



## **Examining the Effects of Negotiation and Peer Mediation on Students' Conflict Resolution and Problem-Solving Skills**

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Research shows that conflicts in schools cannot be resolved by constructive and peaceful means and teachers cannot support students sufficiently. To solve this problem, the Negotiation and Peer Mediation Training Program was experimented on the fourth-, fifth- and sixth-grade students in this study aiming to examine the effects of the Negotiation and Peer Mediation Training Program on conflict resolution and problem-solving skills. The study was conducted on 44 students attending the “Children’s University” summer school. The research was carried out in the pretest-posttest design without control group. The training program consisting of 18 activities was implemented. The students were subjected to “Conflict Resolution Skills Scale” and “Problem Solving Inventory for Children” before and after the program. The pretest and posttest scores of both instruments total tests and subscales were analyzed with dependent samples t-test. It was observed that the training program was not effective on problem solving but reduced “obliging” and “avoiding” behaviors. Results achieved in the other subscales of the Conflict Resolution Skills Scale were not coherent with the literature. Based on the research results, it can be argued that the Negotiation and Peer Mediation Training mitigated the avoiding and obliging behaviors which do not serve a peaceful resolution.

Keywords: negotiation, peer mediation, negotiation and peer mediation training program, conflict resolution, problem solving

### **INTRODUCTION**

It is possible to define the concept of conflict simply as the state of disagreement-dispute. Gordon (2007) regards conflict as disagreement occurring between individuals

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when one's behaviors contradict other's requirements, hinder the satisfaction of those requirements or their values do not match. Interpersonal communication conflicts (Dökmen, 2016) may be due to actual or superficial causes of the conflict.

How the concept of conflict is addressed has changed with approaches that have been dominant in several periods in social sciences. Classic or conventional approaches that recognize conflict as an undesirable situation to be terminated have been replaced by the neoclassic or behaviorist approach which is deemed contributing to the management of conflicts. Approaches regarded as being modern/interactive in terms of conflicts offer the latest perspective and agree that conflicts have beneficial functions and are natural and inevitable parts of life (Cohen, 2005 as cited in Türnüklü, 2005).

Conflict itself is not a direct problem. On the contrary, it can offer individuals opportunities in domains such as problem solving and individual and social development (Morrison, Austad, & Cota, 2011). Hence, the main problem is that communication is harmed even further by ignoring the conflicts or trying to solve them in a way that leads to destructive consequences.

It is observed in several studies of the literature that conflicts in schools are on high levels and individuals attempt to solve them with vigor (Sweeney & Carruthers, 1996; Türnüklü, 2007; Türnüklü & Şahin, 2002; Türnüklü & Şahin 2004). This destructive way of solution based on the principle of win-lose and far from collaboration (Ayas, Deniz, Kağan, & Keç, 2010; Türnüklü & Şahin, 2004) may cause that anger, resentment, feeling hard done-by, frustration, hostility, rage, etc. are experienced intensively and the problem is taken personally. The main reason for this is arguably that the steps followed to resolve the conflicts are not constructive (Açıkgöz, 2003).

Research shows that conflict resolution skills and strategies used in schools are far from constructivism. Türnüklü, Şahin, & Öztürk (2002) state that strategies used by school members are authoritarian and of external locus of control, involve psychological violence and physical elements, and constructive and peaceful conflict resolution strategies such as having students solve their own problems, solving a shared problem together, negotiation and mediation are not much utilized. It can be therefore said that a new understanding is needed in conflict resolution.

Generally, approaches implemented under the supervision of an adult are used in the resolution of conflicts (Türnüklü & İlleez, 2006). However, it is also suggested that these approaches fall insufficient to create constructive result (Gordon, 2007). Hence, one can mention that approaches are designed by taking the student to the center even more. In this respect, (Türnüklü, 2005), from a more detailed point of view, suggests a framework in which it is student's responsibility to resolve the conflict, they decide and manage the process and student-centered approaches helping individuals gain self-control and self-management skills are utilized. Because this way, conflicts pave the way for student development with the use of student-centered approaches.

A student-centered conflict resolution training program used in schools is peer mediation. Johnson and Johnson (1995) argue that peer mediation is a systematic, structured problem-solving process in which a neutral mediator and a third party help

two or more individuals negotiate to resolve their conflicts (Johnson & Johnson, 1995; Karip, 1999; Türnüklü, 2005) and which allows the conflicting parties to express themselves, their requests and feelings, helps them produce mutual and constructive resolution and enables them to reach a conclusion which is just, equal and peaceful for both parties (Türk, 2013). According to Çetin, Türnüklü, & Turan (2014), peer mediation is the “individual”-focused practice of negotiation and peace culture through which conflicting individuals can resolve their conflicts and put into practice not the learned helplessness but the learned potency. This process is carried out by the parties to reach a conclusion based on the win-win relationship in which both parties will respect and recognize each other.

