The Effects of Expected Evaluation and Reward on Motivation and Creativity in Turkish Children

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Abstract

The Effects of Expected Evaluation and Reward on Motivation and Creativity in Turkish Children

A Thesis Presented to the Department of Psychology

Graduate School of Arts and Sciences
Brandeis University
Waltham, Massachusetts

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Research with U.S. samples has consistently found that intrinsic motivation is conducive to producing creative work, while extrinsic motivation is detrimental to producing creative work. The goal of this research was to determine if this remained true in another more collectivist culture. This was a mixed design study in which ninety-four, Turkish elementary-school students participated in two separate creativity tasks within one of four, randomly assigned conditions: intrinsic motivation, expected evaluation, expected individual reward, and expected group reward. Two-way ANOVA was used to search for group difference as well as sex difference in each of the creativity tasks. In the task that was more closely associated with play (the collage making), the intrinsic motivation and expected evaluation conditions produced the highest levels of creativity and the condition difference was driven by the female participants while male participant scores remained relatively flat across all conditions. In the task
that was more closely associated with work (storytelling), the expected evaluation and expected group reward conditions produced the highest levels of creativity, while both males and females drove the difference between groups with significantly higher scores among females. These results show clear dissimilarity between responses of Turkish and U.S. populations and imply that much of what has previously been considered universal in the study of motivation, behavior, and creativity, may be culture-specific.
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The Effects of Expected Evaluation and Reward on Motivation and Creativity in Turkish Children

The ability to think and act creatively is often elusive. More than a mere state of mind, it is dependent on the production of ideas or products that are novel and of value. Simply instructing a child in what to produce is not likely to inspire creative results. What techniques are effective in motivating children to be creative? Traditionally, positive reinforcement has been cited as the epicenter of behavioral modification, and classic psychological theory states that rewarding desired behavior should produce an increase in that behavior (see Skinner, 1938). One might propose that rewarding children for producing a creative product, whether it is a story, a piece of art, or a school assignment, would be highly effective. Yet, research has shown that such extrinsic motivational factors negatively influence creativity (Hennessey, 2003).

Much of the evidence regarding extrinsic motivation and creativity arose from the assessment of the overjustification hypothesis (Berlyne, 1960; De Charms, 1968; Deci, 1971; Hebb, 1955; Kelly, 1967, 1973). The overjustification hypothesis states that, under certain conditions, extrinsic constraints may lead to loss of intrinsic motivation, such as when the person perceives that the abundant extrinsic motivators are accounting for his or her behavior (Lepper, Greene, & Nisbett, 1973). Intrinsic motivation is defined as the motivation to do something for its own sake, for the pleasure and enjoyment of doing the task itself; while
extrinsic motivation is defined as the motivation to do something for an external goal (Hennessey, 2003).

Suggestions of a connection between the interactions of extrinsic and intrinsic motivation and the resulting creative quality of a product first began to surface in the mid 1970s. Lepper, Greene, and Nisbett (1973) found that preschoolers, who initially displayed high levels of motivation to draw pictures with magic markers, also experienced a severe loss of interest and enjoyment when offered a “Good Player Award” for that same activity. These findings were consistent with past research on the overjustification effect (Deci, 1971). However, of greater interest to many researchers was Lepper et al.’s (1973) observation that the overall “quality” of the drawings created by the reward-motivated group was less than that of the groups that expected no reward for their artistic renderings. Many researchers since have connected the element of “quality” to the overall creative merit of a product (e.g., Amabile, 1982; Hennessey, 2003). The deleterious effects of extrinsic motivation on creativity have since been well documented by Hennessey and Amabile (Amabile, 1982, 1983, 1999; Hennessey & Amabile, 1999; Hennessey, 2003). Both have been instrumental in establishing evaluation and reward as elements of extrinsic motivation that negatively affect creativity (Amabile, 1982, 1983, 1999; Hennessey & Amabile, 1999; Hennessey, 2003). The research conducted by Amabile and Hennessey often used open tests for creativity in children involving collage-making and storytelling as the typical activities. The standard conditions for the performed activity were expected evaluation, expected reward, and a
purely intrinsically motivated group (i.e., in which no extrinsic motivators were
given). Judges rated the resulting products (such as the children’s collages or
stories) on a set scale, and those ratings were analyzed for internal consistency as
well as group differences. Throughout the body of their research, they came to the
same conclusion: both reward and evaluation present deleterious effects on
creativity.

Despite the long-standing acceptance of overjustification theory in
psychological literature and the large quantity of work pertaining to the
deleterious effects of extrinsic motivation on creativity, questions remain as to the
universal applicability of these theories. For example, gender has been found in
some cases to be a significant factor in the influence of motivation on creativity.
Baer (1997, 1998) found that creativity was significantly influenced by factors
related to gender as well as environment. He tested the conditions of anticipated
evaluation, anticipated reward, and non-graded formative feedback on middle
school children. Using a system of numeric scales and interjudge-reliability
similar to that of Amabile and Hennessey, his research showed that for middle
school children, females experienced significant decreases in creativity levels
under conditions of expected evaluation and expected reward, whereas male
students experienced no significant increase or decrease in their creativity levels.
Additionally, Baer found that the use of non-graded evaluation, which posed no
risk of failure, ameliorated the negative effects of expected evaluation and
reduced the gender gap previously influenced by expected evaluation. If gender
potentially moderates the influence that motivation has on creativity, might other

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factors do the same? Could differences in culture possibly result in different responses to intrinsic and extrinsic motivation?

Currently, published research on creativity and motivation consists primarily of studies that were conducted in the United States and Western Europe. Indeed, most psychological research up until recently has been completed using samples from North America (Loner, 1989). Some basic psychological conditions and outcomes, including family influences, child rearing, and education, differ among cultures (e.g., Markus & Kitayama, 1991); and it is important to determine if the accepted psychological norms within one culture (i.e., in the present case, the effects of extrinsic and intrinsic motivation on creativity) are also present in different cultures.

Oral, Kaufman, & Agars (2007) conducted groundbreaking research among college students in Turkey on creativity and motivation to examine how closely Turkish results would mirror those of the U.S. To measure motivation, participants were administered the Work Preference Inventory, College Student Version (Amabile, Hill, Hennessey, & Tighe, 1994). The results of this study found that, among Turkish students, intrinsic motivation was highly correlated with creativity, and gender and motivation interacted (Oral et al., 2007). They concluded that Turkish populations behaved in the same manner that U.S. and other European populations did in terms of motivational factors. While this is promising research, it does not fully address some of the finer points of extrinsic motivation and creativity, including the differences that may exist between the use of extrinsic rewards as motivators relative to the use of evaluation as a motivator.
Additionally, the more traditional, “collectivist” nature of Turkish culture could provide more unique avenues of motivation research that have not been pursued in the United States.

With the possibility of direct comparison in mind, we sought to replicate in a sample of Turkish students the creativity research that has been completed by Amabile and Hennessey (Amabile, Hennessey, & Grossman, 1986; Amabile 1982, 1999; Hennessey, 2003) in European American student samples. This research involved direct creation of products rather than questionnaire research like that of Oral et al. (2007).

In light of the results from Amabile, Hennessey, and Baer, we proposed three main questions to address with this research. First, could a consensus be reached among Turkish judges evaluating the products of Turkish children in the apparently subjective notion of what creativity is, and would the scales and methods used in previous U.S. studies be effective in this culture? Second, would Turkish elementary school students exhibit the same negative relation between the presence of extrinsic motivation and resulting levels of creativity that U.S. elementary-school student samples had shown, and if not what condition would be conducive to producing creativity? Third, would gender influence the creativity scores in a manner that was similar to the U.S. results presented by Baer (1997, 1998)?

**Hypotheses**

There were three main hypotheses in our study. First, we hypothesized that a high level of interjudge-consensus regarding creativity could be reached
among Turkish judges evaluating the products of Turkish children, just as it was among the U.S. judges before them.

Second, we hypothesized that children in the more “collectivist” culture of Turkey would not experience the same gap in creativity caused by extrinsic motivation that is experienced by U.S. populations and that if a subject’s response to differing motivational forces was influenced by culture, then in a collectivist culture children who were in an expected group reward condition would show higher levels of creativity than those in the other conditions. We believed that some types of extrinsic motivation, in fact, might enhance creativity. Theories of over justification and motivation and creativity may not be universal. Some researchers have noted that the Turkish educational system does not encourage creativity in early education, but instead values conformity to the group (Günçer, Barbaros, Oral, & Günseli, 1993). We felt that this cultural emphasis on the group would encourage creativity in a group motivated condition. This hypothesis assumes that the negative response to extrinsic motivation found in U.S. students is culturally conditioned. Amabile and Hennessey (see Amabile et al., 1986; Hennessey, 2003) as previously mentioned, included groups with a focus on expected evaluation, expected reward, and intrinsic motivation. All of the conditions studied involved a focus on the individual. To our knowledge, no research has been conducted that involved group extrinsic motivation in collectivist cultures.

Third, we hypothesized that females would drive the difference found between conditions (i.e. higher overall performance in expected group reward).
This hypothesis was based on the conclusion that if females play a role in driving the success of the intrinsic motivation condition in the U.S. studies (Baer, 1997, 1998), they may drive the success of the expected group evaluation condition in this Turkish study. Baer (1997, 1998) found that females were negatively affected by both expected reward and expected evaluation conditions while males showed no significant difference across conditions. He is at this time the only researcher who has found this gender disparity in the United States, Hennessey and Amabile found no such gender influence.

The question of gender difference influencing the creativity scores across conditions for our third hypothesis was a complicated consideration. Amabile and Hennessey did not find gender differences in their research (see Amabile et al., 1986; Hennessey, 2003); yet, recent research performed by Oral et al. (2007) found that Turkish college students experienced the same gender gap noted by Baer (1997, 1998), that is, that females were negatively impacted by both expected evaluation and expected reward conditions while males showed no significant difference in their creativity performance. While both Baer (1997, 1998) and Oral (2007) conducted their research on post-pubescent samples unlike our own, younger sample, Günçer et al. (1993) states that gender roles in Turkish culture are stricter and more demanding from a very young age, which indicates that we might see gender difference at the age of our subjects. Yet, Shi, Xu, Zhou, and Zha (1999), in a cross-cultural study of German and Chinese children closer in age to our own sample, found no significant gender differences in creative thinking in either the European or Chinese group. This questionnaire-based
research is arguably an accurate representation of results from a “collectivist “culture with strict gender roles (similar to what we might find in Turkey) juxtaposed to a more “individualistic” culture (similar to what we might see in a study in the United States). The fact remains that none of the previous research is an exact fit to our own research, and cross-cultural investigation in this area is sparse, but we felt that hypothesis 3 was a reasonable expectation given previous results from other research.
Method

Participants

Ninety-four, fourth grade students (46 boys, 47 girls, and 1 participant who did not provide gender data) from a private school in Izmir, Turkey were recruited as participants this study. The private school system in Turkey was chosen based on the advice of Turkish nationals because of the greater ease with which the students could be recruited, and because of what was characterized as the low quality of education found in the public school system in Izmir. Fourth grade students were chosen because Turkish children are not taught to read until the age of seven, and both reading and writing were requirements for successful completion of one of the creativity tasks. The children between the ages of 9 to 10 years old were from four different classes all in the same school. School administrators had constructed the four classes based on random assignment of students to each class. Each class was assigned randomly to one of the four experimental conditions. Twenty-three children were present in each of the intrinsic motivation and expected individual reward conditions; 24 children were present in each of the expected evaluation and expected group reward conditions. The children arrived at their usual classroom with the understanding that this was a typical day of class. The classroom teacher remained present throughout the session. Female experimenters speaking Turkish conducted all sessions.
The judges were essential participants in this experiment as well. The judging panel was composed of 10 Turkish nationals (eight females and two males) who all spoke Turkish as their first language. All were elementary school teachers in the same school who were familiar with the typical products created by elementary school students. None of the judges was present for the experimental sessions with the children; none was an instructor of one of the four classes used in the study; and all judges were blind as to the condition and gender of the student who created the product being evaluated. Judges were not informed of the study hypotheses.

Procedure

The entire study was conducted in the Turkish language. All instructions were given by two Turkish nationals who were involved in the research team. The first was a professor of developmental psychology in Izmir who was the primary contact in Turkey, The second was a Turkish national currently pursuing her undergraduate education in the United States who was intimately familiar with the design and purpose of the study.

During the course of the experimental sessions, the students participated in two creativity tasks. It was essential to present tasks that were liberal enough to allow for individual creativity, yet simple enough that no unique skill was necessary to accomplish the task successfully. The activities were meant to establish the creativity level of the group based on each condition, not to identify specifically creative individuals. Activities such as drawing or poetry writing were not considered appropriate as student skill levels tend to vary significantly in
such tasks. Instead, in keeping with previous procedures and design used by Amabile and Hennessey (see Amabile et al., 1986; Hennessey, 2003), each class was given a task of creating a paper collage for which all the materials were supplied to them, and a story telling task in which the children were asked to write a story based on a series of pictures. The tasks were presented consistently to the students in the same order (collage followed by storytelling). This consistent order was used to ensure that the only difference among the groups was instructions of each condition. Storytelling, as the more challenging activity, seemed more appropriately placed as the second exercise to ensure full enjoyment of the collage activity.

