22.3 |
| | On the stairs/in the hallway | 28 | 23.9 | 24 | 23.3 |
| | In the gym | 3 | 2.6 | 2 | 1.9 |
| | In the garden | 57 | 48.7 | 47 | 45.6 |
| | On the street | 3 | 2.6 | 6 | 5.8 |
| | In the service bus | 1 | 0.9 | 1 | 1 |
| **When did they have the accident?** | During a lesson | 7 | 6 | 2 | 1.9 |
| | During a Physical Education lesson | 17 | 14.5 | 16 | 15.5 |
| | During recess | 88 | 75.2 | 75 | 72.8 |
| | Entering/leaving school | 5 | 4.3 | 8 | 7.8 |
| | Other (during the day) | 0 | 0 | 2 | 1.9 |
| **What is the cause of the accident?** | Carelessness | 24 | 20.5 | 36 | 35 |
| | Joking around | 8 | 6.8 | 10 | 9.7 |
| | Fighting | 6 | 5.1 | 5 | 4.9 |
| | Tiredness | 1 | 0.9 | 1 | 1 |
| | Playing a game | 33 | 28.2 | 18 | 17.5 |
| | Using sports equipment | 4 | 3.4 | 0 | 0 |
| | Using the stairs | 6 | 5.1 | 3 | 2.9 |
| | Uneven surface/ground | 7 | 6 | 0 | 0 |
| | Running | 25 | 21.4 | 26 | 25.2 |
| | Failure to follow the rules | 3 | 2.6 | 4 | 3.9 |
| **Were they injured in the accident?** | Yes | 94 | 80.3 | 89 | 86.4 |
| | No | 23 | 19.7 | 14 | 13.6 |

Note: EE=Educating Educator; CCE= Child-to-Child Education

*Comparison of pre-test scores and post-test change percentage of EE and CCE*

***Table 3*** compares pre-test knowledge scores and the post-test percentage of change between EE and CCE groups. While the pre-test knowledge average score of the EE group was 152 (94-186), the pre-test knowledge average score of the CCE group was 153 (111-185). Percentages of post-test changes are 0.09 (-0.18; 0.47) for the EE group and 0.07 (-0.12; 0.55) for the CCE group. In terms of the significance value of the Mann Whitney U test, no statistically significant difference was found between the EE and CCE groups in terms of the percentage of change in the knowledge score obtained from the post-test and the pre-test ($p > 0.05$). The pre-test knowledge scores and post-test knowledge scores of the EE and CCE groups were similar in terms of the amount of change.

**Table 3.** Comparison of pre-test scores and post-test change percentage of CCE and EE

| | EE (n=150) | CCE (n=171) | Test statistics * | P |
|---|---|---|---|---|
| **Pre-test** | 152(94-186) | 153(111-185) | 12056 | 0,354 |
| **Post-test change percentage** | 0,09 (-0,18;0,47) | 0,07(-0,12;0,55) | 11797 | 0,215 |

Note: EE=Educating Educator; CCE= Child-to-Child Education
* Mann Whitney U test results

*Comparison of pre-test and post-test scores of EE and CCE groups*

***Table 4*** compares the pre-test and post-test knowledge scores of EE and CCE groups. While the pre-test knowledge average score of the EE group was 152 (94-186), the post-test knowledge average score was 166.50 (89-190). While the pre-test knowledge average score of the CCE group was 153 (11-185), the post-test knowledge average score was 167 (123-190). The significance value from the Wilcoxon sign rank test showed that a statistically significant difference was found when the difference between the pre-test and post-test knowledge scores were compared for each group separately ($p < 0.001$).

**Table 4.** Comparison of pre-test and post-test scores of CCE and EE groups.

| | EE (n=150) | CCE (n=171) |
|---|---|---|
| **Pre-test** | 152(94-186) | 153(111-185) |
| **Post-test** | 166.50(89-190) | 167(123-190) |
| **Test Statistics*** | **-8.379** | **-8.867** |
| **P** | **<0.001** | **<0.001** |

Note: EE=Educating Educator; CCE= Child-to-Child Education
*Wilcoxon signed rank test results

## Discussion

This study aimed to examine the effectiveness of education provided to the children about preventing school accidents and to compare the effectiveness of the CCE used by the educator to standard education methods. The sociodemographic characteristics of the students included in the study show a homogeneous distribution. This is extremely important for the reliability of the study.

In the study shows that 78% of the EE group students and 60.2% of the CCE group students stated that they had had an accident in the previous month. In the studies conducted by Akçay and Yıldırımlar, and Ergüder and Yeryutan, the percentages of accidents of students at school were 55.4% and 59.8%, respectively.[2,15] In the study of Akkan on first-aid education in school accidents, the percentage of having previous had an accident at school accident was 35.1% in the control, while it was 45.7% in the other group.[9] The researcher observed that there were differences between the types of accidents in different studies.