There are various approaches developed for conflict resolution and mediation (Thompson, 1996; Rahim & Bonama, 1979 as cited in Ayas et al., 2010; Carruthers, Carruthers, Day-Vines, Bostick, & Watson, 1996; Gümüşeli, 1994; Johnson & Johnson, 1995; Lantieri, 1995; Sandy & Boardman, 2000). One of the commonly used approaches is “Teaching Students to be Peacemakers” developed by Johnson and Johnson (1995). Both conflict resolution and mediation are taught in the program. The conflict resolution process implemented in the program is composed of six stages in which parties tell each other their requests, what they feel and the reason for the way they feel, and they offer shared solution proposals and shake hands on a mutual decision.

Different models of mediation have been developed in Turkey (Akgün, Araz, & Karadağ, 2007; Koruklu, 2006; Türnüklü et al., 2009). Among these models, the most common conflict resolution and mediation program in the literature is the one adapted by (Türnüklü et al., 2009). This training program has four areas of understanding the nature of interpersonal conflicts, communication skills, anger management skills, and interpersonal conflict resolution skills. In general, conflict resolution and mediation programs meet on common grounds such as recognizing the nature of conflict, anger management, conflict resolution strategies and constructive communication (Akgün et al., 2007; Morse & Andrea, 1994).

In the 21st century when skills like communication and collaboration are considered survival skills (Wagner, 2008; Partnership for 21st Century Learning, 2015), individuals are expected to manage themselves, resolve conflicts with others in a peaceful way and collaborate with them. On the other hand, according to PISA (2015) report, the rate of students reporting that they had been subjected to peer bullying at least a few times a month was found to be 19% in Turkey. This rate is approximately the same as the average of OECD countries. It is known that students do not resolve conflicts intensively observed in schools (Ayas et al., 2010; Sweeney & Carruthers, 1996; Türnüklü, 2007; Türnüklü & Şahin, 2002, 2004; Türnüklü et al., 2002) by constructive and peaceful means and the traditional conflict resolution strategies used are the strategies which increase external control and reduce the sense of responsibility (Gordon, 2007). Therefore, it is very important that the student-centered Negotiation (Problem Solving) and Peer Mediation Training Program was used in this research.

This study aimed to investigate the effects of “Negotiation and Peer Mediation Training Program” developed by Törnükü et al. (2009) on conflict resolution and problem-solving skills. To this end, the answers were sought to the following questions:

- Is there a significant difference between pre and post conflict resolution skill tests?
- Is there a significant difference between pre and post problem solving skill tests?

It is anticipated that this study will offer teachers experience on constructive and peaceful conflict resolution strategies which they can taught to their students and will inform researchers of the effectiveness of training programs and the preparation of new training programs.

## **METHOD**

### ***Research Model***

This research used the pretest-posttest model without control group of pre-experimental designs. Effect of the experimental procedure is tested with a study on a single group in this design. Measures of the subjects by the dependent variable are obtained using the same subjects and instruments as pretest and posttest before and after the application. As there is no randomness and pairing, it can be also defined as one-factor intragroup or repeated measures design. Significance of the difference between the pretest and posttest values of the single group is tested in the design (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014).

### ***Study Group***

The study group of the research was composed of the fourth-, fifth-, and sixth-grade students (48 students in three groups) attending the summer school (Children’s University), which is organized at a public university within the scope of the scientific research project named “Evaluating the Effects of Differentiated Science, Reading and Peer Mediation Teaching”. Students attending the Children’s University take courses on science, art, and sports branches, and the education is implemented in two three-week terms. Precedence in the electronic application order was taken as the criterion of accepting the students to the Children’s University. 4 students who did not participate in the pretest or posttest measures were excluded from the evaluation. Descriptive data on the gender and grade levels of 44 students whose answers were included in the evaluation are given in Table 1.

Table 1

**Children’s University Students’ Distribution by Grade Levels and Gender**

Students	4th grade	5th grade	6th grade
Girl	6	10	6
Boy	7	10	5
Total	13	20	11

Half of the Children’s University students participated in the study are girls, the other half are boys. The majority of the students were 5th graders (45.4%). They were followed by 4th graders (29.5%) and 6th graders (25%) respectively.

**Procedure**

A 28-hour course was scheduled to implement the “Negotiation and Peer Mediation Training Program” within the scope of Children’s University summer school program. Classroom teachers were assigned to provide the negotiation and peer mediation training in this course. All educators who would teach the course or be assigned in the Children’s University had completed the educator training program provided by Dokuz Eylül University Conflict Resolution Center (AÇMER).

The students of all groups completed the data collection instruments in the first hour of their first course day and in the last hour of their last course day. The “Negotiation and Peer Mediation Training Program” was implemented during the period between. The related program was developed by Türnüklü et al. (2009) for the 4th and 5th grades within the scope of the TÜBİTAK project called “School-Based Conflict Resolution and Peer Mediation Project”. This training program consists of understanding the nature of interpersonal conflicts, communication skills, anger management skills, and interpersonal conflict resolution skills. 18 activities are performed in the 31-hour program. In this research, the 31-hour activity was completed in 28 class hours with the course durations having been increased to 50 minutes.