The tasks and supplies were identical for all four groups; however, the group instructions differed based on condition. The slight differences in instructions given to each group of children were used to construct each of the four conditions. The first class (intrinsic motivation condition) was given a collage and storytelling activity and simply asked to perform the activities for no particular reason (see Appendix for the specific instructions that were given in each condition). The second class (expected evaluation condition) was given the same two activities and informed that the resulting products (i.e., collage and written story) would be evaluated for quality. The third class (expected individual reward condition) was given the same two activities and instructed that they would each receive an individual reward if they completed the activities. The fourth class (expected group reward condition) was given the same two activities and informed that the group would collectively receive a reward if everyone
completed the activities. All instructions can be viewed in both English and Turkish translations in the Appendix.

After completion of each task, the students were instructed to provide an assessment of the activity. They were asked to rate the activity they had just completed in on a scale of one (low) to seven (high) for their enjoyment, interest, and difficulty level of each task. Additionally, they were asked to classify the activity as either work or play. Finally, they were asked to self identify as a boy or girl.

Judging took place in a separate location outside the classrooms. All the products were collected in a single room and put on display for assessment. Judges were selected and instructed based on the Consensual Assessment Test (CAT) guidelines that are detailed later under Tests & Measures. The participating judges were given minimal instructions. They were informed that for an object to be creative it must be relevant to the task (one cannot make a paper airplane of the paper when one is asked to make a collage and then call it creative). The judges were further instructed to rate each work in three specific areas (overall creativity, technical goodness, and the judges’ personal liking of the product) each on a scale that ranged from one for low creativity to seven for high creativity. Additionally, they were instructed that they must identify at least one piece in each activity (collage and storytelling) that scored a one and one piece that scored a seven. This constraint was given to ensure the utilization of the entire scoring range and forced comparison within the subject pool rather than comparison with every creative work each judge had ever seen. Beyond these
instructions, each judge gave every work a score based on his or her own subjective perceptions of creativity. Rating was performed independently, and judges were not allowed to confer with one another. Judges were blind to the conditions and gender of all of the students who created each product.

Tests & Measures

Products were assessed using a standardized method of rating creativity called the Consensual Assessment Test (CAT) (Amabile & Hennessey, 1999). CAT relies on the opinions of expert judges to determine the creative merit of a product. For CAT to function properly, a few guidelines must be followed. First, judges must qualify as “experts” in the field of the product being created. “Experts” are individuals who have relevant experience in the domain in which the work was produced (Amabile, 1996). In cases of cross-cultural research with children, this translates into judges who are both from the same culture as the children producing the work and who are familiar with the typical products of children within that age group. Native, Turkish elementary school teachers were selected as the expert judges. The second guideline for proper use of CAT requires that the creativity of a product be assessed relative to the other items in a particular study not against an “absolute” level of creativity found in the world. This is particularly important in cross-cultural studies, as notions of what constitutes creativity may vary between cultures. The third guideline requires that all assessment must be carried out without consultation; each judge is to base scoring on his or her own impressions, and judges must not confer. The fourth guideline requires that all assessment be conducted on the same numerical scale.
end of the scale and one work representing the lowest end of the scale. Finally, creativity cannot exist in a vacuum separate from functionality. In order for an item to be considered creative, it must operate within the parameters of the given activity. A student cannot make pottery when asked to create a collage, and then proceed to assert that pottery is more creative because it is “out of the box thinking.” The student must demonstrate “out of the box thinking” that is within the scope of the assigned activity.

While quantifying the presence of creativity can be extremely difficult, CAT was the ideal tool for this study because it allows an independent, standardized judging format that is flexible enough to be used appropriately in any environment. U.S. judges assessing the creative merit of the products of another culture may not be appropriate when one is attempting to conduct cross-cultural research. Because CAT uses the judges’ culturally innate sense of what is creative as a rating system, it functions without cultural misunderstanding.

Resulting scores can be assessed for interjudge-reliability. Statistical analysis of the internal consistency of the scores for each product can determine if there is interjudge-agreement and therefore a perceived “quality” of creativity that is in fact assessable. Creativity is often a subjective term, and while most individuals on some basic level have no trouble identifying something as creative, it is difficult to quantify what that necessarily means and establish that it can be reliably measured. If agreement exists among independently functioning judges, one can deduce that they can indeed judge the quality of a product and that ratings are reliable, even if the judges do not know explicitly what criteria they used. Past
research conducted by Hennessey and Amabile (1999) in which the CAT method was used to quantify creativity has resulted in internal consistency scores that ranged between .71 and .91, all above the .70 threshold for reliability.

**Statistical Analysis**

Various levels of statistical analysis were performed on the collected data. First, an analysis for internal consistency was conducted on the raw scores provided by each judge. Cronbach’s alpha was used to measure interjudge-reliability. Correlations and Chi square test for independence were conducted to examine the basic breakdown of the scoring among the groups, and to explore the work/play designations provided by the students. A series of paired sample $t$-tests were conducted to assess the differences between the collage and storytelling activities. Additionally a series of two-way ANOVAS were conducted in which gender and condition functioned as the fixed, independent factors while creativity scores, technical goodness scores, judge-liking scores, child-reported enjoyment, child-reported interest, and child-reported difficulty functioned as the dependent variables. These ANOVAs were conducted separately for the storytelling and collage-making activities resulting in 12 two-way ANOVAs.

ANOVA$\text{s of the child reports were an essential element of examining how the children viewed these activities, which speaks to the effectiveness of each condition as well as each creativity task. ANOVAs of the technical goodness and liking, while not as vital to this research as the creativity scores, were important in examining how independent creativity is of other attributes and judges’ assessments. Ideally, we hoped to see these three dependent variables only
moderately correlated in their scoring. Nevertheless, it is to be expected that creativity will be related to other attributes of the product, such as technical goodness, and that judges will prefer creative products to non-creative products. These comparisons would simply tell us how these various attributes are related.

Materials

In all four conditions, each child received a supply of pre-cut, collage paper that was identical in quantity of pieces, colors, and shapes to those of all other children. Each child was also given a glue stick and a piece of cardboard on which to create the collage. On the back of this cardboard was a section for them to specify their ratings of the task as well as their gender. Similarly, all the children were given the same series of pictures involving the activities of a boy, a frog, and a dog. They were instructed to write a story in the space provided next to the storyboards based on these pictures. At the end of the storytelling activity, the children again responded to an identical set of questions regarding gender and their perceptions of the activity.

Judges were given specialized judging forms on which to designate the number of each piece they rated. All of the pieces (both collages and stories) were judged on creativity, technical goodness, and liking, in that order.

Instructions and Translation

Instructional materials for this study were provided in English by Hennessey, based on her previous research. These instructions were translated into Turkish by a Turkish national who was a research associate in the study (see Appendix). Another Turkish national was then recruited to back-translate the
instructional materials from Turkish into English to confirm the accuracy of the translation in meaning and intent. Any necessary modifications were made.

Attrition and Missing Data

All 94 of the student participants completed both creativity tasks as part of the class work for the day. The only missing data from the student participants was the failure of one student to identify gender, and the failure of two students to provide a classification of the activities they had participated in as being work or play.

In rating the collage activity, judges failed to provide 19 scores across all three categories (creativity, technical goodness, and likeness). In rating the storytelling activity, judges failed to provide 70 scores across the same aforementioned categories. Given that there were 5,640 ratings to be assigned between the storytelling and collage activities, this level of missing data is not surprising and it is only 1% of the total collected data.

Two sets of interjudge-reliability analyses were conducted. The first analysis was performed without replacement of the missing data, and the second was with replacement of the missing data points. Replacement scores were obtained by calculating the mean of the available scores given to a particular creative product. The means were rounded appropriately to a whole number. The resulting number was then entered for the missing data point of that same creative product. While it is understood that this corrective measure increases the likelihood of a favorable interjudge-reliability score, we felt that it was important to consider the ratings of as many creative products as possible which necessitated
ten sets of scores for each product. It is important to note that the number of 
scores replaced represent less than .7% of the collage data and less than 2% of the 
storytelling data. Differences between the resulting reliability analyses were 
marginal and a complete comparison is presented in the results portion of this 
paper.
Results

Preliminary Analysis

Mean differences were examined between the conditions in each activity, the results of which can be viewed in Table 1. In the collage activity the intrinsic motivation condition was the highest scoring condition in the dependent variable of creativity ($M= 4.44, SD= .706$) followed closely by expected evaluation ($M= 4.34, SD= .961$). The expected group reward condition produced the highest scores in child reported interest ($M= 5.79, SD= 1.285$) as well as child reported enjoyment ($M= 6.50, SD= .933$), and the lowest score in child reported difficulty ($M= 1.42, SD= .830$).

In the storytelling activity the expected evaluation condition was the highest scoring condition ($M=3.74, SD= .709$) followed closely by expected group reward ($M= 3.498, SD=1.077$). The expected group reward condition again produced the highest scores in child reported interest ($M= 3.83, SD= 1.786$) as well as child reported enjoyment ($M= 5.58, SD=1.442$). However in the storytelling task the lowest difficulty score was found in the expected evaluation condition ($M= 1.83, SD=1.274$).

A review of the scores in creativity, technical goodness, and liking show much higher overall results for the collage activity in comparison to the storytelling activity. The intrinsic motivation condition was the highest scoring in the collage activity; however, expected evaluation was the highest scoring
condition in the storytelling activity. I appeared that hypothesis 2 was both supported and not supported by these results. The difference in the outcomes between collage and storytelling raises questions regarding the results and so we proceeded with further analysis.

We conducted correlations for all of the dependent variables, the results of which can be viewed in Tables 2 and 3. All correlations reported in Tables 2 and 3 are Spearman rho correlations. As expected creativity was highly correlated with technical goodness and liking across both tasks (see Table 2 and 3). These variables were expected to be highly correlated, and technical goodness and liking were recorded primarily to see how independent creativity was from technical goodness and liking. The high correlations indicate that these variables were closely related. Additionally, child reported interest was significantly correlated with enjoyment in both the storytelling (.411) and the collage (.360) tasks. No other unexpected correlations were found among the dependent variables.

**Hypothesis 1: Interjudge-Reliability.**

Hypothesis 1 stated that a high level of interjudge-consensus regarding creativity could be reached among Turkish judges evaluating the products of Turkish children just as it was among the U.S. judges before them. Results supported this hypothesis. To reach this conclusion we determined whether the methods used to assess creativity of each of these pieces were reliable. As previously stated, in proper application of the CAT method, Cronbach’s Alpha was used to evaluate the interjudge reliability in scoring creativity, technical goodness and judge liking. According to Hennessey and Amabile (1999), internal
consistency scores of CAT ranged between .70 to .82 in nine studies involving judges from multiple backgrounds. Additionally, the research that this current study is modeled after resulted in an internal consistency of 0.91, well above the threshold for consistency of 0.70 (Amabile et al., 1986). Table 4 includes the Cronbach’s alpha coefficients for two sets of analyses: the first is without replacement of missing data, the second includes replacement for a more complete interjudge-reliability analysis of all ten judges’ scores. The results for internal consistency for both sets of analyses (with and without replacements) exceed the .7 threshold for internal consistency, (collage creativity-.887, collage technical goodness-.869, collage liking-.866, storytelling creativity-.811, storytelling technical goodness-.800, storytelling liking-.747). These results established the interjudge--reliability of the data as well as the cross-cultural effectiveness of CAT. In effect, the judges agreed on their assessments of creativity, technical goodness, and liking.

**Hypothesis 2: Effect of Extrinsic Motivation on Creativity**

Hypothesis 2 stated that Turkish elementary school students would not show the same relation between the presence of extrinsic motivation and resulting lower levels of creativity that U.S. elementary-school student samples have shown, and the expected group reward condition would in fact show higher creativity levels than the other group conditions.

**Judge Assessments.** Multiple two-way ANOVAs were conducted to determine the significance of the impact of both condition and gender on creativity, technical goodness, and liking as scored by the judges. The dependent variable of creativity
is of primary concern in this research, as the variables of technical goodness and liking are used only to determine how creativity is related to these other factors. Ideally, liking and technical goodness will follow the pattern of creativity, but will not be an exact replication of the creativity results as this would indicate that judges were perhaps basing their evaluations on something other than the actual creativity of the product. However, it was expected that creativity would be correlated with liking and technical goodness. Post-hoc comparisons using Tukey HSD tests were run when statistically significant main effects were found. Table 5 presents the complete results of both the collage and storytelling ANOVAs and includes the results of Levene’s test for significance as well as the strength of the results (partial $\eta^2$). Table 6 and 7 present the main effects and interaction effects of the two-way ANOVAs. The significant post-hoc results for the collage and storytelling activities can be viewed in Table 8 (for the collage activity) and Table 9 (for the storytelling activity). In this section, we will focus on the condition differences only, as this is the primary concern of the second research question. The effects of gender will be addressed in a later section.

