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|Research Article/ Araştırma Makalesi|

The Effect of Jigsaw II Technique on Students' Skill to Solve Real Life Problems in Fourth Grade Science Lesson in Primary School

İlkokul Dördüncü Sınıf Fen Bilimleri Dersinde Jigsaw II Tekniğinin Öğrencilerin Gerçek Hayat Problemlerini Çözme Becerisi Üzerine Etkisi

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Keywords
1.Real life problem
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3.Primary school

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Abstract

Purpose: The purpose of this research is to determine the effect of jigsaw II technique on fourth grade students' real-life problem (non-routine problem) solving skills in science lessons in primary schools.

Methodology: This research was carried out with 53 students attending the fourth grade of a primary school in Bandırma, Balıkesir both in experimental and control groups. Appropriate sampling method was preferred in the study. This research was designed according to quasi-experimental design, which is one of the quantitative research methods. The research data was collected by applying 5 real life problems (non-routine problems) within the experimental and control groups as pre-test and post-test. Mann Whitney U Test was used to analyze the obtained data.

Findings: As a result of this research, the success of solving real life problems of the experimental group in which the jigsaw II technique was applied in the 4th graders in science lesson; was found higher than that of the control group undergoing the education and training process prepared compatible with the curriculum prepared by the Ministry of National Education.

Recommendations: In line with these results, primary school teachers can be provided with in service training on creating and solving real life problems.

Öz

Çalışmanın amacı: Bu araştırmanın amacı, ilkokul dördüncü sınıf fen bilimleri dersinde jigsaw II tekniğinin öğrencilerin gerçek hayat problemleri çözme becerisi üzerine etkisini belirlemektir.

Yöntem: Bu araştırma, Balıkesir'in Bandırma ilçesinde ilkokul dördüncü sınıfta öğrenimine devam eden 53 öğrenci ile gerçekleştirilmiştir. Örneklemin belirlenmesinde seçkisiz olmayan örnekleme yöntemlerinden biri olan uygun örneklem yöntemi kullanılmıştır. Bu araştırma nicel araştırma yöntemlerinden biri olan yarı deneysel desene göre tasarlanmıştır. Araştırma verileri 5 adet gerçek yaşam probleminin deney grubu ve kontrol grubunda yer alan öğrencilere ön test ve son test olarak uygulanması sonucu elde edilmiştir. Elde edilen verilerin analiz edilmesinde Mann Whitney U Testi kullanılmıştır.

Bulgular: Bu araştırmanın sonucunda dördüncü sınıf fen bilimleri dersinde jigsaw II tekniğinin uygulandığı deney grubunun gerçek yaşam problemi çözme başarısı; Milli Eğitim Bakanlığı tarafından hazırlanan müfredata göre eğitim ve öğretim sürecinin uygulandığı kontrol grubunun gerçek yaşam problemi çözme başarısından daha yüksek olduğu belirlenmiştir.

Öneriler: Ulaşılan bu sonuçlar doğrultusunda, sınıf öğretmenlerine gerçek yaşam problemi oluşturma ve çözme konusunda hizmetiçi eğitim verilebilir.

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INTRODUCTION

When the current science curriculum of the Ministry of National Education is examined, it is seen that cooperative working and problem solving skills are among the important competencies that individuals should gain (MEB, 2018).The main purpose of making individuals gain these skills can be strongly related to the developments in science and technology affecting the life of the society, the structure of the society, the education of the society and all development areas of individuals. For this reason, it is important to make individuals who can adapt themselves to changes, have critical thinking, be creative, find effective solutions to their problems and contribute to the society they live in. Acquisition of those skills may be possible by the children who could gain problem solving skills at an early age. Within the relevant contexts; the ability of individuals to maintain their social lives in harmony with every stage of life, from childhood to adulthood, necessitates problem-solving skills (Sungur & Bal, 2016). Although mathematics lesson is one of the first concepts that come to mind when problem is mentioned, the concept of problem is not just a concept that belongs to mathematics lesson (Apaydın & Kandemir, 2018). There are many definitions regarding the concept of the problem in the literature. According to this;

1. "Problems are called as situations that the organism cannot solve with known ready reactions." (Acıkgoz, 2014, p. 141).

2. "Problems are the obstacles we face in shifting from one environment to another or from one state to another." (Steven, 1998, p. 11).

3. "The problems are the obstacles against the existing forces one has gathered to achieve the desired goal." (Bingham, 2004, p. 18).