**Data Collection Instruments**

The students were asked about their genders and grade levels to identify their demographics, and the “Conflict Resolution Skills Scale (CRSS)” and “Problem-Solving Inventory for Children (PSIC)” were utilized to collect data in this study. The psychometric properties of the scales are as follows:

**Conflict Resolution Skills Scale (CRSS):** The scale was developed by Sarı (2005) in two stages in consideration of the subscales of integrating, dominating, obliging, avoiding, and compromising based on Rahim and Bonoma’s conflict resolution model. The data of 350 students and 280 students were used in the first and second stages, respectively. All analyses and corrections concluded a 26-item construct composed of 4 subscales (integrating, avoiding, obliging, dominating) which explain 40.29% of total variance. There are 8 items in integrating ( $\alpha = .76$ ), 6 items in obliging ( $\alpha = .71$ ), 6 items in dominating ( $\alpha = .69$ ), and 6 items in avoiding ( $\alpha = .56$ ) (Sarı, 2005).

Since the CRSS subscales measure different characteristics, it is recommended that researchers make individual assessments by subscales. This instrument is scored on a 5-point Likert scale. Higher scores obtained in “integrating” which has 8 positive items mean that conflicts are resolved in a constructive and positive manner. “Avoiding” is composed of 6 negative items; higher scores mean higher levels of avoiding behavior which is undesirable for conflict resolution skills. “Obliging” has 6 items; higher scores mean higher levels of obliging behavior which is also undesirable for conflict resolution skills. “Dominating” is composed of 6 items; higher scores mean higher levels of dominating behavior which is also undesirable for conflict resolution skills. (Sarı, 2005).

**Problem-Solving Inventory for Children (PSIC):** Serin, Serin, and Saygılı (2010) developed this instrument aiming to measure children’s self-perception in problem solving in a way that it comprises of three main constructs which are problem-solving

confidence, self-regulation and approach-avoidance style stated by Heppner and Petersen (1982). It was applied to 568 students from 4th to 8th grades. Factor analyses concluded a 24-item, 3-factor inventory. The factors of the inventory are 12-item "Problem-Solving Confidence" ( $\alpha = .85$ ), 7-item "Self-Regulation" ( $\alpha = .79$ ) and 5-item Approach-Avoidance Style ( $\alpha = .66$ ). All three factors of the inventory explain 42.26% of total variance. The reliability coefficient is  $\alpha = .80$  for the whole inventory. The test-retest reliability coefficients of the inventory are .84, .79 and .70, respectively and .85 for the whole inventory (Serin et al., 2010).

The inventory is scored on a 5-point scale (I never behave like this: 1, I always behave like this: 5). Higher scores obtained in the inventory of which second and third factors are reverse-coded indicate that individuals perceive themselves as sufficient in problem solving. Items of the first factor aim to evaluate confidence in the face of problems, not quitting, and decisiveness; items of the second factor aim to evaluate self-management in the face of problem, more autonomous behaviors, being able to develop thoughts, and dominance of internal control properties; and items of the third factor aim to evaluate postponing, ignoring and not being able to face a problem instead of solving it, and tendency to run away from the real problem (Serin et al., 2010).

#### Data Analysis

CRSS and PSIC pretest and posttest data were analyzed on SPSS software (SPSS Inc, 2007). Since the distribution of pretest-posttest comparisons in PSIC was normal and it is  $n > 30$ , the parametric test was utilized, and whether the pretest and posttest measures differed significantly was analyzed in the dependent samples t-test. The effect size was calculated with Cohen's d formula.

#### FINDINGS

Firstly, it was analyzed whether there was a significant difference between the students' CRSS pretest and posttest measures. The results are shown in Table 2.

Table 2

Differences Between the Pretest and Posttest Scores of CRSS Subscales

	M	Sd.	t	p	Cohen's d	
CRS Integrating Pretest	4.25	0.77	-0.235	0.815	0.31	
CRS Integrating Posttest	4.28	0.80				
CRS Obliging Pretest	3.20	0.71	2.074	0.044*		
CRS Obliging Posttest	2.92	0.89				
CRS Dominating Pretest	3.75	0.83	0.135	0.894		
CRS Dominating Posttest	3.73	1.06				
CRS Avoiding Pretest	4.03	0.84	2.403	0.021*		0.36
CRS Avoiding Posttest	3.65	1.08				

\* $p < 0.05$

Higher scores obtained in the "integrating" subscale of CRSS are regarded as positive for this skill. On the other hand, lower scores in the "dominating", "obliging" and "avoiding" subscales should be considered positive. Thus, based on the mean scores, it can be argued that the training program increased the "integrating" behavior and reduced the undesirable behaviors of "dominating", "obliging" and "avoiding". No significant difference was found between the pretest and posttest measures of

“integrating” and “dominating” ( $p > .05$ ); however, there was a significant difference between the pretest and posttest measures of “obliging” and “avoiding” ( $p < .05$ ). Consequently, the Negotiation and Peer Mediation Training mitigated the undesirable behaviors of obliging and avoiding. Given the effect size calculated with Cohen's  $d$  (Cohen, 1988), the effect size of the program was moderately ( $d > .20$ ) on obliging ( $d = .31$ ) and avoiding ( $d = .36$ ) behaviors.