Regarding the findings related to students' accidents, both groups stated that they had had an accident in the schoolyard, on the staircase/in the corridor or in the classroom. The research carried out by Gevrek Akar found that the accidents that children had inside the school occurred on the staircases or in the classrooms.[16] In other studies, the students stated that the school garden was where they had the most accidents.[6,14,15,17,18] The findings of our study are similar to other studies. The reason why accidents usually occur in the gardens may be that children spend most of their spare time in school gardens and move in more uncontrolled way there. Lack of adequate safety measures in the schoolyard may be another factor causing accidents.

Our study shows that students in both groups experienced accidents mostly during recess. The study by Gür also shows that recess is the time when children most frequently have accidents.[14] The most common reason for accidents occurring during breaks is that children can move more freely and are not kept under control as they are during classroom hours. The high number of students in schools, older and younger children using the same area for play, all the students having breaks at the same time, an insufficient number of teachers on duty, insufficient and unsafe playgrounds, increases the rate of school accidents during recess.

Our study investigated the causes of the students' accident. Students in the EE group had the most accidents due to games, running, carelessness and joking around. The reasons for the students in the CCE group having an accident were carelessness, running, playing, and joking around. Although the rankings of the accidents' causes were different for the groups, they were similar in terms of percentages. Among the 11 causes of accidents in the survey, the first four causes were the same for both groups. The study by Erarslan found that carelessness, joking around, and play caused accidents experienced by students at school. This study study shows parallelism with our study.[19]

Our findings show that 80.3% of the EE group students and 86.4% of the CCE group students were injured after they had an accident. Akçay's and Erarslan's studies on school accidents concluded that 69.6% and 78.5% of the students who had an accident were injured respectively.[2,19] The reason for the higher rate of injury in our study than in these two studies may be related to the age group in which the studies were conducted. While Akçay studied the 7-14 age group, Erarslan did his work with high school students. The fact that the current research was conducted only for the primary school group caused the accident and injury rate to be higher. Research examined shows that primary school students have higher rates of school accidents.[3,18] The high accident rate of primary school students causes the high injury rate. The result was expected considering that children at this age engage in more games and sports activities, and thus suffer more injuries[20].

The pre-test knowledge average scores of the EE and CCE group students regarding behavioral precautions against school accidents shows that the pre-test knowledge average score of the EE group was 152, while the average score of the CCE group was 153. There was thus no difference between the pre-test knowledge of the behaviors of EE and CCE groups regarding behavioral precautions against in school accidents at the beginning of the experimental process. Considering the lowest score that can be obtained from the scale regarding taking precautions to prevent school accidents used in our study was 40 and the highest score was 200, the behaviors of the students were moderate regarding accident prevention measures. However, the lowest average scores of the EE and CCE students were between 94 and 111 in the scale. This suggests that some students are at risk of engaging in unsafe behaviors leading to school accidents.

Our study determined that the post-test percentages of change in EE and CCE group students had increased. It shows that EE and CCE is effective in education related to school accidents, and that education can be achieved not only through teachers but also through children. The researcher considers that child-to-child education is suitable for providing health education. There are different studies showing that child-to-child education is effective in the literature[5,11,12,21].

The post-test scores of EE and CCE groups were higher than pre-test scores. This shows that the education provided affected the students' behavior positively. The study of Ergun et al. shows that the post-education scores of the experimental and control groups increased[5]. Yalçın's study on first-aid education showed that students scored higher in both the adult-led group and the peer-led group than before the education[11]. In the study of Akkan, the post-test scores of the group who received training were higher than the group who did not receive training[9]. The results of this study show similarities with these other studies. The successes achieved in the process of applying the ***child-to-child education method*** are increasing the worldwide popularity and attractiveness of the method day by day[22]. The child-to-child education method can be used as an education approach in which students at all stages can actively participate. In this way, children not only learn on their own, but also share what they have learned with other individuals in the community. Providing education about preventing school accidents to school children who are open to learning will change their behaviors in a positive direction, and prevent many accidents and deaths[9,23].

## Limitations

The only limitation of the study is that it was conducted with students from the same school. Other studies should consider increasing the sample size, including additional school grades and schools from different geographical areas. Furthermore, researchers may think about extending the training period and/or incorporating new training methods.