Naming an issue as problem depends on certain conditions. In this context, the problem should contain features that confuse the individual, create a need for a solution, and are perceived for the first time and include preparations for a solution. If an individual is not aware of the problem or has encountered that problem before, this may not be a problem for that person (Altun, 2008; Gelbal, 1991; Yenilmez, 2010). Based on these expressions, problem can be defined as a situation that causes distress to the individual and where the individual wants to get rid of and relax immediately. In the literature, problems are classified with different approaches. One of the important classifications made is the classification of problems as ordinary (routine) and extraordinary (non-routine) problems (Gok & Sılay, 2008; Kar & Isık, 2011).Routine problems are problems that require four processing skills (addition, subtraction, multiplication and division) and contribute to the development of problem solving skills. Non-routine problems, unlike routine problems, are the complex ones that are similar to real life events that are not easily solved and require creative mental strategies to solve. Therefore, comprehending the solution of non-routine problems requires understanding the solution of real-life problems (Artut & Tarım, 2009; Elia et al., 2009; Gok & Sılay, 2008; Murdiyani, 2018). Hence, non-routine problems can contribute to the development of senior thinking skills such as critical and creative thinking among students. Non-routine problems enable individuals to use different solutions and approaches in solving the problem (Mabilangan et al., 2011). Individuals use the cognitive steps high above the standard of implementation and practice in solving non-routine problems (Apostol, 2017).In this context, it can be stated that the effect of non-routine problems on the development of individuals' problem solving skills is higher than the routine problems (Polya, 1997).

There are also many definitions for the concept of problem solving in the literature. Some of them are as follows: "Problem solving is the process of overcoming difficulties encountered in reaching a goal" (Bingham, 2004, p.23). Problem solving deals with a situation seen as a problem by the solver (Rohmah & Sutiarso, 2018). Problem solving can be defined as trying to get rid of the difficulties faced by the individual or the uncertainty of the individual (Gelbal, 1991). Problem solving based on these definitions; It can be defined as the process of finding solutions to situations in which the individual wants to get rid of and relax immediately. In the process of problem solving, the individuals become aware of a problem, define it; develop solutions for this problem; they test the solution ways they find and reach a result (Hall et al., 2013). In addition, students do research in this process; share what they learn with each other; take responsibility for the learning process and find the opportunity to learn by solving the related problem (Acıkgoz, 2014). In addition to these, problem solving also offers the person the opportunity to learn how to benefit from internal and external resources; speeds up the development process of the individual and contributes to the development of abilities, self-confidence and self-esteem (Bingham, 2004). Individuals should realize that there may be more than one way to solve the problem in the problem-solving process. Studies in the literature show that problem solving process varies from time to time, from situation to situation, from problem to problem, from individual to individual (Bingham, 2004). When children usually encounter a problem, they look for a rule to solve the problem. However, problem solving has no rules, and has a systematic. The main task of the teacher is to provide the student with problem solving systematics. While using this systematic, the student should understand the strategies to be used in problem solving and gain skills related to problem solving (Altun, 2008). There are many general method suggestions followed in problem solving in the literature. According to Jewey's (1910) suggestion, the steps in problem solving are given below. These are:

1. Awareness of the problem,

2. Defining and limiting the problem,

3. Gathering information for the solution of the problem,

4. Formation of hypotheses for the solution of the problem,

5. Determining the most appropriate hypothesis that provides the solution of the problem,

6. Solving the problem and reaching the result.

In another study in the literature, Kandemir & Celik (2021) identified the steps most frequently used by primary school teachers in the process of providing students with problem-solving skills in science lessons. These steps are as follows, respectively: *Defining the problem, gathering information for the solution of the problem, formation of hypotheses for the solution of the problem, determining the most appropriate hypothesis that provides the solution of the problem*.