Secondly, the data obtained in PSIC were analyzed. According to the descriptive data, the increase in the pretest and posttest scores of PSIC subscales indicates high levels of individual's self-perception in problem solving while the decrease refers to low levels of self-perception in problem solving. It was accordingly observed that the students perceived themselves as more positive in problem solving after the training program. Whether the increase in the scores were significant was analyzed with dependent samples  $t$ -test, and the data are presented in Table 3.

Table 3  
Differences Between the Pretest and Posttest Scores of PSIC Subscales

	M	Sd	t	p
Confidence in Problem Solving Skill Pretest	3.98	0.86		
Confidence in Problem Solving Skill Posttest	4.21	0.86	-1.878	0.067
Self-Regulation Pretest	3.48	1.22		
Self-Regulation Posttest	3.61	0.92	-0.739	0.464
Avoidance Pretest	3.95	1.09		
Avoidance Posttest	4.06	0.97	-0.698	0.489
Problem Solving Scale Pretest	3.88	0.83		
Problem Solving Scale Posttest	4.07	0.64	-1.434	0.162

\* $p < 0.05$

A difference was observed between the pretest and posttest measures of “problem-solving confidence”, “self-regulation”, “approach-avoidance style” and the “problem solving” in favor of the posttest scores; however, the difference was not found to be statistically significant ( $p > .05$ ). Based on these results, it is possible to argue that the Negotiation and Peer Mediation Training Program had positive impacts on the problem-solving skill but did not improve the skill significantly.

## DISCUSSION

As it is an important problem that students regard behaviors like violence and bullying as normal conflict resolution methods, and therefore, they are more likely to internalize such behaviors (Damirchi & Bilge, 2014), schools should teach constructive ways of conflict resolution and improve the self-control. Indeed, the ways of resolving conflicts experienced by children who are going through the socialization period define the direction of development expected from them (Koch & Miller, 1987 as cited in Koruklu, 2006). It is desirable that this development is to increase auto-control and reduce aggression.

The first research question examined the effects of the Negotiation and Peer Mediation Training Program on conflict resolution skills. It was clearly observed during the program that this effect increased the desirable behavior and mitigated the undesirable

behaviors of conflict resolution. According to the data analysis, the program did not have a significant effect on both behaviors although it increased the behaviors of “integrating”, which is a constructive conflict resolution method based on the win-win approach that is used when one wants to achieve an objective through interaction, and reduced the behaviors of “dominating”, which refers to undesirable, destructive conflict resolution methods such as oppression and coercion and aims to fulfill the interests and needs of one side. The Negotiation and Peer Mediation Training Program was found to have a significant effect on the behaviors of “obliging” through which one party compromises in favor of the other party and only the needs of one party are satisfied and the behaviors of “avoiding” which refers to neglecting, ignoring and staying away from the conflict. In other words, the training program reduced the undesirable behaviors of obliging and avoiding. The study conducted by Türnüklü et al. (2009) within the scope of the “School-Based Conflict Resolution and Peer Mediation Project” also found an increase in the scores of “integrating” subscale, a decrease in dominating behaviors, but differently from this study, observed this difference to be significant. In the study carried out by Akgün et al. (2007), the conflict resolution skills were increased and the preference of destructive or submissive conflict resolution methods was reduced after the conflict resolution training. It can be said that these two research results coincide in terms of reduction in undesirable obliging and avoiding behaviors. It can be inferred from no decrease in the behavior of dominating that behaviors such as oppression, coercion and threat among the students did not transform sufficiently. Another similarity of the study performed by Akgün et al. (2007) with this study is that aggressive behaviors in the 4th and 5th grades were mitigated, but such transformation did not occur in the 3rd grades.

Decreasing unwanted behaviors of “Accommodation” and “Avoidance” shows that the students can resolve their conflicts through healthy styles instead of Avoidance or Accommodation them. Despite partially improving the conflict resolution skills, it can be said that the mediation training mitigated the unwanted behaviors to support the increasing constructivism.

It is mostly observed in previous research that conflict resolution skills were increased, constructive and peaceful ways were referred to (Brown, 1991; Emerson, 1990; Johnson & Johnson, 1995; Johnson, Johnson, Dudley, Mitchell, & Fredrickson, 1997; Kaçmaz, Türnüklü, & Türk, 2011; Koruklu, 1998; Koruklu & Yılmaz, 2010; Schellenberg, Parks-Savage, & Rehfuß, 2007; Stevahn, 2004; Taştan & Öner, 2008; Türk, 2008, 2013; Türnüklü, 2011; A. Uysal & Temel, 2009; Z. Uysal, 2006; Zengin, 2008; Kılıçarslan & Atıcı, 2015) and aggressive behaviors and violence were reduced (García-Raga, Grau, & López-Martín, 2017; Gülkökan, 2011; Gündoğdu & Izgar, 2010; Kasik & Kumcagiz, 2014; Koruklu, 1998; Koruklu & Yılmaz, 2010; Türk, 2013; Türnüklü, 2011; Türnüklü et al., 2010; Waithaka, Moore-Austin, & Gitimu, 2015) at the end of the conflict resolution and peer mediation trainings. The fact that the Negotiation and Peer Mediation Training Program implemented in this study mitigated the undesirable behaviors of obliging and avoiding is coherent with the beforementioned studies and parallel in terms of other factors but incoherent as no significant difference was found. There are other studies which did not observe difference in all conflict resolution skills