In the collage task there was a main effect of condition for the dependent variable of creativity $[F (3, 85) = 5.36, p=.002]$; the effect size was large (partial $\eta^2 = .159$). The same main effect was present for both the technical goodness $[F (3, 85) = 5.14, p=.002]$ and liking $[F (3, 85) = 5.05, p=.003]$ scores given by the judges, as seen in Table 6. A post-hoc comparison using Tukey HSD showed no statistically significant difference between the means of the two highest scoring conditions, intrinsic motivation ($M=4.441, SD=.707$) and evaluation ($M=4.335$, 

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SD=.961) in the creativity category (see Table 8 for the post-hoc summary). However, the intrinsic motivation condition produced significantly higher creativity scores than the individual reward (M=3.697, SD=.961) and expected group reward (M=3.824, SD=.850) conditions; while expected evaluation was only significantly greater than the expected individual reward condition (see Table 8). All of this is clearly presented in Table 8.

In the storytelling activity, condition again had a significant effect on creativity level \[F(3, 86) = 10.4, p=.000\]; the effect size was quite large (partial \(\eta^2 = .355\)) (see Table 7). As in the collage activity, the two highest scoring conditions did not differ significantly: expected evaluation (M=3.738, SD=.709) and expected group reward (M=3.498, SD=1.08) (see Table 9). Both conditions had significantly higher creativity scores than the expected individual reward (M=2.320, SD=.668) and intrinsic motivation (M=2.697, SD=.849) conditions. This order was also true for technical goodness and liking (see Table 9).

To determine if the number of children who received extreme scores differed by condition, further analyses were conducted using two 3 X 4 \(\chi^2\) tests to analyze the frequency of the raw scores at low (1-2), medium (3-5), and high (6-7) scoring levels of creativity in each condition in both the collage activity and the storytelling activity. Results were significant for both tasks, collage- \(\chi^2(6, N=933) =31.407, p< .001\); storytelling- \(\chi^2(6, N= 913) = 98.441, p< .001\) (see Table 10). Figure 1 presents the results for the collage activity in which the highest number of students scoring 6-7 (i.e., higher scoring levels) on their creative performance was found in the expected evaluation condition followed
closely by the intrinsic motivation condition. Both the individual reward and group reward conditions had the highest number of students scoring 1-2 (low levels) on creativity. The top two conditions had the highest number of students scoring between 6-7 (intrinsic = 49, expected evaluation = 60).

Figure 2 illustrates the $\chi^2$ results for the storytelling activity. Again, the expected evaluation condition had the highest number of students scoring 6-7 on their creative performance, with expected group reward resulting in the second highest number of students scoring between 6-7 (evaluation-34, expected group reward-28).

The $\chi^2$ results in Figures 1 and 2 demonstrate the previously mentioned distinction between the two creativity tasks in regards to the top scoring conditions as well as the large disparity between the score levels. In the collage activity, the number of scores in the average range of 3-5 approached 150 for all conditions; however, in the storytelling activity, only two conditions (evaluation and group reward) contain a little over 125 scores of 3-5. A paired sample $t$-test (see Table 11) revealed that the judges’ assessment of the level of creativity of the storytelling products was significantly lower than that of the collage products ($t(9) = 3.66$, $p=.005$). These analyses indicate not only the condition differences we hoped to address in our research question, but also a distinct difference between the two creativity tasks that must be addressed.

Child Reports. The child reports, while not the main dependent variable we are concerned about (i.e. creativity), are an important piece of the results reported for hypothesis two as they provide insight into the differences found
between the results of the collage and storytelling activity. Ideally, the collage and storytelling activities would have produced identical results in the creativity ANOVAs; as they did not, we looked to the child reports to help explain why.

In the collage activity, while there were no significant main effects of group condition in the child reports of enjoyment \([F (3, 85) = .210, p=.889]\) and interest \([F (3, 85) = 2.423, p=.071]\), there was a statistically significant main effect for condition on reported difficulty \([F (3, 85) = 3.378, p=.022]\). A post-hoc comparison using Tukey HSD (see Table 8) indicated that the mean score for reported difficulty in the intrinsic motivation condition \((M=2.130, SD=1.486)\) was significantly higher than that of expected evaluation \((M=1.208, SD=.509)\).

A paradox similar to the issue with the child reported difficulty levels in the collage activity also exists in the storytelling activity. While there was no significant main effects of condition in the child reports of difficulty \([F (3, 86) = 2.14, p=.101]\) and interest \([F (3, 86) = 2.19, p=.095]\), there was a statistically significant main effect for condition on reported enjoyment \([F (3, 86) = 3.31, p=.024]\). A post-hoc comparison using Tukey HSD (see Table 9) indicated that the mean score for reported enjoyment in the expected group reward condition \((M=5.583, SD=1.442)\) was significantly higher than that of expected evaluation \((M=4.083, SD=2.185)\). Although the evaluation condition \((M=3.738, SD=.709)\) was rated slightly higher in creativity than the expected group reward condition \((M=3.498, SD=1.077)\) (although not significantly), the children in the expected group reward condition enjoyed the activity significantly more.
Paired sample *t*-tests used to examine the differences between the collage and storytelling activity revealed that the child reports of difficulty were significantly higher overall for the storytelling activity than they were in the collage activity, \[ t = 3.082, \text{DF} = 93, p = .03 \] (see Table 11). Ratings of child enjoyment were significantly higher in the collage activity than in the storytelling activity (paired sample *t*-(93) = -6.96, *p* = .000), as was reported child interest (*t* (93) = -7.21, *p* = .000) as well (see Table 11).

Additionally, the \( \chi^2 \) results displayed in Table 10 and Figure 3 demonstrate further significant distinction between the two creativity tasks \( \chi^2 (2, N= 188) = 72.59, p = .000 \). The collage was overwhelmingly classified as play across all conditions, while 70% of the children across all conditions classified the storytelling activity as work. The \( \chi^2 \) results for condition difference in work/play reports of the collage activity were significant \( \chi^2 (6, N= 94) = 13.17, p = .04 \), indicating that the child’s perception of whether or not the activity was work or play was dependent on the group condition. However, the \( \chi^2 \) results for condition difference in work/play reports of the storytelling activity were not significant \( \chi^2 (6, N= 94) = 10.61, p = .101 \), indicating that condition did not influence the child’s opinion of the storytelling activity which was overwhelmingly classified as work (Figure 4).

**Hypothesis 3: Gender Differences**

Hypothesis 3 addressed the issue of gender: would gender influence the creativity scores in a manner that was similar to the U.S. results presented by Baer (1997, 1998). We hypothesized that females would drive the difference found
between conditions (i.e. higher overall performance in expected group reward). This hypothesis was based on the assumption that if females are driving the success of the intrinsic motivation condition in certain U.S. studies, they may drive the success of the expected group evaluation condition in this Turkish study.

To explore the impact of gender and condition on creativity, as well as on technical goodness and liking, on collage and storytelling activities, 2 X 2, between-group ANOVAs were used. To reiterate, our primary interest was the dependent variable of creativity; while technical goodness and liking scores were collected from the judges to examine how closely these concepts were connected to creativity.

For the collage activity there was no significant effect of the main variable of gender \( F (1, 85) = 0.056, p = 0.814 \) (see Table 6). However, there was a statistically significant interaction effect of gender and condition on creativity \( F (3, 85) = 2.890, p = 0.04 \); the effect size was medium (partial \( \eta^2 = 0.093 \)). These results were mirrored in the interaction results for the technical goodness \( F (3, 85) = 3.07, p = 0.03 \), partial \( \eta^2 = 0.098 \) and liking \( F (3, 85) = 2.75, p = 0.05 \), partial \( \eta^2 = 0.089 \) dependent variables (see Table 6). As previously discussed, post-hoc results in Table 8 showed that both the expected evaluation (M=4.335, SD=.961) condition and the intrinsic motivation (M =4.441, SD=.707) condition produced significantly higher creativity scores than the expected group reward (M=3.824, SD=.850) and individual reward (M=3.697, SD=.961) conditions. However, Figures 6, 7, and 8 demonstrate that the difference between conditions is driven primarily by gender. Females experience significant creative differences through
the influence of the different conditions, showing higher scores in the intrinsic motivation and expected evaluation conditions, but the male scores remain flat. This finding supports Hypothesis 3, that gender plays a powerful role in condition differences.

In the storytelling activity a main effect for gender on creativity was obtained \( F(1, 86) = 9.543, p=.003 \); the effect size was medium (partial \( \eta^2 = .100 \) ) (see Table 7). Unlike findings in the collage activity, the interaction effect of gender and condition did not reach statistical significance \( F(3, 86) = .408, p=.748 \). Again, as seen in Figures 9, 10, & 11, the creativity results were appropriately mirrored by the technical goodness and liking scores as well (also see Table 9).

While females significantly outperformed their male counterparts in this verbal activity, as Figures 9, 10, and 11 clearly demonstrate, unlike the aforementioned collage activity, we see a consistent pattern of both males and females experiencing the same overall pattern of decline in the intrinsic motivation and expected individual reward conditions. These results indicate that, while there are statistically significant performance differences between the genders, this difference was not influencing the statistically significant differences between the conditions on the storytelling task. Unlike the collage data results, the storytelling data results do not support Hypothesis 3, as gender did not drive the differences between the conditions.
Discussion

To summarize, we proposed three hypotheses entering this study. First, we hypothesized that a high level of interjudge-consensus regarding creativity could be reached among Turkish judges evaluating the products of Turkish children just as it was among the U.S. judges judging the products of U.S. children. Hypothesis 1 was supported by the results of the Cronbach’s alpha statistics, which were all well above the .7 threshold for internal consistency.

Second, we hypothesized that children in the more “collectivist” culture of Turkey would not experience the same gap in creativity caused by extrinsic motivation that is experienced by U.S. populations, but rather the group reward condition (extrinsic motivation) would show higher levels of creativity than the other conditions. Hypothesis 2 was partially supported by the data results in that Turkish students did indeed respond differently to the various motivational conditions than the U.S. students did. Additionally, the expected group reward condition was one of the two highest scoring conditions in the storytelling activity; however, this condition was statistically tied with the expected evaluation condition. Further, the expected evaluation and intrinsic motivation conditions produced the most creative results in the collage activity. The collage task results both support and undermine the classic U.S. study results with both intrinsic motivation and expected evaluation conditions in a statistical dead heat;
while the storytelling task results both support and undermine Hypothesis 2 with expected evaluation and expected group reward in a statistical dead heat.

Third, we hypothesized that females would drive the differences found between conditions (i.e. higher overall performance in expected group reward). Again, this hypothesis was partially supported by the fact that females drove the condition differences in the collage activity (although not the condition difference that was anticipated). However, the storytelling activity found both males and females driving the condition differences despite the fact that females significantly outperformed the males overall.

The results of this research cannot be addressed properly without first reconciling the issues of the disagreement between the two creativity tasks, storytelling and collage-making. Both the storytelling and collage-making tasks identified expected evaluation as one of the conditions most conducive to creativity, but the similarities end there. Something about the two tasks themselves influenced not only the condition results, but also the gender results, but why?

The explanation seems to lie within the attitudes revealed by the child responses. Table 10 and Figure 3, display the work/play rating disparity between the storytelling and collage making activities. As previously mentioned, the storytelling task was overwhelmingly classified by the children as “work” across all conditions; while the collage activity was primarily classified as “play” with significant differences between conditions (see $\chi^2$ summary, Table 10). The difference in work/play classifications between the two tasks was significant
(p=.000) as seen in Figure 3. This indicates vastly different attitudes towards each of these tasks on the part of the students, which ideally, should not exist. Scores of the different conditions should be influenced solely by the condition not by the child’s potential perception that the activity is somehow less enjoyable.

Discussion with the teachers in the Turkish classrooms revealed that the storytelling activity was, in fact, similar to the class work the children were currently doing. Further discussions with the judges after they had completed rating the storytelling activity revealed a great deal of disappointment in the writing skills of the students in general and further confirmed that the storytelling task was similar to homework assignments.

It seems that the students participated in the storytelling activity preconditioned to view the activity as work rather than play, and viewing the activity as work would not be conducive to allowing intrinsic motivation to flourish. This attitude may explain the sharp differences between the collage and storytelling creativity scores in the intrinsic motivation condition. There simply was little intrinsic motivation to perform more class work (i.e., the storytelling task); it appears to have been eliminated by previous classroom experience. The sample was essentially tainted in this condition, and a loss of intrinsic motivation to perform this task had likely already occurred.

Viewing an activity as play or enjoyable is an important element to the presence of intrinsic motivation, as intrinsic motivation by definition is the motivation to do something for its own sake, for the pleasure and enjoyment of doing the task itself (Hennessey, 2003). In the case of the storytelling activity, the
task was primarily viewed as work. It seems that when an activity is viewed as work the conditions most conducive to creativity are the expected group reward condition and the expected evaluation condition.