One of the techniques that the individual will cooperate with and contribute to the development of problem-solving skills is the Jigsaw II technique. This technique was developed by Aronson et al. in 1978 and some changes were made by Slavin in 1986. When the students finish their studies, the students who have taken the same subject come together; they discuss and specialize on the topic; they plan and rehearse how to teach the subject to their friends. When the work is done in the temporary group consisting of the same subjects, everyone returns to their original group and they teach each other the subjects in the groups. The student, who presents the subject as an expert, is questioned about the parts that are not fully understood by the other members of the group or guidance is provided by the teacher to ask questions. In addition, the student presenting his subject can also ask questions to the students who are listening. Students are taken to exam individually after the instructions. The team score is determined by taking the average of their individual scores, so each group has a team score. Groups that show progress according to their previous situation are rewarded. In this process, the teacher systematically provides guidance to the students and organizes the groups (Acıkgoz, 2014; Aronson, 2019; Maden, 2011; Saygılı, 2015). In this technique, students work for the success of the group, and it is known by the group members only if all individuals are successful as this success will belong to the whole group (Yıldız et al., 2017). This technique contributes to the development of students' cooperation competencies, internalization of acting together for a common goal, communication and academic skills. In addition, it becomes possible to gain high-level skills such as increasing the permanence of the acquired knowledge, sharing knowledge, development of social skills, increasing interest and motivation towards the course and critical thinking (Azmin, 2016; Dogan, Ucar & Simsek, 2015; Gambari & Yusuf, 2016; Kandemir, 2017; Khan, 2016; Kızılkaya & Seven, 2017; Koc, 2013; Sugianti, 2016; Yılar & Simsek, 2016; Yıldız et al., 2017).In this technique, especially since there are cognitively heterogeneous groups; when groups come together, they get the chance to interact with each other and can progress towards a common goal by improving each other's learning (Avcı & Aksu, 2019). One of the most important contributions of the technique is to give all students an opportunity to be a leader (Acıkgoz, 2014). As a result of the literature review, there wasn't any similar study on the effect of the jigsaw II technique on students' ability to solve real life problems in the fourth-grade science course. This study is important in terms of eliminating the scarcity in this subject and contributing to the development of problem-solving skills in cooperation (Apaydın & Kandemir, 2019; Kaya & Kablan, 2018), which is one of the features that should be present in the individuals according to our curriculum. In this study, it is aimed to determine the effect of jigsaw II technique on students' ability to solve real life problems in primary school fourth grade science lesson. Parallel to this purpose, the students in the experimental group in the fourth-grade science lesson had an education and training process in a classroom where the jigsaw II technique was applied. The students in the control group went through an education and training process in accordance with the curriculum prepared by the Ministry of National Education. The main research question was determined as "Is there a significant difference between the success scores of solving real life problems between experimental and control groups?" Within the scope of this research question, the following sub-research questions were formed.

1. Is there a significant difference between the scores of the students in the experimental group and the control group before the application of pre-test of questions related to real life problems?

2. Is there a significant difference between the scores of the students in the experimental group and the control group obtained from the questions related to real life problems after the application of post-test?

METHOD

Research Model

This research is designed according to quasi-experimental design, which is one of the quantitative research methods. The quasi-experimental pattern is often used in educational research and, when examined as scientific value, comes after the actual trial designs. Quasi-experimental designs are mostly used in educational research. The reason for this is that classes in schools are formed by the school administration and as a result, it is impossible to distribute the individuals to the groups in a neutral way (Özmen & Karamustafaoglu, 2019).

Participants

This study was carried out with the participation of 53 fourth grade students in Bandırma district of Balıkesir province. There are 26 students in the experimental group and 27 students in the control group. The appropriate sampling method, which is one of the systematic sampling methods, was preferred in determining the schools and classes in the study. In this sample determination method, the researcher collecting data from a close and accessible sample is quite fast and practical for the research. Two classes were determined according to the lottery method among six classes of a school with the appropriate sampling (Yıldırım & Simsek, 2016).

Practice of Teaching Method

In this study, while a teaching process was applied in the classroom of the experimental group where the jigsaw II technique was used, another teaching process based on the curriculum of the Ministry of Education was conducted in the classroom of the control group. The implementation duration was 12 lesson hours in both groups. The students in the experimental group were asked to solve real life problems developed by the researchers in this process. Before and after the implementation, 5 non-routine problems were applied to both groups.

Instruments

The data in the research was obtained from students by applying the 5 real life problems prepared according to the unit of force at the beginning of the research, a total of 24 real life problems were prepared by the researcher, with at least three questions for the acquisition of the unit of force effects. In the preparation of these questions, fourth grade science textbook, PISA 2015 questions, Altun (2008), Polye (1997), Bingham (2004) were used. These research questions were reduced to 15 depending on the opinions of 3 field experts, 1 assessment and evaluation specialist, 5 science teachers and 3 primary school teachers. These 15 question groups were read by 20 students in order to determine whether there is an incomprehensible part in the language of instructions. Having 200 respondents in the pilot application can provide an opportunity to obtain realistic results (Turgut & Baykul, 2010). In this direction, 15 real life problems were applied to 262 prepared fourth grade students. The responses of the students to the solution of real-life problems were dealt with in a four-level assessment as inadequate, need to be developed, good and very good, quantitative scaling was also used by giving the degrees 0, 10, 15, and 20 in order. The data obtained was uploaded to the SPSS 22.00 data analysis program and data analysis was started. The scores obtained by the students were ranked in descending order and analyzed by taking 27% of the highest group and the lowest group. The procedures for data analysis are given below:

1. Data analysis was started by calculating the item difficulty index (Pj). Item difficulty indicates the percentage of correct answers for the item. When calculating it in open-ended questions, it is obtained by dividing the arithmetic average of the scores of those answering that question by the highest score determined for that item. The real-life problems selected for this study have item difficulty indexes between 0.20 and 0.58. The total difficulty index of real-life problems was calculated as 0.502. This difficulty index is at an acceptable level in the literature (Atılgan, 2009; Özcelik, 1997; Turgut & Baykul, 2010). The item difficulty index for these items is given in Table 1.

Table 1. Difficulty indexes of selected items

Madde No	Item difficulty index (Pj)
Item 7	0.58
Item 8	0.58
Item 9	0.57
Item 10	0.58
Item 12	0.2

2. In the second process, item discrimination indices (rjx) were calculated. Items with and without the desired feature to be measured are distinguished by the help of item distinctiveness and correlation calculations are also made. Item discrimination index is the correlation between item scores and the total scores of the test (Atılgan, 2009; Özcelik, 1997). In calculating the correlation between the item scores and the total scores of the test, the item-total score correlation was calculated using the Spearman correlation coefficient because the item data did not have a normal distribution ($p < 0.05$). In general, items with an item-total correlation index of 0.30 and above are those which can distinguish students who know and the ones who do not know well (Buyukozturk, 2016). Taking into consideration that, real life problems with discrimination indices between 0.614 and 0.802 were chosen.

Table 2. Spearman rank differences correlation coefficient results

		Item Total Scores
Item 7	r	.806
	p	.000
	N	.262
Item 8	r	.803
	p	.000
	N	262
Item 9	r	.806
	p	.000
	N	262
Item 10	r	.757
	p	.000
	N	262

Tablo2. (continue)

Item 12	r	.614
	p	.000
	N	262

P<.05

If the correlation coefficient is between 1-0.70, it is high. If it is between n 0.69-0.30, it is medium and can be defined as a low level of correlation between 0.29-0.00 (Buyukozturk, 2016). When we examine Table 2, 7-8-9-10. It is observed that there is a positive highly significant relationship between the items and the total scores of the items (r = .806, p <0.05; r = .803, p <0.05; r = .806, p <0.05; r = .757, p < 0.05). In addition, it is seen that there is a moderately positive correlation between the 12th item and the total scores of the items (r = .614, p <0.05).

3. In the third process, the reliability of the items was calculated. Reliability is related to the fact that the gap between measurements yields the same results under similar conditions (Atılgan, 2009). In the literature, a reliability coefficient of 0.70 or higher is considered sufficient. In this study, the reliability coefficient (Cronbach's Alpha) was calculated as α = 0.86. Considering the difficulty, distinctiveness and content validity of the items, 5 real life (non-routine) problems were identified (Appendix-1). The item distinctiveness index (rjx) for these items is given in Table 2.

Data Analysis

In this study, SPSS 22.00 data analysis program was used to analyze the data obtained from real life problems. Answers to real life problems were scored as 0, 10, 15, 20 according to rubric. According to Jewey (1910), based on the steps followed in problem solving, problem solving steps were arranged parallel to the level of fourth grade students. These steps given below have been taken into account in the rubric's category arrangement.

1. Recognizing and defining the problem,

2. Gathering information about the problem,

3. Determining solutions and choosing the best solution,

4. Apply the solution way.

20 (Very good)	The problem was fully understood, a solution way was found. The correct result was reached by finding the solution adequate explanation about the problem solving process was provided.
15 (Good)	Although the problem was largely understood and a suitable solution was found, the problem could not be solved due to minor calculation errors. The problem was understood to a great extent, the appropriate solution was found, the solution of the problem was reached, but sufficient explanation couldn't be given about the problem solving process.
10 (Need to be developed)	The problem was partially understood. The start of the attitude towards solving the problem was right, but the problem could not be solved as it didn't reach to the solution. There were important errors in the procedures for the solution of the problem.
0 (inadequate)	The problem was not understood. Inappropriate strategies to solve the problem were used. There was not enough explanation about the problem solving process. Expressions such as "very difficult" or "I do not know" were expressed about the problem. The data given in the problem was repeated and tried to be answered in that way.