after the training. Kavalcı (2001) observed an improvement in favor of the experimental group for the “collaboration” style used by the university students in conflicts with fathers, mothers and opposite-sex friends and found no significant difference between the two groups by “compromising” style after the conflict resolution skills training program. A significant difference was observed in favor of the male students by the “compromising” style used in the conflicts with the “opposite-sex friends”. These findings achieved by Kavalcı (2001) contradict the findings of this research. Mutluoğlu and Serin (2012) found a significant difference only in the “integrating” posttest scores and no significant differences in the “avoiding”, “obliging” and “dominating” scores at the end of the conflict resolution skills training applied to the fifth-grade students. This result, either, does not coincide with the data of this study except “avoiding”. The study carried out by Kutlu (2016) concluded that the conflict resolution psycho-educational program applied to the adolescents was effective in increasing their scores of “integrating” and “obliging” and decreasing the scores of “dominating”.

Decrease in undesirable behaviors of “obliging” and “avoiding” indicates that the students can resolve their conflicts in healthy ways instead of avoiding them or obliging the other party. Although the training program improved the conflict resolution skills partially in this study, it can be argued to have contributed to mitigating undesirable behaviors and increasing the constructivism.

The reason why the training program did not affect two subscales of conflict resolution skills even though all Children’s University instructors had taken the mediation training and implemented it studiously might be that they needed more time to establish collaboration among the students or the students were not objective and evaluated themselves almost perfectly although they had been experiencing conflicts intensively.

Another reason might be that the mediation training was implemented not in their schools in a way that creates a culture but to the students attending the Children’s University. This indicates that a cultural climate change should be the primary target in the school; administrators, teachers, students, and parents and other employees who may influence students need to be improved in and/or informed of recognizing and using the mediation strategies and supporting the individuals who use them.

The second research question required studying the effects of this training on problem-solving skills. It was concluded that the difference was not significant among the total “Problem-Solving Inventory for Children” measures and “problem-solving confidence”, “self-regulation”, and “approach-avoidance style” subscale measures in favor of the posttest scores. In other words, the Negotiation and Peer Mediation Training did not affect the problem-solving skills. On the other hand, differently from this study, Koruklu & Yılmaz (2010) concluded that the conflict resolution and mediation training was effective on students’ problem-solving skills in the research conducted on 6-year-old children. Destructive responses of the students, who had taken this training, in conflicts with peers before the training were reduced, and there was an increase in their constructive behaviors and vocabulary of constructive problem solving. The experimental research conducted by Sezen (2015) on adolescents found a significant difference in levels of constructive problem solving, persistent-persevering approach

and anger control in favor of the experimental group to which the mediation training had been applied.

Gündoğdu & Izgar (2010) observed an increase in experimental group's posttest scores, as in this study, compared to their pretest scores at the end of the creative drama-based conflict resolution training on adolescents but found no significant difference. There was no significant difference between the scores of experimental-control groups and placebo group. However, experimental group's scores of problem solving differed significantly from other groups in the follow-up measures 2 months later. According to the researchers, the reason was that the problem-solving process needed to be learned in a more detailed way and to be repeated until it became a model of automatic habit, and therefore, the training needed to be longer than 6 weeks, or in fact, it needed to be expanded with training sessions throughout the whole term for an effective conflict resolution training. In this present study, the training was implemented for 3 weeks and long-term follow-up measures were not performed.

## **CONCLUSION**

Consequently, it can be argued that the Negotiation and Peer Mediation Training reduces undesirable behaviors of obliging and avoiding. While not proven in this research, it is understood from several studies that the training improves collaboration and increase problem solving. It is notable in the studies which achieved this result that the training was expanded over a longer period and drama activities were performed. The meta-analysis study carried out by Burrell, Zirbel, and Allen (2003) who reviewed the research studies in regard to the consequences of mediation in school-based environments reported that 93% of the conflicts were resolved by agreement and 88% of the participants were satisfied with these agreements. Examining the effects of conflict resolution, peace training and peer mediation trainings on students' conflict resolution skills with the meta-analysis method, Türk (2018) concluded that conflict resolution, peace training and peer mediation trainings caused an increase in students' constructive conflict resolution behaviors, reduced the aggressive behaviors and that participation of children in these programs would contribute to the acquirement of new and constructive skills. Accordingly, it can be recommended that mediation trainings are used for mitigating the undesirable conflict resolution behaviors in schools, are implemented on the whole school in a way that creates a culture and a school climate across the school; techniques such as drama that allow for trying the behavior are used in trainings; the training is implemented in a longer term; conflict resolution skills are followed up after the completion of the training; and studies utilize data collection instruments based on following up the change in the behaviors (observation, interview, mediation document review, etc.) instead of/in addition to instruments through which students evaluate themselves.