The collage activity was novel for the participants and this seemed to influence the outcomes, in which both expected evaluation and intrinsic motivation conditions showed more creativity than the individual and group reward conditions. This result is quite different from the results seen in U.S. participants. It appears that when novel situations are presented to Turkish students without preconceived notions of work or play, both intrinsic motivation and expected evaluation conditions produce the most creative results.

While the expected evaluation condition was statistically tied for first place in both the collage and storytelling activity, it is important to recognize that expected evaluation was the only condition to survive as a top condition in both creativity tasks. In conditions of both work and play, expected evaluation appears to be conducive to creativity in this sample. Expected evaluation also received the lowest difficulty ratings in both the collage and the storytelling activities. It seems that whether the task is work or play, interesting or not interesting, enjoyable or not enjoyable, evaluation for a task produces the best creativity results if not the most enjoyment in this sample.

The question then remains, why expected evaluation? One theory speculated by this research team is that this is perhaps an unforeseen function of the collectivist culture in which the individual undergoes greater evaluation from authority throughout life to become a more productive member of society, and
therefore is simply comfortable in the condition of expected evaluation in both work and play scenarios? Mills (2007) in her ethnography of the Turkish people details the term “Mahalle,” which she describes as a term of collective identity that is common throughout Turkish culture. Mahalle is verbal expression of the collectivist “we” that expands the concept of family. Mahalle are your neighbors; it includes a collective effort, protection, familiarity, and, on occasion, scrutiny that is present in the lives of most Turkish people. The Turkish culture appears to carry a strong sense of community with specific roles and expectations that need be fulfilled.

We further speculated that an element of evaluation that may make it more comfortable in more homogeneous, collectivist cultures is the fact that members of these cultures have a clearer understanding of what is expected of them as a member and therefore how to be evaluated positively. Recall that in the child-reported difficulty ratings for the collage task, found in Table 8, the children in the evaluation condition found the task to be significantly easier than those in the intrinsic motivation condition despite the fact that both conditions were in a statistical dead heat. Perhaps evaluation is comfortable and therefore easy.

A particular line in the scripted instructions given to the students in the expected evaluation condition read, “I am going to ask some adults to take a look at the things you did here today to decide which children made the best collages and which children wrote the best stories” (see Appendix). It is possible that in asking the children for their “best” without defining what “best” entailed, the children were essentially given the same task as our “expert” judges. They were
asked to pull from their understanding and their own cultural experience, a sense of what makes something the “best” and to produce a work consistent with that internally possessed definition. While the judges needed only to evaluate products based on these culturally infused guidelines, the students had the more difficult task of producing a relevant work using these internal definitions and the skills they possessed. This simple word “best” may have provided an internal understanding of what was expected which in turn positively influenced the efforts of the children and connected their efforts to what the judges were looking for in their own assessments. This is supported by the finding that in storytelling and collage-making activities, expected evaluation was the top scoring condition in the technical goodness and liking categories. It may very well be that the same element of culture that informs the judges’ understanding of how to evaluate for creativity, also informs the students’ understanding of how to be creative for the purpose of evaluation, whether the task is work or play.

Perhaps in a more homogeneous culture that provides very clear-cut roles for every individual within family structures, gender, religion, and society, evaluation is simply a more comfortable state and easy to relate to, as it is connected to knowing exactly what is expected from the individual. A more highly structured, collectivist society (such as Turkey compared to the U.S.) may simply produce an individual that is more comfortable with evaluation and may also more clearly define for the individual what the “best” is. Individuals within that type of culture may be more likely to feel they need evaluation and to
welcome it. This is of course speculation and more research is required in the nature of evaluation and expectation in collectivist cultures.

While this study did produce some interesting gender results, they were dissimilar from those of previous results we have seen in western populations and even other Turkish samples. Baer (1997, 1998) and Oral (2007), both found that expected evaluation resulted in a diminution of female performance Amabile and Hennessey (1983, 1996, 2003) found no gender difference in their body of research. Our own results saw a significant increase in female performance in the expected evaluation condition in both the collage and storytelling activities, as well as an increase of performance in males with the presence of expected evaluation in the storytelling activity. To our knowledge this is the first study that has seen an increase in female performance when presented with an extrinsic motivator. In a task that was perceived as play (such as the collage activity, which was overwhelmingly classified as play), it appears that female performance drives group difference while male performance remains relatively flat. In a task that was perceived as work (such as the storytelling activity, which was overwhelmingly classified as work) although female performance was still significantly higher overall, both male and female performance appeared to drive the condition differences. It is possible that these results are again a reflection of the more highly structured gender roles of Turkish culture working in conjunction with the previously discussed “comfort” of understanding expectation.

Günçer et al. (1993) stated that gender roles in Turkish culture are more strict and demanding (particularly for girls) from a very young age. Dayioğlu and
Türüt-Aşik (2007) in their examination of gender differences in academic performance in Turkey point to the fact that from a young age males are generally pointed towards academic success as a means of future provision for the family; while females have no such encouragement. If classic gender roles in Turkey reflect a belief in the academic superiority of males and the necessity for males to experience academic success, this may relate directly to the collage activity, which as “play” may simply have been less relevant to the male participants who may identify more strongly with the concept of “work” and academic success. This possibility makes sense when one considers that our conclusion regarding the storytelling activity was that it resembled the participant’s homework too closely for intrinsic motivation to flourish. Additionally, female participants may simply have more intrinsic motivation to participate in the collage task as an activity that was perceived to be more relevant to their gender, and additionally they may simply find evaluation of such a task to be comfortable and common. The male participants may simply have connected more to the more academic task because they have been encouraged to excel in more academic pursuits (work) rather than artistic pursuits (play).

If both males and females are subjected to gendered ideas about what things they should or should not excel at, and if both are also subject to high levels of expectation and clearly defined roles from an early age (e.g., Mills, 2007; Günçer et al., 1993), this may explain the superior creativity levels in the expected evaluation condition in both tasks. It is possible that with the use of the word “best” an expectation was created, and perhaps the requirement to meet that
expectation was felt particularly strongly by the females in the collage activity and strongly by both males and females in the storytelling activity. This strong sense of gender roles and expectation could explain why, unlike for the U.S. participants, female test subjects did not fade in the face of an expectation, and males experienced condition differences when confronted with an activity more closely resembling work rather than play. This explanation is highly speculative at this point and requires further research with more clearly defined work and play activities to establish the antecedents of the gender differences. This research should be done in both the U.S. and Turkey as current research results in both countries are conflicted at this time.

While the focus of this discussion has centered more strongly on expected evaluation as a condition conducive to creativity in both work and play situations, the significant contributions made by intrinsic motivation and expected group reward should not be overlooked. There appear to be both similarities and difference between U.S. and Turkish findings on intrinsic motivation. In the apparent absence of an intrinsic desire to perform a task, expected evaluation and group expected reward both seem to be effective as motivational tools for Turkish students.

This research was not without its limitations. Adjustments should be made to the storytelling activity to ensure that it is simply more fun for the students. The fact that this activity was perceived almost entirely as work complicates interpretation. We suggest in the future presenting the children with pictures of people and objects rather than a complete scenario. The reasoning behind this
proposed adjustment is to allow for more creativity and imagination on the part of the students, rather than having the pictures laid out for them. The current pictures have the tendency to result in children simply stating what they see in each picture rather than creating their own story. Additionally, audio recording appears to have advantages over written recording of the stories as children may find themselves more capable of creative expression when they are simply talking. This requires a greater amount of time and resources that were not readily available for this study, but further research should be attempted with this method.

This research is limited in its ability to address the entire psychology of the origins of the creative process itself, which is one of the elusive “unicorns” of this field. This study assessed creative products and the environment that those products came from, but it could not answer every question about the nature of creativity. It did allow us to begin to draw conclusions about the factors influencing creativity across cultures.

Assumptions about the universality of psychological theories fall every day in the light of new cross-cultural research. Additional research in Turkey, as well as among other collectivist cultures would provide some valuable feedback in terms of the nature of intrinsic motivation and evaluation in these cultures compared to U.S. results. In the near future, we hope to assemble a U.S. panel of judges to evaluate the Turkish collages for creativity in order to determine if judges from different cultures can agree with each other in their implicit judgments of creativity.
Conclusions

Effects of overjustification on creativity and motivation appear to be mitigated by elements of culture and gender perception. Clearly Turkish students do not behave identically to their U.S. counterparts in terms of motivation. While the results of the storytelling and collage activity differed slightly in the areas of intrinsic motivation and group reward conditions, the condition of expected evaluation in particular seemed to stimulate creativity in both work and play situations. An important conclusion is that individual reward may be ineffective in terms of stimulating creativity, whereas intrinsic motivation, evaluation, and group reward can apparently all be effective environmental conditions that foster creativity depending on the nature of the task to be performed.

A complete understanding of creativity and factors that nurture its existence could provide a wealth of positive change in the lives of students and employees in the form of conditions that encourage individual creativity and in turn increase productivity. What more can one ask for than to be excited with the prospect of learning or working in an environment that inspires and cultivates the best in them. It is our hope that through continued research, the dynamic between creativity and environment in every culture can continue to be understood, and positive change in both education and the workplace can be achieved.
References


Appendix

Instructions for Children (English)

Collages

Reward Condition

Hi., my name is ____ and I’m interested in the kinds of art that kids do and the kinds of stories they tell. I’ve come here today so that you can make some collages and write some stories for me. As a reward for doing these things, I have brought stickers with me (show individually wrapped (maybe with a bow?) stickers). When you are done making your collages and writing your stories for me, I will give each of you some stickers.

Let’s talk about the collages first. Do you know what a collage is? (If children don’t answer or are not on the right track, you can explain that a collage is a picture or a design made by arranging paper and/or other objects and gluing them to a surface).

Distribute materials.

We are going to use these colorful pieces of paper and these cardboard pieces. Everyone has the same set of colored papers with which to work. Take a look inside your bag (encourage the children to take the pieces out and spread them on their desks). There are many different shapes and sizes and colors to choose from.

What I’d like each of you to do is to use these pieces of paper to make a design. You do NOT need to use all of the pieces … it’s up to you what your design will look like.
You can use your glue stick to stick the pieces to your cardboard. Does everyone know how to use a glue stick? (Do a short demo here saying something like: “you can either put some glue on the cardboard and then stick your piece of paper to that glue spot OR you can put the glue directly onto the back of the colored paper and then stick that to the cardboard … it’s up to you).

Do you have any questions? OK … you may begin.

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for doing those collages for me! Now I’d like you to turn over your cardboard pieces … you’ll see that there is a box on this side … what I’d like you to do is to draw an arrow in this box that points to the top of your collage … in other words, I want to know how I would hang your collage on the wall … because it would be too bad if I hung it upside down or sideways 😊

You’ll also see that there are some scales on this back side of your collage. We are going to use these scales to help you tell me what you thought about this activity. Let’s do the sample scale together.

Here you are asked to use the scale to show me how much you like candy. If you don’t like candy at all, you’ll circle the number 1 on the scale. If you like candy a little bit, you’ll circle number 2. If you like it a bit more than that, you’ll circle number 3 or number 4. If you really like candy, you’ll circle number 6. And if you really, really, really like candy you’ll circle the highest number, number 7.

Do you understand? We are seeing how I used this scale to show how much I like candy. If you were going to show me how much you liked candy, you would make a circle right above one of the 7 numbers on the scale … like I’ve done in the example. It wouldn’t be OK to put a circle between two numbers. Do you understand?
OK … great … now it’s your turn. I would like you to please use this same kind of scale to answer three more questions …

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer)

Great! Thank you!

Collect collages and be sure to label the pile for yourself so you know that it came from the Reward condition.

Then continue …

Remember, I have stickers for everyone … but before I can give them to you … we also need to write some stories.

Hand out story materials.

On the paper I just gave you, you see five pictures and some lines next to each picture. It’s your job to take a look at the pictures and to make up a story that goes along with what you see. Please write one thing/idea (one sentence) next to each of the five pictures … and that will be your story!
Do you have any questions? OK … you may begin …

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for writing these stories for me! Now I’d like you to turn over your papers … you’ll see that there are some scales on this side … they should look familiar. They are very much like the scales we used a little while ago to help you tell me what you thought about the collage activity. We are going to use these scales to help you tell me what you thought about this activity: the story telling. Let’s look at the sample scale together. Again, this example asks how much I like candy.

In this example, I circled the number 6 … which means I like candy a whole lot. Does everyone remember how to use these scales? Again, it is important that you circle one of the 7 points on the scale … rather than making a mark between the points.

Now it’s your turn. I would like you to please use this same kind of scale to answer three more questions … this time about the story activity.

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through the questions now.

(Instructor reads through all the questions with the children out loud to keep the group together)
Great! Thank you!

Collect stories and be sure to label the pile for yourself so you know that it came from the Reward condition.