Figure 1. Rubric used in scoring real life problems (Ilhan, 2016)

In order to determine the method of analysis of the obtained data, the standard "normal" criteria of the data were examined first. As the data obtained from the analysis of the performance did not meet the p> .05 condition, it was determined that the data did not have a normal distribution (Table 3). For this reason, Mann Whitney U Test was preferred in order to determine whether there was a significant difference between the means of the two groups. All the date obtained from students' answers were scored by two raters according to the scoring key. The Kendall Tau Correlation Coefficient test was used because the scores of the two raters did not have a normal distribution and the number of repeated values was high. As a result of this test, it was determined that there was a positive and highly significant relationship between the two raters (τ = 0.990, p = 0.00 <0.05). The effect size is low if 0.1 <r; it is moderate if 0.3 <r; and it is found high level If 0.5 <r (Cohen, 2007).

Table 3. Normality test results of the data

		Kolmogorov-Smirnov	Shapiro-Wilk
Pre-test	Control group	.000	.002
	Experimental group	.034	.145
Post-test	Control group	.200	.051
	Experimental group	.000	.001

p>.05

FINDINGS

Our first research question is, "Is there a significant difference between the scores of real-life problems by the students in the experimental group and the control group before taking a pre-test?" When Table 4 is examined to answer this question, it is seen that there is no significant difference between the pre-test scores of the experimental and control groups (U = 340.000, Z =. -199, p> .0843).

Table 4. Mann Whitney U test results between pre-test scores

Groups	N	Mean Rank	Sum of Ranks	U	Z	P
Control group	27	27.41	740.00	340.000	-.199	.843
Experimental group	26	26.58	691.00			
Total	53					

p<.05

Our second research question is, "Is there a significant difference between the scores of real-life problems by the students in the experimental group and the control group after taking a post-test?". When Table 5 is examined to answer this question, it is seen that there is a significant difference between the groups after the application. (U = 229.500, Z = -2.213, p <.05, r = 0.304).

Table 5. Mann Whitney U test results between post-test scores

Groups	N	Mean Rank	Sum of Ranks	U	Z	P	r
Control group	27	22.50	607.50	229.500	-2.213	.027	0.304
Experimental group	26	31.67	823.50				
Total	53						

p<.05

When Table 6 is examined in order to determine which group is in favor of this difference, it is seen that the experimental group in which the Jigsaw II technique was applied (median = 70, n = 26) was more successful than the control group (median = 55, n = 27). It can be stated that the effect size of the calculated data is moderate (r = .304).

Table 6. Median values of post test scores

Groups	N	**Median**
Control group	27	55
Experimental group	26	70
Total	53	

DISCUSSION AND CONCLUSION

In this study, it was tried to determine whether there is a significant difference between the achievement scores of the students in the experimental and control groups that are obtained from solving real life problems.

To start with the first question of the study, the significance level value (p = .843) was found higher than .05 according to the results of the Mann Whitney U test applied between the pre-test scores of the groups. This result shows that there is no significant difference between the groups (U = 340.000, Z =. -199, p> .0843).

As to come to the second question of the research, the significance level value (p = .027) was found lower than .05 according to the results of the Mann Whitney U test applied between the post test scores of the groups. These results show that there is a significant difference between the post-test scores of the groups (U = 229.500, Z = -2.213, p <.05, r = 0.304). When we examined the median values in order to determine which group is in favor of this difference, it was observed that the median value of the experimental group was 70, while the median value of the control group was 55 (Table 6). Based on this finding, it can be stated that the success of the experimental group in which the jigsaw II technique was applied in the 4th grade science lesson has a higher success in solving real life problems compared to the control group conducted based on the curriculum by the Ministry of National Education. As a result, it can be stated that the Jigsaw II technique contributes to the development of students' problem-solving skills.

The result of the study reflects parallel outcomes to the results of the studies of Altınkok (2012); Dendup & Onthanee (2020); Genc (2007); Iuliana (2016); Johnson et al. (2007); Nopembri et al. (2019); Pelobillo (2018); Sahin (2010); Saturated et al. (2005); Senemoglu (2009); Wismath & Orr (2015) and Yılmaz's (2001) in the literature. It can be claimed that many factors can shape the contribution of the Jigsaw II technique to the development of students' problem-solving skills. Thus, individuals aim to use their own capacities and their friends' capacities in full potential in this technique (Acıkgoz, 2014).

