

## Development of a Rubric to Evaluate the Critical Writing Skills Levels of Fourth-Grade Primary School Students\*

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### Abstract

In this study, it was aimed to develop a rubric for evaluating the critical writing skills of primary school fourth-grade students. The research was designed in quantitative research method and scanning design. The study group of the research consists of 215 students studying in the fourth grade of five different primary schools determined by the purposeful sampling method, taking into account their gender and socioeconomic status. Research data were collected during the development stages of the rubric and lasted for four weeks. In this process, opinions were received from 54 classroom teachers, 12 Turkish teachers, 8 doctoral students continuing their graduate education in the field of Classroom Education and Turkish Education, and 16 academicians who are experts in the field of Basic Education. In addition, the students in the study group were asked to write critical articles and the written products were evaluated through the developed scoring key. The collected data were analyzed with a statistical program. In order to ensure internal consistency in the research, Cohen's Kappa coefficient was determined in order to determine the reliability of the evaluations of the raters who scored the data. Cronbach Alpha coefficient was determined in order to determine that the dimensions and items in the developed rubric were items that were consistent with each other and that examined the same feature. As a result of the findings, it was concluded that there was a high level of consistency between the evaluations made by different raters. In addition, in line with the expert opinions received during the development of the rubric, It was concluded that the rubric exactly measured what was intended to be measured and the rubric was valid and reliable.

**Keywords:** Writing, Critical Writing, Rubric

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## Introduction

Education systems should raise individuals who can meet the demands of the twenty-first century, cope with the problems of the age, and thus have the skills of the twenty-first century, with the methods they have developed in accordance with the requirements of the age. In this direction, the education of the new age should aim to raise individuals who know the importance of continuous learning, learn where and how to use information, activate their intrinsic motivation, take responsibility for learning by directing themselves, and who can think creatively, innovatively, questionably and critically. Because in this period, which is called the information age and where knowledge is accepted as "power", individuals are faced with a lot of information that is very difficult to distinguish between right and wrong. Individuals need to think, question, criticize and interpret in order to reach the correct information in this information pollution. This is possible with the development of reading and writing skills on the basis of a critical perspective. For this reason, it is necessary to acquire critical thinking, critical reading and critical writing skills, which are among the most important skills to be acquired and developed in the twenty-first century.

Among these skills, critical writing has a special importance. Demirel & Şahinel (2006, p. 113) emphasize that the writing methods and techniques used since the first grade of primary school have been replaced by the fourth and fifth grades to critical writing, which is a questioning and planned writing type in which problems can be solved by establishing cause-effect relationships. For this reason, it is necessary to build writing activities, which are one of the basic dynamics of Turkish education and one of the basic skills in language teaching, on a critical basis. In this direction, critical writing has been included in our curriculum with the 2005 Turkish Curriculum (The Ministry of National Education, 2005, p. 365), and it is aimed to create a critical and creative perspective in students and to enable them to produce new and different thoughts on the subject at the stage of gaining this skill to students.

Paul & Elder (2005) defined critical writing as a skill in which the writer makes a plan by analyzing her thoughts before writing them down, and then creates content and makes assumptions, defends his point of view and arrives at a conclusion by presenting evidence and arguments. Critical writers who use these skills in their writing create a content to put forward the evidence, assumptions and discussions and come to a conclusion from this content (Karabay, 2013, p. 1731). In addition, the critical writer evaluates his/her text on the basis of criteria such as clarity, precision, depth, originality, logic, importance and objectivity. Based on this information, it can be said that there are some issues that an author should pay attention to when writing a critical article.

When the literature is examined, we can find some studies in which some definitions of critical writing and determinations about the elements of critical writing are made (Akınoğlu, 2001, p. 20; Alan, 1994, p. 179; Göçer, 2010, p. 181; Karabay, 2013, p. 754; Karaca, 2019, p. 22; Kurland, 2000; MONE, 2006, p. 72; Paul & Elder, 2005, p. 40; Topçuoğlu & Tekin, 2013, p. 1600; Wallace

&Wray, 2008, p. 12) In line with the information about critical writing in these studies, the dimensions of critical writing are;

- Planning
- Presenting evidence and persuading,
- Inquiry
- Multidimensional thinking
- Objectivity
- Consistency
- Clarity and fluency
- It can be expressed as shape and form.