You have been so wonderful today! I want to thank you all for the great collages and stories you did for me. And I also want to give you those stickers that I promised you.

Distribute stickers.

**Evaluation Condition**

Hi., my name is ____ and I’m interested in the kinds of art that kids do and the kinds of stories they tell. I’ve come here today so that you can make some collages and write some stories for me. Later, I am going to ask some adults to take a look at the things you did here today to decide which children made the best collages and which children wrote the best stories.

Let’s talk about the collages first. Do you know what a collage is? (If children don’t answer or are not on the right track, you can explain that a collage is a picture or a design made by arranging paper and/or other objects and gluing them to a surface).

Distribute materials.

We are going to use these colorful pieces of paper and these cardboard pieces. Everyone has the same set of colored papers with which to work. Take a look inside your bag (encourage the children to take the pieces out and spread them on their desks). There are many different shapes and sizes and colors to choose from.
What I’d like each of you to do is to use these pieces of paper to make a design. You do NOT need to use all of the pieces … it’s up to you what your design will look like.

You can use your glue stick to stick the pieces to your cardboard. Does everyone know how to use a glue stick? (Do a short demo here saying something like: “you can either put some glue on the cardboard and then stick your piece of paper to that glue spot OR you can put the glue directly onto the back of the colored paper and then stick that to the cardboard … it’s up to you).

Do you have any questions? OK … you may begin.

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for doing those collages for me! Now I’d like you to turn over your cardboard pieces … you’ll see that there is a box on this side … what I’d like you to do is to draw an arrow in this box that points to the top of your collage … in other words, I want to know how I would hang your collage on the wall … because it would be too bad if I hung it upside down or sideways 😊

You’ll also see that there are some scales on this back side of your collage. We are going to use these scales to help you tell me what you thought about this activity. Let’s do the sample scale together.

Here you are asked to use the scale to show me how much you like candy. If you don’t like candy at all, you’ll circle the number 1 on the scale. If you like candy a little bit, you’ll circle number 2. If you like it a bit more than that, you’ll circle number 3 or number 4. If you really like candy, you’ll circle number 6. And if you really, really, really like candy you’ll circle the highest number, number 7.
Do you understand? We are seeing how I used this scale to show how much I like candy. If you were going to show me how much you liked candy, you would make a circle right above one of the 7 numbers on the scale … like I’ve done in the example. It wouldn’t be OK to put a circle between two numbers. Do you understand?

OK … great … now it’s your turn. I would like you to please use this same kind of scale to answer three more questions …

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer)

Great! Thank you!

Collect collages and be sure to label the pile for yourself so you know that it came from the Evaluation condition.

Then continue …

Great! I know that those adults I told you about are going to have a good time looking at all your collages and deciding which children made the best ones.
Hand out story materials.

Ok, now you are going to write a story. I will take these stories with me and later I will show them to some adults to help me decide which children wrote the best stories.

On the paper I just gave you, you see five pictures and some lines next to each picture. It’s your job to take a look at the pictures and to make up a story that goes along with what you see. Please write one thing/idea (one sentence) next to each of the five pictures … and that will be your story!

Do you have any questions? OK … you may begin …

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for writing these stories for me! Now I’d like you to turn over your papers … you’ll see that there are some scales on this side … they should look familiar. They are very much like the scales we used a little while ago to help you tell me what you thought about the collage activity. We are going to use these scales to help you tell me what you thought about this activity: the story telling. Let’s look at the sample scale together. Again, this example asks how much I like candy.

In this example, I circled the number 6 … which means I like candy a whole lot. Does everyone remember how to use these scales? Again, it is important that you circle one of the 7 points on the scale … rather than making a mark between the points.

Now it’s your turn. I would like you to please use this same kind of scale to answer three more questions … this time about the story activity.
Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer

Great! Thank you!

Collect stories and be sure to label the pile for yourself so you know that it came from the Evaluation condition.

You have been so wonderful today! I want to thank you. I know that other adults are going to love deciding who made the best collages and stories. All of you did such a great job, I think that they are going to find it difficult to select just a few “best” ones!

Control Condition

Hi., my name is ____ and I’m interested in the kinds of art that kids do and the kinds of stories they tell. I’ve come here today so that you can make some collages and write some stories for me.

Let’s talk about the collages first. Do you know what a collage is? (If children don’t answer or are not on the right track, you can explain that a collage is a picture or a design made by arranging paper and/or other objects and gluing them to a surface).
Distribute materials.

We are going to use these colorful pieces of paper and these cardboard pieces. Everyone has the same set of colored papers with which to work. Take a look inside your bag (encourage the children to take the pieces out and spread them on their desks). There are many different shapes and sizes and colors to choose from.

What I’d like each of you to do is to use these pieces of paper to make a design. You do NOT need to use all of the pieces … it’s up to you what your design will look like.

You can use your glue stick to stick the pieces to your cardboard. Does everyone know how to use a glue stick? (Do a short demo here saying something like: “you can either put some glue on the cardboard and then stick your piece of paper to that glue spot OR you can put the glue directly onto the back of the colored paper and then stick that to the cardboard … it’s up to you).

Do you have any questions? OK … you may begin.

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for doing those collages for me! Now I’d like you to turn over your cardboard pieces … you’ll see that there is a box on this side … what I’d like you to do is to draw an arrow in this box that points to the top of your collage … in other words, I want to know how I would hang your collage on the wall … because it would be too bad if I hung it upside down or sideways 😊
You’ll also see that there are some scales on this back side of your collage. We are going to use these scales to help you tell me what you thought about this activity. Let’s do the sample scale together.

Here you are asked to use the scale to show me how much you like candy. If you don’t like candy at all, you’ll circle the number 1 on the scale. If you like candy a little bit, you’ll circle number 2. If you like it a bit more than that, you’ll circle number 3 or number 4. If you really like candy, you’ll circle number 6. And if you really, really, really like candy you’ll circle the highest number, number 7.

Do you understand? We are seeing how I used this scale to show how much I like candy. If you were going to show me how much you liked candy, you would make a circle right above one of the 7 numbers on the scale … like I’ve done in the example. It wouldn’t be OK to put a circle between two numbers. Do you understand?

OK … great … now it’s your turn. I would like you to please use this same kind of scale to answer three more questions …

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer)

Great! Thank you!
Collect collages and be sure to label the pile for yourself so you know that it came from the Control condition.

Then continue …

Hand out story materials.

On the paper I just gave you, you see five pictures and some lines next to each picture. It’s your job to take a look at the pictures and to make up a story that goes along with what you see. Please write one thing/idea (one sentence) next to each of the five pictures … and that will be your story!

Do you have any questions? OK … you may begin …

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for writing these stories for me! Now I’d like you to turn over your papers … you’ll see that there are some scales on this side … they should look familiar. They are very much like the scales we used a little while ago to help you tell me what you thought about the collage activity. We are going to use these scales to help you tell me what you thought about this activity: the story telling. Let’s look at the sample scale together. Again, this example asks how much I like candy.

In this example, I circled the number 6 … which means I like candy a whole lot. Does everyone remember how to use these scales? Again, it is important that you circle one of the 7 points on the scale … rather than making a mark between the points.
Now it’s your turn. I would like you to please use this same kind of scale to answer three more questions … this time about the story activity.

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Let’s go through and answer the questions together.

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer)

Great! Thank you!

Collect stories and be sure to label the pile for yourself so you know that it came from the Control condition.

You have been so wonderful today! I want to thank you all for the great collages and stories you did for me.

… if all children are in the same school, you want to run the Control condition first, then the Evaluation condition and then the Reward condition.

We can talk about whether after that last Reward session is finished, it might be nice to give stickers to all the children (control and evaluation as well as reward).

**Group Reward Condition**

Hi, my name is ____ and I’m interested in the kinds of art that kids do and the kinds of stories they tell. I’ve come here today so that you can make some
collages and write some stories for me. As a reward for doing these things, I have brought stickers with me (show individually wrapped (maybe with a bow?) stickers). If everybody in your class makes their collages and writes the stories, and if you all finish, when you are done making your collages and writing your stories, I will give everyone in the group some stickers for their work. Remember everybody has to participate to get the stickers.

Let’s talk about the collages first. Do you know what a collage is? (If children don’t answer or are not on the right track, you can explain that a collage is a picture or a design made by arranging paper and/or other objects and gluing them to a surface).

Distribute materials.

We are going to use these colorful pieces of paper and these cardboard pieces. Everyone has the same set of colored papers with which to work. Take a look inside your bag (encourage the children to take the pieces out and spread them on their desks). There are many different shapes and sizes and colors to choose from.

What I’d like each of you to do is to use these pieces of paper to make a design. You do NOT need to use all of the pieces … it’s up to you what your design will look like.

You can use your glue stick to stick the pieces to your cardboard. Does everyone know how to use a glue stick? (Do a short demo here saying something like: “you can either put some glue on the cardboard and then stick your piece of paper to that glue spot OR you can put the glue directly onto the back of the colored paper and then stick that to the cardboard … it’s up to you).

Do you have any questions? OK … you may begin.

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).
OK … great … thank you for doing those collages for me! Now I’d like you to turn over your cardboard pieces … you’ll see that there is a box on this side … what I’d like you to do is to draw an arrow in this box that points to the top of your collage … in other words, I want to know how I would hang your collage on the wall … because it would be too bad if I hung it upside down or sideways 😊

You’ll also see that there are some scales on this back side of your collage. We are going to use these scales to help you tell me what you thought about this activity. Let’s do the sample scale together.

Here you are asked to use the scale to show me how much you like candy. If you don’t like candy at all, you’ll circle the number 1 on the scale. If you like candy a little bit, you’ll circle number 2. If you like it a bit more than that, you’ll circle number 3 or number 4. If you really like candy, you’ll circle number 6. And if you really, really, really like candy you’ll circle the highest number, number 7.

Do you understand? We are seeing how I used this scale to show how much I like candy. If you were going to show me how much you liked candy, you would make a circle right above one of the 7 numbers on the scale … like I’ve done in the example. It wouldn’t be OK to put a circle between two numbers. Do you understand?

OK … great … now it’s your turn. I would like you to please use this same kind of scale to answer three more questions …

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together
(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer

Great! Thank you!

Collect collages and be sure to label the pile for yourself so you know that it came from the Reward condition.

Then continue …

Remember, I have stickers to give to each of you but only if everyone now tells a story to go with some pictures I’ve brought with me …

Hand out story materials.

On the paper I just gave you, you see five pictures and some lines next to each picture. It’s your job to take a look at the pictures and to make up a story that goes along with what you see. Please write one thing/idea (one sentence) next to each of the five pictures … and that will be your story!

Do you have any questions? OK … you may begin …

If the children aren’t done by about 7 minutes, tell them that they have one minute left to finish up. (Do NOT mention a time limit before this point).

OK … great … thank you for writing these stories for me! Now I’d like you to turn over your papers … you’ll see that there are some scales on this side … they should look familiar. They are very much like the scales we used a little while ago to help you tell me what you thought about the collage activity. We are going to use these scales to help you tell me what you thought about this activity: the story
telling. Let’s look at the sample scale together. Again, this example asks how much I like candy.

In this example, I circled the number 6 … which means I like candy a whole lot. Does everyone remember how to use these scales? Again, it is important that you circle one of the 7 points on the scale … rather than making a mark between the points.

Now it’s your turn. I would like you to please use this same kind of scale to answer three more questions … this time about the story activity.

Then at the bottom of this page you’ll see that there are two other questions where you can just circle the correct answer …

Lets go through and answer the questions together

(Instructor reads through all the questions with the children out loud to keep the group together allowing for time for children to answer

Great! Thank you!

Collect stories and be sure to label the pile for yourself so you know that it came from the Reward condition.

You have been so wonderful today! I want to thank you all for the great collages and stories you did for me. And I also want to give you those stickers that I promised you.

Distribute stickers.

Text of Instructions for Judges:
First, let me thank you so much for agreeing to serve as (a) judge(s)! I want you to know that I really appreciate your willingness to help out. By my estimation, the whole process should take XX minutes or less.

Rating Instructions

The collages you see displayed around the room were all made by school children ranging in age from ___ to ___. All students were given identical materials with which to work.

OR

The stories you have been given were all written by school children ranging in age from ___ to ___. The children were instructed to look at a series of five pictures (which have been reproduced for you on the front page of your packet) and then to write one “thing” (essentially one sentence) about each of the pictures to tell a coherent story.

Your task will be to rate each of the collages (stories) on creativity, technical goodness, and liking. I am not going to define those constructs for you. Instead, I'd like you to use your own, subjective definition of these dimensions.

1. Because you will be rating the collages (stories) relative to one another (rather than against some ultimate criteria you may hold for creativity or technical goodness), it is important that you first get an idea of the range of collages (stories) in the sample. Toward this end, please take a few moments to walk around the room and look at all the collages (or please take a few moments to skim the stories you have before you). You need not "study" any one collage (story) at this time. You will take a more careful look when you make your ratings. For now, it is important that you begin the rating process with some idea of the products you will be rating.
2. You will first be rating each of the collages (stories) on creativity. I will give you seven-point scales to assist you in this process. If, in your judgment, a particular collage (story) is low in creativity relative to the others in the sample, it should receive a rating of "1" or "2". If it is moderate in creativity, it should receive a "3" or "4" or "5". If relative to the others in the sample it is high in creativity, it should receive a "6" or a "7".