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## REFERENCES

- Açıkgöz, K. Ü. (2003). *Etkili öğrenme ve öğretme*. İzmir: Eğitim Dünyası Yayınları.
- Akgün, S., Araz, A., & Karadağ, S. (2007). Anlaşmazlıklarımızı çözebiliriz: İlköğretim öğrencilerine yönelik bir çatışma çözümü eğitimi ve psiko-sosyal etkileri. ["we can resolve our conflicts": A conflict resolution education program and its psycho-social effects.]. *Türk Psikoloji Dergisi*, 22(59), 43-62.
- Ayas, T., Deniz, M., Kağan, M., & Kenç, M. F. (2010). An investigation of conflict resolution strategies of adolescents. *Procedia Social and Behavioral Sciences*, 2, 3545-3551. doi: 10.1016/j.sbspro.2010.03.549
- Brown, R. B. (1991). Conflict resolution: A strategy for reducing physical confrontation in public schools. *Dissertation Abstracts International*, 53, 995-A.
- Burrell, N. A., Zirbel, C. S., & Allen, M. (2003). Evaluating peer mediation outcomes in educational settings: A meta-analytic review. *Conflict Resolution Quarterly*, 21(1), 7-26. Retrieved from [https://onlinelibrary.wiley.com/doi/epdf/10.1002/crq.46?purchase\\_referrer=onlinelibrary.wiley.com&tracking\\_action=preview\\_click&r3\\_referer=wol&show\\_checkout=1](https://onlinelibrary.wiley.com/doi/epdf/10.1002/crq.46?purchase_referrer=onlinelibrary.wiley.com&tracking_action=preview_click&r3_referer=wol&show_checkout=1). 08.02.2019.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2014). *Bilimsel araştırma yöntemleri* (18 ed.). Ankara: Pegem Akademi.
- Carruthers, W. L., Carruthers, B. J. B., Day-Vines, N. L., Bostick, D., & Watson, D. C. (1996). Conflict resolution as curriculum: A definition, description, and process for integration in core curricula. *The School Counselor*, 43(5), 345-373.
- Cohen, J. (1988). *Statistical power and analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Çetin, C., Türnüklü, A., & Turan, N. (2014). Anlaşmazlıkların çözümünde akran arabuluculuk modelinin dönüştürücü etkileri: Arabulucu öğrenciler gözünden bir değerlendirme. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 16(3), 383-411. doi:10.16953/deusbed.97238
- Damirchi, E. S., & Bilge, F. (2014). The effect of peace education program on the seven - grade student's conflict resolution and communication skills. *Education and Science*, 39(175), 309-318. doi:10.15390/EB.2014.2983
- Dökmen, Ü. (2016). *Sanatta ve günlük yaşamda empati* (55 ed.). İstanbul: Remzi Kitabevi.
- Emerson, J. M. (1990). Conflict resolution for students: A study of problem solving and peer conflict management. *Dissertation Abstracts International*, 53, 995.
- García-Raga, L., Grau, R., & López-Martín, R. (2017). Mediation as a process for the management of conflict and the improvement of coexistence in educational centres. A study based on the perceptions of secondary school students. *Procedia - Social and Behavioral Sciences*, 237, 465-470. doi:10.1016/j.sbspro.2017.02.091
- Gordon, T. (2007). *Etkili öğretmenlik eğitimi* (E. Aksay, Trans. 20 ed.). İstanbul: Sistem Yayıncılık.