## Conclusion

The study's findings show that post-test scores in both groups were higher than pre-test scores. It is critical to improve students' safety behaviors in order to prevent school accidents. The child-to-child education method aids in the learning and awareness of health issues.
After reviewing the findings of this study, the researcher suggests that additional research be conducted with different sample groups on child-to-child education or on various health education issues.

**References**


1. World Health Organization (WHO) 2018 Road Traffic Injuries. Retrieved 18 August, 2022, https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries.
2. Akçay D, Yıldırımlar A. Investigation of children's school accident and behavior of their parents safety measures. DEUHFED 2018; 11(1):48-55.
3. Güner T. The social security aspect of school accidents (injuries). The Journal of Academic Social Science 2016; 4(32):391-412.
4. Kılınç E, Gür K. The Effect of Health Belief Model Based Initiatives in Preventing School Injuries. HSP 2018; 5(3):467-475.
5. Ergün S, Alkım A, Dolgun E. Child-to-child training for prevention of school injuries in Ödemiş, Turkey. The Journal of School Nursing, 2012; 29(5): 337-342.
6. Salminen S, Krenniemi M, Raback M, Markkula J, Lounamaa A. School environment and school injuries. Frontiers in Public, 2014; 1(76).
7. Orton E, Watson MC, Mulvaney C, Kendrick D. School based education programmes for the prevention of unintentional injuries in children and young people. Cochrane Database of Systematic Reviews. 2016; Retrieved 02 May, 2022, https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010246.pub2/full.
8. Margeson A, Gray S. Interventions aimed at the prevention of childhood ınjuries in the indigenous populations in canada, australia and newzealand in the last 20 years: a systematicreview. International Journal of Environmental Resource Public Health 2017;14(589).
9. Akkan T. Efficiency of the first aid education program in school accessibilities applied to 6-12 age children. Dissertation. Institute of Health Sciences. Okan University, İstanbul. 2018, pp:5-6.
10. World Health Organization (WHO) Levels and trends in child mortality: report 2018. World Health Organization. Retrieved 18 August, 2022, https:// childmortality.org/wp-content/uploads/2018/12/UN-IGME-Child-Mortality-Report-2018.pdf.
11. Yalçın A. Evaluation of the efficacy of basic first aid training given through peer and adult education methods in an elementary school. Dissertation. Institute of Health Sciences. Marmara University, İstanbul. 2010, pp:4-5.
12. Ataman Ü. Preschool nutrition education on child to child education. Dissertation, Institute of Social Sciences, Selçuk University, Konya. 2009, pp: 25-26.
13. Erdoğan S, Nahcivan N, Esin MN. Research in nursing: process, Practice and critical, 4. Ed. İstanbul, Nobel Tıp Bookstore, 2020;184-185.
14. Gür K. Epidemiology of accident in the elementary schools of Istanbul and development of scales of children's knowledge and attitude towards the security prevention against school accidents. Dissertation. Institute of Health Sciences. Marmara University, İstanbul. 2005, pp:1-2.
15. Ergüder B, Yertutan C. Investigation of accidents suffered by students in primary schools. Ankara, H.Ü. School Of Home Economics Publications, 2005; 13(13), 32-34.
16. Gevrek Akar S. Investigation of the effects of security measures taken in primary education institutions on school accidents. Dissertation. Institute of Health Sciences. Medipol University, İstanbul. 2017, pp:1-2.
17. Ergüder B. Investigation of accidents suffered by students in primary schools. Dissertation. Institute of Health Sciences. Hacettepe University, Ankara. 2004, pp:2-3.
18. Erkal S, Yeryutan C. determine the situation of students' having and accident in the school and the parents' behaviors. Hacettepe Üniversitesi Sosyal Araştırmalar E-Dergisi 2012;1:1-11.
19. Erarslan R. Study of the incidence of school accidents in second tier students of a primary school. Journal of Pediatric Medicine 2008;2(3): 8-18.
20. Bombacı H, Ülkü K, Adıyeke L, Kara S, & Görgeç M (2008) Child injuries, causes and deaths. Acta Orthop Traumatol Turc. 2008;42(3): 166-173.
21. Akar Şahingöz S. A Research made into practice of nutrition education in primary schools based on child to child education method. Dissertation, Institute of Educational Sciences, Gazi University, Ankara. 2002, pp:3-4.
22. Babul F Child to child: a review of the literature (1995-2007). The Child-to-Child Trust Institute of Education. Retrieved 18 August, 2022. http://www. childtochild.org.uk/ wp-content/uploads/2014/08/CtC-Literature-Review-Final-2007.pdf.
23. Reveruzzi B, Buckley L, Sheehan M. School-based first aid training programs: a systematic review. Journal of School Health. 2016; 86(4): 266-272.