Please make your rating by actually circling one of the seven points on the scale (as per the example given). Do not place marks in between the seven points. In other words, each collage (story) should receive a whole number rating. What we are not looking for are ratings that fall between any of the points on the scale.

Remember your task is to rate the collages (stories) relative to one another. Toward this end, at least one collage (story) in the sample should receive the lowest possible score (a "1") and at least one collage (story) should receive the highest possible score (a "7"). Of course, you may decide that more than one collage (story) deserves a "1" or a "7". That's fine!

You'll notice that collages are numbered with stickers located in the lower left hand corner OR You’ll notice that the stories have been numbered and that number is highlighted at the start of each new transcript. On your rating sheets, collage (story) numbers are indicated to the left of each rating scale. Please review the collages (stories) and make your assessments in the order indicated.

Note … we may decide to have the judges do the numbering of the rating sheets as they go along … if so, we’ll need to change instructions accordingly.

4. When you have finished assessing a collage’s (story’s) creativity, next please consider the collage’s (story’s) technical goodness. In other words, it will be your job to "erase" all thoughts of creativity from your mind. Once again, you are asked to rate the collages (stories) relative to one another. At least one collage (story) in the sample should receive a "1" and at least one collage (story) should
receive a "7" for technical goodness.

5. Finally, please rate your degree of liking for each collage (story) … this time, trying to erase from your mind the ratings that you just made for creativity and technical goodness.

- if you have any questions, please feel free to ask me

Thank them … if you have more products to be judged (stories), point out that you will be distributing packets for the next round of ratings very shortly... and that the process will be very much the same

**Instructions for Judges (English)**

First, let me thank you so much for agreeing to serve as (a) judge (s)! I want you to know that I really appreciate your willingness to help out. By my estimation, the whole process should take XX minutes or less.

**Rating Instructions**

The collages you see displayed around the room were all made by school children ranging in age from ___ to ___. All students were given identical materials with which to work.

OR

The stories you have been given were all written by school children ranging in age from ___ to ___. The children were instructed to look at a series of five pictures (you should give to each judge one of the sheets you gave to the children … with the five pictures on it) and then to write one “thing” (essentially one sentence) about each of the pictures to tell a coherent story.
Your task will be to rate each of the collages (stories) on creativity, technical goodness, and liking. I am not going to define those constructs for you. Instead, I'd like you to use your own, subjective definition of these dimensions.

1. Because you will be rating the collages (stories) relative to one another (rather than against some ultimate criteria you may hold for creativity or technical goodness), it is important that you first get an idea of the range of collages (stories) in the sample. Toward this end, please take a few moments to walk around the room and look at all the collages (or please take a few moments to skim the stories you have before you). You need not "study" any one collage (story) at this time. You will take a more careful look when you make your ratings. For now, it is important that you begin the rating process with some idea of the products you will be rating.

2. You will first be rating each of the collages (stories) on creativity. I will give you seven-point scales to assist you in this process. If, in your judgment, a particular collage (story) is low in creativity relative to the others in the sample, it should receive a rating of "1" or "2". If it is moderate in creativity, it should receive a "3" or "4" or "5". If relative to the others in the sample it is high in creativity, it should receive a "6" or a "7".

Please make your rating by actually circling one of the seven points on the scale (as per the example given). Do not place marks in between the seven points. In other words, each collage (story) should receive a whole number rating. What we are not looking for are ratings that fall between any of the points on the scale.

show sample rating sheet

Remember your task is to rate the collages (stories) relative to one another. Toward this end, at least one collage (story) in the sample should receive the lowest possible score (a "1") and at least one collage (story) should receive the highest possible score (a "7"). Of course, you may decide that more than one collage (story) deserves a "1" or a "7". That's fine!

You'll notice that collages are numbered with stickers located in the lower right hand corner OR You’ll notice that the stories have been numbered and that number is on a
sticker in the lower right hand corner of each story-telling sheet. On your rating sheets, collage (story) numbers are indicated to the left of each rating scale. Please review the collages (stories) and make your assessments in the order indicated. Please check yourself as you make your ratings, to be certain that you are looking at the correct collage (or story) … as indicated on your rating sheet … In other words, please check the story (or collage) number (on the colored sticker) to see that it matches the number on your rating sheet.

You should have judges rate the stories and the collages in a different random order for each judge. That means that you will want to pre-number their rating sheets. If you are running more than one judge at a time, they can start at different areas of the room as they walk around and look at the collages. In other words, if you line up the collages in numerical order, one judge can start at collage # 1 … another judge can start at collage # 8 etc.

For the story ratings, if you are running more than one judge at the same time, you will need to make copies of the story-telling sheets. Then put them in the order you would like each judge to rate them … making sure that that order matches up with the order in which you have numbered their rating scale sheets. Or if you do not make copies of the stories, each judge will start out with just a subset of the story sheets. They will rate that subset and then “switch” sheets with another judge … until they have rated all the stories.

Does this make sense?

4. When you have finished assessing a collage’s (story’s) creativity, next please consider that same collage’s (story’s) technical goodness. In other words, it will be your job to "erase" all thoughts of creativity from your mind. Once again, you are asked to rate the collages (stories) relative to one another. At least one collage (story) in the sample should receive a "1" and at least one collage (story) should receive a "7" for technical goodness.

5. Finally, please rate your degree of liking for that same collage (story) … this time, trying to erase from your mind the ratings that you just made for creativity and technical goodness.
- if you have any questions, please feel free to ask me

6. Once you have made these three ratings (creativity, technical goodness and liking) for the first collage (story), you will move on to the next collage (story) …

Thank them … if you have more products to be judged (if they will be doing both stories and collages), point out that you will be distributing packets for the next round of ratings very shortly... and that the process will be very much the same

In truth, if you do have the same judges rate both stories and collages, I think you will need to do this in two separate sessions. This is too much work to ask any one judge to do in one sitting. We do not want judges who are too tired or who rush through the rating process.

Turkish Child Instructions Translation

Cocuklar Icin Yonerge (sozel olarak verilecek)

Kolajlar

Odul Grubu

Merhaba, benim adim ____ . Ben cocuklarin yaptiklari resimler ve anlattikleri hikayelerle çok ilgileniyorum. Acaba benim icin birer hikaye anlatip birer kolaj calismasi yapabilir misiniz? Odul olarak yanimda cikartma getirdim ve herkes
benim için olan hikayesini ve kolajını bititdiginde herkese bu çıkartmalardan dağıtacegim.

Ilk once biraz kolajlardan söz edelim. Kolajın ne olduğunu biliyor musunuz? (eğer cocuklar cevap vermezse veya yanlıs biliyorsa o zaman cocuklara kolajın kägit vya başka materyalleri yapıştırarak yapılan bir resim veya bir tasarım oldugu anlatılmalı.)

Materyalleri dağıtın


Sizden istenen bu kägit parçalarını kullanarak bir kolaj çalışması yapmanız. Bunun parçaları kullanmanın zorunda degilsiniz... Yapacagınız çalışmanın ne olduğu tamamen sizlere sızlere kalmış.


Her hangi bir sorusu olan var mı? Tamam o zaman baslayabilirsiniz.

Eğer cocuklar 7 dakika içinde hala bitirmemislerse o zaman onlara 1 dakika içinde çalışmalarnı bitirmeleri gerektiği söylenmelidir. (Bu zamana kadar zaman sınırını olduğundan soz edilmemelidir).
Tamam... çok iyi... benim için bu gün bu kolaj çalışmalarını tamamladığınız için çok teşekkür ederim. Simdi sizden kartonlarınizin arkasını çevirmenizi isteyeceğim. Kartonalırinizin arkasında kenarda bir kutu bulunmaktadır. Sizden istediğim, bu kutunun içine calışmanızın üst kısmını belirtten bir ok çizmeniz ki kolajlarınızı asmak istediğimde ters asmanız olayım.

Calışmalarınızın arkasında bazı sorular bulacaksınız, bunları doldurduğunuz sizin bu çalışma hakkındaki düşüncelerinizi anlamak için çok önemli. Haydi ilk örneği beraber uygulayalım.


Tamam.... harika... şimdi sira sizde. Sizden aynı işaretleme yöntemini kullanarak 3 tane soruyu cevaplaminizi isteyeceğim...

Sayfanın sonunda 2 tane daha soru olduğunu göreceksiniz. Bu sorulara cevap olarak iki secenek var ve size göre doğru olanı işaretleyiniz....

Hep beraber soruları cevaplamaya baslayalım

(Asistan butun soruları çocuklarla yüksek sesle okumalı grubun birlikte hareket etmesi için ve aralarda çocukların cevap vermesi için zaman bırakmalı)
Mukemmel! Tesekkurler!

Kolajları toplayin ve odul grubuna ait olduğunu dair isaretleyin.

Sonra devam.....

Tekrar hatırlatırım ki herkes için çıkartma getirdim fakat bunları sizlere dağıtmadan önce hikaye yazmanı isteyeceğim.

Hikaye materyallerini dağıtın.

Size verdigim kagıtlarda bes tane resim ve yanında çizgiler göreceksiniz. Sizden istenilen resimlere bakip kafanıza bir hikaye oluşturmanız. Lütfen her resmin yanına sadece bir cümle yazınız. Butun cümlelerinizi toplama hikayenizi oluşturacak.

Her hangi bir sorunuz var mı? Tamam..... baslayabilirsiniz....

Eğer çocuklar 7 dakika içinde hala bitirmedilerse, onlara son 1 dakikalari kaldığını söyleyiniz. (bundan önce herhangi bir zaman limiti belirtemeyiniz)

Tamam.... harika... benim için bu soruları yazdığınız için teşekkür ederim. Simdi kagitlarınizin arkasını çevirin... orada bazı ölçekler göreceksiniz.... bunlar size tanıdk gelmeli. Bunlar az önce kolaj aktiveti hakkındaki düşüncelerinizi belirtmeniz için kullandığımız sorulara çok benziyor. Simdi bu ölçekleri bana hikaye aktiveti hakkındaki düşüncelerinizi belirtmeniz için kullanacağızz. Tekrar beraber ornek olcege bakalım. Tekrar bu ornek sekeri ne kadar sevdiğiniz soruyor.
Bu orekte ben 6 puani işaretledim... yani ben şekerlemeyi çok seviyorum. Herkes bu ölçekleri nasıl kullanması gerektiğini hatırlıyor mu? Tekrar, hatırlatırım ki işaretlemeyi doğru yapmak için rakamları daire içine almalısınız. Rakmların arasını işaretlediğiniz takdirde soruyu yanlış cevaplamış olacaksınız.

Simdi sıra sizde. Sizden istediğim aynı ölçegi kullanarak bu uc soruyu cevaplamanız... bu defa hikaye aktivitesini değerlendirerek.

Haydi tekrar soruların bir uzerinden geçelim.

(asistan soruları çocuklarla beraber yüksek sesle okur grubu beraber tutarak)

Harika! Tesekkürler!

Hikayeleri toplayın ve odul grubundan geldigini belirtmek için işaretleyiniz.

Bu gun harikaydınız! Hepinze benim için yaptığınız mükemmel kolajlar ve hikayeler için teşekkür etmek istıyorum. Ayrıca sizlere soz verdigim gibi hepinize cıkartmalarınızı dağıtmak istıyorum.

Cıkartmaları dağıt.

**Degerlendirme Grubu**

Ilk önce biraz kolajlardan söz edelim. Kolajın ne olduğunu biliyor musunuz? (eğer çocuklar cevap vermezse veya yanlış biliyorlarsa o zaman çocuklara kolajın kagit v ya başka materyalleri yapıştırarak yapılan bir resim veya bir tasarım olduğu anlatılmalıdır.

Materyalleri dağıtın

Kolajlarınız yaparken bu renkli kagıtları ve karton parçalarını kullanacağız. Herkesde aynı şekiller olacaktır. Lütfen paketlerinizi içine bakın (cocukları kagit parçalarını masalarının üstüne yaymalarını sağlayın). Sece bileceğiniz bir suru değişim şekiller, renk ve boyut var.

Sizden istenilen bu kagit parçalarını kullanarak bir kolaj çalışması yapmanız. Butun parçaları kullanmanız mak zorunda değişsiniz... Yapacağınız çalışmanın ne olduğu tamamen sizlere kalmış.


Her hangi bir sorusu olan var mı? Tamam o zaman baslayabilirsiniz.

Eğer çocuklar 7 dakika içinde hala bitirmemislere o zaman onlara 1 dakika içinde çalışmalarını bitirmeleri gerektiği söylememelidir. (Bu zamana kadar zaman sınırı olduğundan soz edilmemelidir).