Bingham (2004) states that the most important aspect of developing problem-solving skills is learning to work together effectively. This technique can also be considered as a technique that particularly contributes to the ability of students to work together. Individuals who make up the groups take responsibility of both their own learning and their friends' learning as they are aware that success belongs to the whole group (Doymus et al.2005). This behavior is so closely related to the awareness of each individual composing the group that their individual achievements will contribute to the success of the group. For this reason, the individuals belonging to the same group encourage, motivate, direct and help each other during problem solving. They share and discuss their ideas on the solution of the problem they encounter (Johnson & Johnson 1999; Turkmen, 2016). The individuals in

the group express one another about how the problem was solved and check whether their friends understood the solution. The individuals in the group contribute to the transfer of knowledge in problem solving process by using the information which was learned by other friends of them in the lessons in problem solving (Yılmaz, 2001).

Thanks to this technique, individuals also have the opportunity to combine or change their current learning with their past learning (Dendup & Onthanee, 2020). In addition, students can even have the opportunity to keep the information they have learned in mind for a long time, to think critically, and to use what they have learned in an interdisciplinary attitude thanks to the related technique. What's more, the students work with an intrinsic motivation to manage to solve the problem in the process of problem solving, and thus, working in groups has a very positive effect on the development of their self-esteem and psychological health (Gambari & Yusuf, 2016; Johnson et al.2007).

The learning process of Jigsaw II technique not only provides students opportunities , such as actively participating in the process, planning the teaching process, increasing academic success, self-evaluation, and covering their deficiencies up, but also contributes to the development of students' self-regulation skills (Koc, 2013; Donmez & Gundogdu, 2018). The studies referred above in the literature, support the findings of this study.

RECOMMENDATIONS

Based on these results, it can be suggested to provide teachers with in-service training to create and solve real life problems.

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Statements of publication ethics

We hereby declare that the study has no unethical issues and that research and publication ethics have been observed carefully.

Researchers' contribution rate

The study was conducted and reported with equal collaboration of the researchers.

Ethics Committee Approval Information

19 Mayıs University Social and Human Sciences Ethics Committee's decision dated in 17.04.2020 and numbered as 2020/175.

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Appendix-1

Rutin Olmayan (Gerçek Yaşam) Problem Örnekleri

1. Mahmut yaz mevsiminde yazlığa gider, orada çok eğlenirdi. Ama kardeşi Ahmet sürekli yazlıktaki evin bir bahçesine çıkar, bir eve girerdi; eve girip çıkar iken kapıyı açık bırakır içeriye sivrisineklerin girmesine sebep olurdu. Mahmut, kapının içeriden çıkınca hemen kapanması için bir çözüm arayışı içine girdi. Mahmut 'un yerine siz olsaydınız ne yapardınız?

2. Ali okuldan çıkıp eve doğru ilerliyordu. Komşuları olan yaşlı Ahmet amcanın bir şeylerle uğraştığını gördü. Hemen onun yanına geldi. Ali, Ahmet amcanın evinin anahtarını mazgalın içine düşürdüğünü ve buradan alamadığını gördü. Birden aklına bir fikir geldi ve eve doğru koşturmaya başladı. Siz Ali'nin yerine olsaydınız, Ahmet amca'ya nasıl yardım ederdiniz?

3. Ahmet okuduğu kitabı sınıfa anlatırken diğerlerin farklı bir şekilde anlatmak istemiştir. Ahmet'in aklına kitaptaki karakteri yapıp perde üzerinde hareket ettirip olayları canlandırarak arkadaşlarına kitabını anlatmak fikri gelmiştir. Fakat karakterleri nasıl hareket ettireceğini bir türlü bulamamıştır. Siz olsaydınız Ahmet'e nasıl yardımcı olurdunuz?

4. Ali ve arkadaşları bir gün lunaparka gezmeye gitti. Zeynep ve Mehmet lunaparkta çarpışan otolara binmeye karar verdiler. Çarpışan oto zilinin çalmasıyla birlikte araçlar birbirine doğru sürülmüştür ve araçlar çarpışmıştır. Bu çarpışmalarda Zeynep ve Mehmet çok sarsılmıştır. Sizce çarpışan otolarda sarsılmayı en aza indirmek için ne yapılabilir?

5. Yavuz komşuları olan Ayşe teyzenin evlerinin altında bulunan markete yaşlı olması ve binada asansör olmaması nedeniyle inip çıkarken zorlandığını görmüştür. Yavuz kafasında tasarladığı aracı yaparak bu sorunu çözmüştür. Yavuz sizce ne yapmıştır?