- Gülkokan, Y. (2011). *Akran arabuluculuk eğitiminin ilköğretim öğrenci anlaşmazlıkları üzerindeki etkisinin incelenmesi*. (Master's thesis), Dokuz Eylül Üniversitesi, İzmir.
- Gümüseli, A. İ. (1994). *İzmir ortaöğretim okulları yöneticilerinin öğretmenler ile aralarındaki çatışmaları yönetme biçimleri*. (Doctoral Dissertation), Ankara Üniversitesi, Ankara.
- Gündoğdu, R., & Izgar, H. (2010). Yaratıcı drama temelli çatışma çözme programının ergenlerin çatışma çözme becerisine etkisi. Selçuk Üniversitesi *Ahmet Keleşoğlu Eğitim Fakültesi Dergisi*, 30, 81-100.
- Heppner, P. P., & Petersen, C. H. (1982). The development and implications of a personal problem-solving inventory. *Journal of Counseling Psychology*, 29(1), 66-75. doi:10.1037/0022-0167.29.1.66
- Johnson, D. W., & Johnson, R. T. (1995). Teaching students to be peacemakers: Results of five years of research. *Peace and Conflict: Journal of Peace Psychology*, 1(4), 417-438. doi:10.1207/s15327949pac0104\_8
- Johnson, D. W., Johnson, R. T., Dudley, B., Mitchell, J., & Fredrickson, J. (1997). The impact of conflict resolution training on middle school students. *The Journal of Social Psychology*, 137(1), 11-21. doi:10.1080/00224549709595409
- Kaçmaz, T., Tüknüklü, A., & Türk, F. (2011). Akran arabulucuların gözünden İlköğretim öğrencilerinin arabuluculuk sürecinde yaşadıkları güçlüklerin incelenmesi. *Kuram ve Uygulamada Eğitim Yönetimi*, 17(4), 555-579.
- Karip, E. (1999). *Çatışma yönetimi*. Ankara: Pegem Yayıncılık.
- Kasik, N. C., & Kumcagiz, H. (2014). The effects of the conflict resolution and peer mediation training program on self-esteem and conflict resolution skills. *International Journal of Academic Research, Part B*, 6(1), 179-186. doi:10.7813/2075-4124.2014/6-1/B.25.
- Kılıçarslan, S., & Atıcı, M. (2015). Çatışma çözme eğitim programının ilköğretim 6. ve 7. sınıf öğrencilerinin çatışma çözme davranışları üzerindeki etkisi. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 24(2), 137-158.
- Kavalcı, Z. (2001). *Çatışma çözme becerileri eğitimi programının üniversite öğrencilerinin çatışma çözme biçimleri üzerindeki etkisi*. (Master's thesis), Hacettepe Üniversitesi, Ankara.
- Koruklu, N. (1998). *Arabuluculuk eğitiminin ilköğretim düzeyindeki bir grup öğrencinin çatışma çözme davranışlarına etkisinin incelenmesi*. (Master's thesis), Ankara Üniversitesi, Ankara.
- Koruklu, N. (2006). Eğitimde arabuluculuk ve okulda arabuluculuk sürecinin işleyişine ilişkin bir model. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, 20, 11-20.
- Koruklu, N., & Yılmaz, N. (2010). Çatışma çözme ve arabuluculuk eğitimi programının okulöncesi kurumlara devam eden çocukların problem çözme becerisine etkisi. *Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 1(1), 1-20.
- Kutlu, A. (2016). *Çatışma çözme psikoeğitim programının ortaokul öğrencilerinin başa çıkma stratejileri, çatışma çözüm becerileri ve sürekli öfke ve öfke ifade tarzları üzerindeki etkisi*. (Doctoral Dissertation), Mevlana Üniversitesi, Konya.
- Lantieri, L. (1995). Waging peace in our schools: Beginning with the children. *Phi Delta Kappan*, 76(5), 386-388.

- Morrison, M. L., Austad, C. S., & Cota, K. (2011). Help increase the peace, a youth-focused program in peace education. *Journal of Peace Education*, 8(2), 177-191. doi:10.1080/17400201.2011.589251
- Morse, P. S., & Andrea, R. (1994). Teaching kids to be peer mediators. *Education Digest*, 60(2), 53-58.
- Mutluoğlu, S., & Serin, O. (2012). Çatışma çözme eğitim programının ilköğretim 5. Sınıf öğrencilerinin çatışma çözme becerilerine etkisi. *Turkish International Journal of Special Education and Guidance & Counseling*, 1(1), 25-34.
- Partnership for 21st Century Learning. (2015). P21 Framework Definitions. Retrieved from <http://www.battelleforkids.org/networks/p21/frameworks-resources.08.02.2019>.
- PISA. (2015). *Öğrencilerin iyi olma hali raporu*. Retrieved from <https://tedmem.org/mem-notlari/degerlendirme/pisa-2015-ogrencilerin-iyi-olma-hali>. 08.02.2019.
- Sandy, S. V., & Boardman, S. K. (2000). The peaceful kids conflict resolution program. *International Journal of Conflict Management*, 11(4), 337-357. doi:10.1108/eb022845
- Sarı, S. (2005). *İlköğretim 5. Sınıf öğrencilerine çatışma çözümü becerilerinin kazandırılmasında akademik çelişki, değer çizgisi ve güdümlü tartışma yöntemlerinin etkisi*. (Master's thesis), Çukurova Üniversitesi, Adana.
- Schellenberg, R. C., Parks-Savage, A., & Rehfuss, M. (2007). Reducing levels of elementary school violence with peer mediation. *Professional School Counseling*, 10(5), 475-481. doi:10.1177/2156759x0701000504
- Serin, O., Serin, N. B., & Saygılı, G. (2010). İlköğretim düzeyindeki çocuklar için problem çözme envanteri'nin (ÇPÇE) geliştirilmesi. *İlköğretim Online*, 9(2), 446-458.
- Sezen, B. (2015). *Müzakere (problem çözme) ve arabuluculuk eğitiminin ergenlerin kişiler arası problem çözme ve öfke düzeylerine etkisinin incelenmesi*. (Master's thesis), Mevlana Üniversitesi, Konya.
- SPSS Inc. (2007). Spss for windows (Version 14.0) [Computer Software]. Chicago: SPSS Inc.
- Stevahn, L. (2004). Integrating conflict resolution training into the curriculum. *Theory Into Practice*, 43(1), 50-58. doi:10.1207/s15430421tip4301\_7
- Sweeney, B., & Carruthers, W. L. (1996). Conflict resolution: History, philosophy, theory, and educational applications. *School Counselor*, 43(5), 326-344.
- Taştan, N., & Öner, U. (2008). Akran arabuluculuk eğitimi programının ilköğretim altıncı sınıf öğrencilerinin akran arabuluculuk becerilerine etkisi. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, 23, 160-168.
- Thompson, S. M. (1996). Peer mediation: A peaceful solution. *School Counselor*, 44(2), 151-155.
- Türk, F. (2008). *Müzakere (problem çözme) ve arabuluculuk eğitim programının ilköğretim 4. ve 5. Sınıf öğrencilerinin çatışma çözüm becerileri üzerinde etkisinin incelenmesi*. (Master's thesis), Dokuz Eylül Üniversitesi, İzmir.
- Türk, F. (2013). *Akran arabuluculuk eğitiminin lise öğrencilerinin arabuluculuk becerilerine etkisinin incelenmesi*. (Master's thesis), Dokuz Eylül Üniversitesi, İzmir.