Tamam... çok iyi... benim için bu gün bu kolaj çalışmalarını tamamladığınız için çok tesekkür ederim. Simdi sizden kartonlarınızın arka yüzünü çevirmenizi
isteyeceğim. Kartonalriniz arkasında kenarda bir kutu bulunmakta. Sizden istedigim, bu kutunun içine çalışmanızın üst kısmını belirten bir ok çizmeniz ki kolajlarını asmak istedigimde ters asmamış olayım.

Calismalarınızın arkasında bazı sorular bulacaksınız, bunları doldurduğunuz sizin bu çalışma hakkındaki düşüncelerinizi anlamam için çok önemli. Haydi ilk örneği beraber uygulayalım.


Anlayabildiniz mi? Örneğe baktiğimizda benim sekeri ne kadar sevgimini görüyoruz. Eğer bana sekeri çok sevginizi gösterecek olsaydınız 7 puani daire için almanız gerekirdi aynen benim örnekte yaptığım gibi. Daireyi iki numaranın arasına koymak doğru bir isaretleme değil. Hersey anlasılır mı?

Tamam.... harika... şimdi sira sizde. Sizden aynı isaretleme yöntemi kullanarak 3 tane soruyu cevaplamanızı isteyeceğim...

Sayfanın sonunda 2 tane daha soru olduğunu göreceksiniz. Bu sorulara cevap olarak iki seçenek var ve size göre doğru olanı işaretleyiniz....

Hep beraber soruları cevaplamağa baslayalım

(Asistan butun soruları cocuklarla yüksek sesle okumalı grubun birlikte hareket etmesi için ve aralarda cocukların cevap vermesi için zaman bırakmalı)

Mukemmel! Tesekkürler!
Kolajları toplayin ve bunları değerlendirme grubuna ait olduğuna dair işaretleyin.

Sonra devam....

Mukemmel! Eminim ki calışmalarını değerlendirerek olan yetiskinler değerlendirmeye ve karar verme sürecinde çok iyi vakit geçirecekler.

Hikaye materyallerini dağıtiniz.

Tamam simdi birer hikaye yazacaksınız ve ben bu hikayeleri yanında goturup tekrar bazı yetiskinlerin bunları okuyup değerlendirirmelerini isteyeceğim. Değerlendirme sürecinin ardından en güzel hikayeyi yayan çocukları seçeceksiniz.

Size verdigim kartlarda beş tane resim ve yanında çizgiler göreceksiniz. Sizden istenilen resimlere bakıp kafanızda bir hikaye oluşturmanız. Lütfen her resmin yanına sadece bir cümle yazınız. Butun cümlelerinizi toplam hikayenizi oluşturacak.

Her hangi bir sorunuz var mı? Tamam..... baslayabilirsiniz....

Eğer çocuklar 7 dakika içinde hala bitirmedilerse, onlara son 1 dakikaları kaldığını söleyiniz. (bundan önce herhangi bir zaman limiti belirtemeyiniz)

Tamam.... harika... benim için bu soruları yazdığınız için teşekkür ederim. Simdi kartlarının arkasını çevrin... orada bazı ölçüler göreceksiniz.... bunlar size tanıdık gelmeli. Bunlar az önce kolaj aktiveti hakkındaki düşüncelerinizi belirtmeniz için kullandığımız sorulara çok benziyor. Simdi bu ölçülerı bana hikaye aktivetisi hakkındaki düşüncelerinizi belirtmeniz için kullanacakınız. Tekrar
beraber ornek olcege bakalim. Tekrar bu ornek sekeri ne kadar sevdiginizi soruyor.

Bu ornekte ben 6 puani isaretledim... yani ben sekerlemeeyi cok seviyorum. Herkes bu olcekleri nasil kullanmasi gerektigini hatirliyor mu? Tekrar, hatirlatirim ki isaretlemeeyi dogru yapmak icin rakamlari daire icine almalisiniz. Rakmlarin arasini isaretlediginiz takdirde soruyu yanlis cevaplamsis olacaksiniz.

Simdi sira sizde. Sizden istedigim ayni olcegi kullanarak bu uc soruyu cevaplananiz... bu defa hikaye aktivitesini degerlendirerek.

Haydi tekrar sorularin bir uzerinden gecelim.

(asistan sorulari cocuklarla beraber yuksek sesle okur grubu beraber tutarak)

Harika! Tesekkurler!

Hikayeleri toplayin ve bunlari degerlendirme grubuna ait oldugunu belirtmek icin isaretleyin.

Bu gun hepiniz harikaydiniz! Yaptiginiz calismalar icin hepinize tesekkur etmek istiyorum eminim ki bunlari degerlendirecek olan yetiskinler en iyi olanı secmekte zorlanacaklar.

**Control Grubu**

Merhaba benim adim_______ ve ben cocukların el becerileriyle ilgileniyorum. Bu gun buraya gelmemin sebebi sizden benim icin kolaj calismasi ve hikaye calismasi yapmaniz
Ilk once biraz kolajlardan soz edelim. Kolajın ne oldugunu biliyor musunuz?
(eger cocuklar cevap vermezse veya yanlis biliyorlarsa o zaman cocuklara kolajın
kagit vya baska materyalleri yapistirarak yapilan bir resim veya bir tasarim
oldugu anlatilmali.

Materyalleri dagitin

Kolajlarimizi yaparken bu renkli kagitlari ve karton parcalarini kullanacagiz.
Herkesde ayni sekiller olacak. Lutfen paketlerinizin icine bakin (cocukları kagit
parcalarını masalarının ustune yaymalarını saglayan). Secebileceginiz bir suru
degisik sekil, renk ve boyut var.

Sizden istenilen bu kagit parcalarını kullanarak bir kolaj calismasi yapmaniz.
Butun parcalari kullanmanmak zorunda degisiniz... Yapacaginiz calismanın ne
olduğu tamamen sizlere kalmis.

Parcalari kartona yapistirmak icin size verilen yapistiricilari kullaniniz. Herkes
yapistiricisini nasil kullanmasi gerektigini biliyor mu? (isterseniz kartonun
uzerine yapistiriciyi koyup ustune kagitları yapistirabilirsiniz, ya da yapistiriciyi
kagit parcalarının arkasına surup kartona oyle yapistirabilirsiniz. Secim size
kalmis).

Her hangi bir sorusu olan var mi? Tamam o zaman baslayabilirsiniz.

Eger cocuklar 7 dakika icinde hala bitirmemislerse o zaman onlara 1 dakika
icinde calismalarını bitirmeleri gerektiği soylenmelidir. (Bu zamana kadar zaman
siniri olubuğundan soz edilmemelidir).

Tamam... çok iyi... benim için bu gun bu kolaj calismalarını tamamladığınız için
cok tesekkur ederim. Simdi sizden kartonlarınızın arka yuzunu cevirmeniz
isteyeceğim. Kartonalriniz arkasında kenarda bir kutu bulunmakta. Sizden istedigim, bu kutunun içine calismanizin üst kismini belirtten bir ok çizmeniz ki kolajlarınızı asmak istedigimde ters asmamis olayım.

Calismalarınızın arkasında bazı sorular bulacaksınız, bunları doldurduğunuz sizin bu çalışma hakkındaki düşüncelerinizi anlaman için çok onemli. Haydi ilk örneği beraber uygulayalım.


Anlayabildiniz mi? Örneğe bakılığımızda benim sekeri ne kadar sevdiğini göruyoruz. Eğer bana sekeri çok sevdiğiniz göstercekk olsaydınız 7 puani daire için almanız gerekiyordu aynı benim örnekte yaptığım gibi. Daireyi iki numaranın arasına koymak doğru bir işaretleme değil. Hersey anlasılır mı?

Tamam.... harika... şimdi sira sizde. Sizden aynı işaretleme yöntemini kullanarak 3 tane soruyu cevaplamanızı isteyeceğim...

Sayfanın sonunda 2 tane daha soru olduğunu göreceksiniz. Bu sorulara cevap olarak iki seçenek var ve size göre doğru olanı işaretleyiniz....

Hep beraber soruları cevaplamaaya baslayalım

(Asistan butun soruları cocuklarla yüksek sesle okumalı grubun birlikte hareket etmesi için ve aralarda cocukların cevap vermesi için zaman bırakmalı)

Mukemmel! Tesekkurler!
Kolajlari toplayin ve hepsinin kontrol grubuna ait olduguna dair isaretleyin.

Sonra devam...

Hikaye materyallerini dagitin.


Her hangi bir sorunuz var mı? Tamam..... baslayabilirsiniz....

Eger cocuklar 7 dakika içinde hala bitirmedilerse, onlara son 1 dakikaları kaldığını soyleyiniz. (bundan önce herhangi bir zaman limiti belirtmeyiniz)

Tamam.... harika... benim için bu soruları yazdığınız için tesekkür ederim. Simdi kagitlarınınızın arkasını çevrin... orada bazı ölçekler göreceksiniz.... bunlar size tanıdık gelmeli. Bunlar az önce kolaj aktivetesi hakkında düşüncelerinizi belirtmeniz için kullandığımız sorulara çok benziyor. Simdi bu ölçekleri bana hikaye aktivetesi hakkında düşüncelerinizi belirtmeniz için kullanacakınız. Tekrar beraber örnek ölçege bakalım. Tekrar bu örnek sekeri ne kadar sevdigini soruyor.

Bu örnekte ben 6 puani işaretledim... yani ben şekerlemeyi çok seviyorum. Herkes bu ölçekleri nasıl kullanması gerektiğini hatırlıyor mu? Tekrar, hatırlatırım ki isaretlemeyi doğru yapmak için rakamları daire içine almasıниз. Rakmların arasını işaretlediginiz takdirde soruyu yanlış cevaplamış olacağınız.
Simdi sira sizde. Sizden istedigim ayni olcegi kullanarak bu uc soruyu cevaplamaniz... bu defa hikaye aktivitesini degerlendirerek.

Haydi tekrar sorularin bir uzerinden gecelim.

(asistan sorulari cocuklarla beraber yüksekses okru grubu beraber tutarak)

Harika! Tesekkurler!

Hikayeleri toplayin ve bunların kontrol grubuna ait oldugunu belirtmek adina isaretleyiniz.

Bu gun hepiniz harikaydiniz benim icin yaptiginiz butun calismalar icin size cok tesekkur ederim.

Eger cocuklar ayni okuldansa ilk once kontrol grubunu sonra degerlendirme durumu uygulayin 9herkese cikartma verme durumu olabilir sonucta)

**Grup Odul Grubu**

Ilk önce biraz kolajlardan söz edelim. Kolajin ne olduğunu biliyor musunuz? (eğer çocuklar cevap vermezse veya yanılış biliyorlarsa o zaman çocuklara kolajın vya başka materyalleri yapıtırarak yapılan bir resim veya bir tasarım olduğu anlatılmalı.

Materyalleri dağıtın


Sizden istenen bu kagit parçalarını kullanarak bir kolaj calışınızı yapmanız. Butun parçalar kullanmanızmak zorunda degilsiniz... Yapacağınız çalışmanın ne olduğu tamamen sizlere sizlere kalmış.


Her hangi bir sorusu olan var mı? Tamam o zaman baslayabilirsiniz.

Eğer çocuklar 7 dakika içinde hala bitirmemislerse o zaman onlara 1 dakika içinde çalışmalarını bitirmeleri gerektiği soylenmelidir. (Bu zamana kadar zaman siniri olduğundan soz edilmemelidir).

Tamam... çok iyi... benim için bu gün bu kolaj çalışmalarını tamamladığınız için çok teşekkür ederim. Şimdi sizden kartonlarınizin arka yüzünü çevirmenizi isteyeceğim. Kartonalrinınız arkaında kenarda bir kutu bulunmakta. Sizden
istedigim, bu kutunun icine calismanizin ust kismini belirten bir ok çizmeniz ki kolajlarini asmak istedigimde ters asmamis olayim.

Calismalarinizin arkasinda bazı sorular bulacaksiniz, bunlari doldurdurmaniz sizin bu calisma hakkindaki dusuncelerinizi anlamam icin çok onemli. Haydi ilk ornegi beraber uygulayalim.


Anlayabildiniz mi? Ornege baktigimda benim sekeri ne kadar sevdigimi goruyoruz. Eger bana sekeri çok sevdigini giystiginiz 7 puani daire icin almaniz gerekiyordu aynen benim ornekte yaptigim gibi. Daireyi iki numaranın arasına koymak doğru bir isaretleme degil. Hersey anlasilir mi?

Tamam.... harika... simdi sıra sizde. Sizden aynı isaretleme yontemini kullanarak 3 tane soruyu cevaplaminizi isteyeceğim...

Sayfanın sonunda 2 tane daha soru olduğunu gøreceksiniz. Bu sorulara cevap olarak iki secenek var ve size göre doğru olanı isaretleyiniz....

Hep beraber soruları cevaplamaya baslayalım

(Asistan butun soruları cocuklarla yüksek sesle okumalı grupun birlikte hareket etmesi icin ve aralarda cocukların cevap vermesi icin zaman bırakmalı)

Mukemmel! Tesekkürler!
Kolajları toplayin ve bunların grup odul grubuna ait olduğunu belirtmek amacıyla isaretleyin.

Sonra Devam...

Hatırlatırım ki yanında bir suru çıkartma getirdim ve eger herkes hikaye calısmasını tamamlarsa ancak oyle herkes çıkartma kazanacak.

Hikaye materyallerini dağıt.

Hikaye materyallerini dağıtın.

Size verdığim kağıtlarda beş tane resim ve yanında çizgiler göreceksiniz. Sizden istenilen resimlere bakip kafanızda bir hikaye oluşturmanız. Lütfen her resmin yanına sadece bir cümle yazınız. Butun cümlelerinizin toplamı hikayenizi oluşturacak.

Her hangi bir sorunuz var mı? Tamam..... baslayabilirsiniz....

Eger çocuklar 7 dakika içinde hala bitirmedilerse, onlara son 1 dakikalı kaldığını söyleyiniz. (bundan önce herhangi bir zaman limiti belirtmeyiniz)

Tamam.... harika... benim için bu soruları yazdığınız için teşekkür ederim. Simdi kağıtlarınızı arkasını çevirin... orada bazı olçekler göreceksiniz.... bunlar size tanıdık gelmeli. Bunlar az önce kolaj aktivetesi hakkında dünseçerinizin belirtmeniz için kullandığımız sorulara çok benziyor. Simdi bu olçekleri bana hikaye aktivetisi hakkında dünseçerinizin belirtmeniz için kullanacagız. Tekrar beraber örnek olceğe bakalım. Tekrar bu örnek sekeri ne kadar sevdiginizi soruyor.
Bu orekte ben 6 puani isaretledim... yani ben şekerlemeyi çok seviyorum. Herkes bu ölçekleri nasıl kullanması gerektiğini hatırlıyor mu? Tekrar, hatırlatırım ki işaretlemeyi doğru yapmak için rakamları daire içine almalısınız. Rakmların arasını işaretlediğiniz takdirde soruyu yanılış cevaplamış olacaksınız.

Simdi sıra sizde. Sizden istediğim aynı ölçü kullanarak bu üç soruyu cevaplanız... bu defa hikaye aktivitesini değerlendirerek.

Haydi tekrar soruların bir üzerinden gecelim.

(asistan soruları çocuklarla beraber yüksek sesle okur grubu beraber tutarak)

Harika! Tesekkürler!

Hikayeleri toplayın ve bunların gru odlu grubuna ait olduğunu belirtmek üzere işaretleyiniz.

Bu gun hepiniz harikaydınız! Hepinize çalışmaları tamamladığınız için teşekkür etmek istiyorum. Ayrıca hepiniz söylediğim gibi çıkartmaları dağıtmak istiyorum.

Çıkartmaları dağıt.

Turkish Judge Instructions

Juri Yonergesi:

Oncellikle bu projede juri olmayi kabul ettiginiz için hepinizin çok teşekkür ederim. Tahminime göre işlemlerin tümü XX dakikadan fazla surfeyecektir.
Degerlendirme Talimatları

Etrafinıza gordüğünüz butun kolajlar yaşları ___ ve ___ arasında değişen öğrenciler tarafından yapılmıştır. Butun öğrencileri calısmaları için özdes materyaller verilmistir.

VEYA

Size sunulan hikayelerin hepsi yaşları ___ ve ___ arasında değişen öğrenciler tarafından yazılmalıdır. Çocuklardan seri halinde 5 tane resime bakmaları istenmiştir (bu resimler sizlere verilen paketin ilk sayfasında bulunmaktadır). Cocuklardan her resim için bir cumle yazarak bir hikaye oluşturmanız istenmiştir.

Sizden istenilen her kolaj (hikayeyi), yaratıcılık, tekniksel nitelik ve beğeninize göre değerlendirilmenizdir. Size bu terimler için herhangi bir ölçüt verilmeyecektir, onemli olan kendi yorumunuza dayanarak değerlendirmenizdir.

1. Ölçüt sunulmadığı için kolajların (hikayelerin) birbirine göre değerlendirilmesi gerekir bu yüzden notlandırma başlamadan butun kolajları ve hikayeleri goden geçirmeniz sizin için yararlı olacaktır. Sımdı lutfen odanın çevresinde dolasıp kolajlara bir göz gezdiriniz. (hikayeleri göz gezdiriniz). Herhangi bir kolaj (hikayeyi) ayrıntılı incelemenize henüz gerek yok, değerlendirilmenizi yapmadan önce detaylı bir inceleme yapabilirsiniz.

2. İlk önce her kolaj (hikayeyi) yaratıcılık doğrultusunda incelemeniz size de istenmektedir. Size 1’den 7’ye kadar bir puanlama araci verilecektir. Eğer herhangi bir kolajın (hikayenin) diğer kolajlarla (hikayelerle) karşılaştırıldığında yaratıcılık olarak zayıf olduğuna inanıyorsanız, bu calısmaya “1” veya “2” vermeniz gerekir. Eğer herhangi bir calısmanın ortalama bir yaratıcılık seviyesi olduğuna inanıyorsanız bu calısmaya “3”, “4” veya “5” puanlarını uygun gormelisiniz. Eğer calısmanın çok yaratıcı olduğunu düşündüğünüz o zaman “6” veya “7” puan vermelisiniz.
Lutfen puanlanınızı yedi noktadan birini işaretleyerek yapınız (size ornekte verildiği gibi). İşaretlemenizi noktaların arasında yapmayın istediginiz noktayı seçtinizden emin olunuz. Her calismaya tam sayı olan bir puan verilmelidir.

Ornek isaretleme kagidini göster

Tekrar hatırlatırım ki kolajlar (hikayeler) birbirlerine göre puanlandırımalıdır. Puanlanmanın sonunda en azından bir kolaj (hikaye) en düşük puanı (1) ve en azından bir kolaj (hikaye) en yüksek (7) puanı almalıdır. Tabiki eger birden fazla kolajın (hikayenin) “1” veya “7” puan hak ederse (hak etmesi) bu puanları birden fazla kullanabilirsiniz.

Her bir kolajın sol alt kosesinde yapışkanlarla numaralandırılmış olduğunu göreceksiniz VEYA hikayelerin numaralandırılmış olduğunu ve bu numaraların altını çizildiğini göreceksiniz. Puanlama kagitlarınizin sol üst kosesinde kolaj (hikaye) numaraları sizlere verilmişdir. Lutfen size verilen sıraya kolajları (hikayeleri) inceleyiniz ve değerleştirmeniz yapınız.


5. Son olarak lütfen çalışmalarını beğeninize göre değerleştirmiz. Bu defa kafanızda olusan yaraticilik ve teknik nitelik değerleştirmelerini unutun ve tamamen beğeninize göre değerleştirmiz.

- herhangi bir sorunuz varsa lutfen sormaktan çekinmeyiniz.

Tessekur et. Ve eger çalışmalarını bir gune sığmadıysa daha fazla olduğunu ve obur prosedurun de bununla aynı olacağını belirtiniz.
### Table 1: Means and Standard Deviations All Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intrinsic Evaluation</th>
<th>Individual Reward</th>
<th>Group Reward</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Collage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>4.441</td>
<td>.707</td>
<td>4.335</td>
</tr>
<tr>
<td>Technical Goodness</td>
<td>4.124</td>
<td>.584</td>
<td>4.357</td>
</tr>
<tr>
<td>Child Reported Difficulty</td>
<td>2.130</td>
<td>1.486</td>
<td>1.208</td>
</tr>
<tr>
<td>Storytelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>2.699</td>
<td>.849</td>
<td>3.738</td>
</tr>
<tr>
<td>Technical Goodness</td>
<td>2.784</td>
<td>.942</td>
<td>3.900</td>
</tr>
<tr>
<td>Liking</td>
<td>2.628</td>
<td>.841</td>
<td>3.785</td>
</tr>
<tr>
<td>Child Reported Interest</td>
<td>2.565</td>
<td>1.754</td>
<td>2.875</td>
</tr>
<tr>
<td>Child Reported Enjoyment</td>
<td>4.478</td>
<td>2.000</td>
<td>4.083</td>
</tr>
<tr>
<td>Child Reported Difficulty</td>
<td>2.174</td>
<td>1.800</td>
<td>1.833</td>
</tr>
</tbody>
</table>
Table 2: Collage Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>Creativity</th>
<th>Technical Goodness</th>
<th>Liking</th>
<th>Child Difficulty</th>
<th>Child Enjoyment</th>
<th>Child Interest</th>
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<tr>
<td>Creativity</td>
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<td>.893**</td>
<td>.886**</td>
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<td>-.006</td>
<td>-.074</td>
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*p < .05 level; **p ≤ .01 level
Table 3: Storytelling Correlation Matrix

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<tr>
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<th>Child Difficulty</th>
<th>Child Enjoyment</th>
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<td>.959**</td>
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<td>-.008</td>
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<td>.940**</td>
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<td>.097</td>
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<td>.156</td>
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*p ≤.05 level; **p ≤.01 level
Table 4: Interjudge Reliability- Cronbach’s Alpha

<table>
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<tr>
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<th>Liking</th>
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<tbody>
<tr>
<td>Collage -Replacement</td>
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<td>.859</td>
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Table 5: 2-way ANOVA Results

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<th>Df</th>
<th>Partial η^2</th>
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<td>.231</td>
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<tr>
<td>Collage Liking</td>
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<td>3.440**</td>
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<td>Child Reported Difficulty</td>
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<td>.159</td>
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<td>Child Reported Enjoyment</td>
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<td>Child Reported Interest</td>
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<td>.089</td>
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<td>Storytelling Technical Goodness</td>
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</table>

Note. † = subscale derived from factor analysis. *** p < .001, ** p < .01, * p < .05
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<thead>
<tr>
<th>Source (dfs)</th>
<th>Creativity</th>
<th>Technical Goodness</th>
<th>Liking</th>
<th>Child Enjoyment</th>
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<tbody>
<tr>
<td></td>
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<td>F</td>
<td>(\eta^2)</td>
<td>Sig</td>
<td>F</td>
<td>(\eta^2)</td>
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<tr>
<td>Gender (1,85)</td>
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Table 7: Storytelling 2-Way ANOVA Effect Results

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<th>Liking</th>
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<th>Child Enjoyment</th>
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<th>Child Interest</th>
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<td>$\eta^2$</td>
<td>Sig</td>
<td>F</td>
<td>$\eta^2$</td>
<td>Sig</td>
<td>F</td>
<td>$\eta^2$</td>
<td>Sig</td>
<td>F</td>
<td>$\eta^2$</td>
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Table 8: Collage ANOVA Post-Hoc Test Results of All Significant Comparisons

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<tr>
<th>Variable (I)</th>
<th>Significant Variable (J)</th>
<th>Mean Difference (I-J)</th>
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<th>Sig.</th>
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<td>Intrinsic Motivation</td>
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<td>.6594*</td>
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<td>.033</td>
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<td>Evaluation</td>
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<td>.038</td>
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<td></td>
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<td>Evaluation</td>
<td>Individual Reward</td>
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<td>Group Reward</td>
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<td>.034</td>
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<td>Evaluation</td>
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Table 9: Storytelling ANOVA Post-Hoc Test Results of All Significant Comparisons

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<th>Sig.</th>
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<td>Group Reward</td>
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<td>Individual Reward</td>
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<td>Group Reward</td>
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<td>Activity</td>
<td>$\chi^2$</td>
<td>df/ N</td>
<td>Sig. (2-sided)</td>
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<td>--------------------------------</td>
<td>----------</td>
<td>---------</td>
<td>----------------</td>
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<td>Collage Creativity by Condition</td>
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<tr>
<td>Storytelling Creativity by Condition</td>
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<td>Child Reported Work/Play Storytelling by Group</td>
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Table 11: Paired Sample $t$-Test Results

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<tr>
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<td>84.60</td>
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<td>93</td>
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<td>Storytelling Total</td>
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<td></td>
<td></td>
<td></td>
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<td>Enjoyment Storytelling &amp;</td>
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<td>-6.96</td>
<td>93</td>
<td>.000</td>
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</table>
Figure 1
Figure 3
Figure 5

A bar chart showing the count of responses under different group conditions. The conditions are Intrinsic Motivation, Evaluation, Individual Reward, and Group Reward. The chart indicates a higher count for Group Reward compared to the other conditions.
Figure 6
Figure 8
Figure 9

A line graph showing estimated marginal means for different storytelling group conditions. The x-axis represents the storytelling group condition (Intrinsic Motivation, Evaluation, Individual Reward, Group Reward) and the y-axis represents the estimated marginal means. Two lines, one for boys and one for girls, are plotted on the graph.
Figure 10

[Graph showing data with labels for Gender: Boy and Girl, with estimated marginal means for Intrinsic Motivation, Evaluation, Individual Reward, and Group Reward in the storytelling group condition.]
Figure 11