- Türk, F. (2018). Evaluation of the effects of conflict resolution, peace education and peer mediation: A meta-analysis study. *International Education Studies*, 11(1), 25-43.
- Türnüklü, A. (2005). Lise yöneticilerinin çatışma çözüm strateji ve taktiklerinin sosyal oluşturmacılık kuramı perspektifinden. *Kuram ve Uygulamada Eğitim Yönetimi*, 11(42), 225-278.
- Türnüklü, A. (2007). Liselerde öğrenci çatışmaları, nedenleri, çözüm stratejileri ve taktikleri. *Kuram ve Uygulamada Eğitim Yönetimi*, 13(49), 129-166.
- Türnüklü, A. (2011). Peer mediators' perceptions of the mediation process. *Education and Science*, 36(159), 179-191.
- Türnüklü, A., & İllez, M. (2006). Öğretmenlerin, öğrenci çatışmalarını çözüm strateji ve taktiklerinin sosyal oluşturmacılık perspektifinden incelenmesi. *Eurasian Journal of Educational Research*, 22(1), 221-232.
- Türnüklü, A., Kaçmaz, T., Gurler, S., Sevin, B., Türk, F., Kalender, A., & Zengin, F. (2010). The effects of conflict resolution and peer mediation training on primary school students' level of aggression. *Education 3-13*, 38(1), 13-22. doi:10.1080/03004270902760668
- Türnüklü, A., Kaçmaz, T., Gürler, S., Yaka, A., Türk, F., Kalender, A., . . . Zengin, F. (2009). Okul temelli çatışma çözümü ve ekran arabuluculuk projesi (106K094). Retrieved from <http://web.deu.edu.tr/acmer/files/tubitak.pdf> 05.06.2013.
- Türnüklü, A., & Şahin, İ. (2002). İlköğretim okullarında öğrenci çatışmaları ve öğretmenlerin bu çatışmalarla başa çıkma stratejileri. *Kuram ve Uygulamada Eğitim Yönetimi*, 30, 283-302.
- Türnüklü, A., & Şahin, İ. (2004). 13-14 yaş grubu öğrencilerin çatışma çözme stratejilerinin incelenmesi. *Türk Psikoloji Yazıları*, 7(13), 45-61.
- Türnüklü, A., Şahin, İ., & Öztürk, N. (2002). İlköğretim okullarında öğrenci, öğretmen, okul yöneticisi ve velilerin çatışma çözüm stratejileri. *Kuram ve Uygulamada Eğitim Yönetimi*, 32, 574-597.
- Uysal, Z. (2006). *Çatışma çözme eğitim programının ortaöğretim dokuzuncu sınıf düzeyindeki öğrencilerin çatışma çözme becerilerine etkisi*. (Master's thesis), Çukurova Üniversitesi, Adana.
- Uysal, A., & Temel, A. B. (2009). Şiddet karşıtı eğitim programının öğrencilerin çatışma çözüm, şiddet eğilimi ve şiddet davranışlarına yansımaları. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*, 12(1), 20-30.
- Waithaka, A. G., Moore-Austin, S., & Gitimu, P. N. (2015). Influence of conflict resolution training on conflict handling styles of college students. *Research in Higher Education Journal*, 28, 1-17.
- Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need-and what we can do about it*. Basic Books.
- Zengin, F. (2008). *Müzakere (problem çözme) ve arabuluculuk eğitim programının ilköğretim 4.-5. Sınıf öğrencilerinin çatışma çözüm stilleri ve atılganlık becerileri üzerindeki etkilerinin incelenmesi*. (Master's thesis), Dokuz Eylül Üniversitesi, İzmir.