Planning is an important stage where writing work begins. Many researchers (Akyol, 2008, p. 54; Bağcı, 2011, p. 96; Göçer, 2005, p. 241; Kantemir, 1997, p. 143; Karabay, 2013, p. 1731; Karadağ & Maden, 2019, p. 271; Keskinçilic & Keskinçilic, 2005, p. 154; Özbay, 2011, p. 33; Sever, 2004, p. 26; Tama & Mc.Clain, 1998, p. 157; Tekşan, 2013, p. 75) specify planning in writing as the stage in which a general draft about the writing is created, and they state that there must be a planning about the writing in a good writing. Planning, as in other types of writing, is a narrative order that is necessary to convey the emotions, thoughts and ideas that are desired to be expressed in an easier, understandable and effective way (Bağcı, 2011, p. 96; Yıldız, Okur, Arı, & Yılmaz, 2013, p. 217).

In a critical article, the feelings and thoughts to be expressed after the planning, the ideas and assumptions to be defended should be expressed with evidence in a way that convince the reader. As a matter of fact, Karabay (2013, p. 1736) states that it is very important to present evidence in a critical article; Okur, Göçen, and Suğumlü (2013, p. 194) emphasize that persuasive writing practices are important in order to improve students' comprehension, interpretation and communication skills, and it would be beneficial to use the concept of persuasion in writing education.

In critical articles, interrogative expressions must be used in the process of convincingly explaining what is intended to be conveyed to the reader with evidence. Thus, questions about the text should be created in the mind of the reader and the reader should be made to question what was conveyed to her. As a matter of fact, in the Turkish Curriculum (MONE, 2005, p. 115), one of the primary school fourth grade writing achievements is “She/He writes questioning articles.” The presence of the expression indicates the importance of questioning in writing education. For this reason, in a critical article, interrogative expressions should be used frequently in order to achieve the desired goal (Karadağ & Maden, 2019, p. 280).

In a critical article, in order for the inquiry to be carried out at the desired level, the article should be developed in line with the information obtained from many different sources (Yıldız, Okur, Arı, & Yılmaz, 2013, p. 233). Karabay (2013, p. 1736) states that the ability to develop a critical writing through different sources will contribute to the formation of the article from different

perspectives and thus enrich the article in terms of ideas. For this reason, it is important to include different perspectives in critical writings.

Articles that offer different perspectives to the reader have the quality of an impartial, objective article independent of the individual's personal opinion. Akınoğlu (2001, p. 20) and Aydın (2019, p. 89) state that there must be objectivity in critical writing, emphasizing that a critical writer should be able to write critical writings without being under any influence, completely getting rid of his own feelings, thoughts, perspectives and value judgments. In this respect, it can be stated that objectivity is an important element that should be present in critical writings.

In critical writings, it is necessary to convey these expressions in a certain unity and integrity, as well as to have an objective feature. As a matter of fact, Topçuoğlu and Tekin (2013, p. 1600) state that writing activities for the theme of consistency should be included in critical literacy education programs. For this reason, a critical writer should give importance to the harmony, connection and consistency between sentences (Keskinçilic & Keskinçilic, 2007, p. 201).

In the writing process, expressing the writing subject with objective expressions, in a consistent, clear and fluent manner, is an important criterion in evaluating the writing holistically (Akyol, 2008, p. 244; Demirel & Şahinel, 2006, p. 119). In order to ensure fluency in the writing, it is necessary to establish semantic relations between events and thoughts, and to find appropriate transitional expressions between paragraphs Calp (2010, p. 228). In this direction, it can be stated that the sentences should be neat, clear and understandable in critical writings, which is a type of writing.

Demirel & Şahinel (2006, p. 119) state that it is important to use punctuation marks correctly and appropriately during the control of writing assignments. "Uses capital letters and punctuation marks in appropriate places." and "He/she organizes his/her writings with spelling and punctuation rules appropriate for the grade level." (MONE, 2018, p. 34-35) means that students should pay attention to spelling and punctuation rules. Thus, the text can be made more comprehensible by ensuring the integrity of meaning in the article and making the language and expression fluent in the article. Considering that critical writing should be fluent and understandable in the literature, it should be ensured that students follow the rules of spelling and writing principles while writing a critical article.

In the light of this information, it can be said that the dimensions of critical writing in the literature are important elements that form the basis of a critical writing and must be present in a critical writing. Considering these dimensions in critical writings, especially in the process of evaluating a critical writing, will be beneficial for the correct evaluation of written products.

During the writing process, students' writing activities should be examined, evaluated and corrected by the teacher (Demirel, 2003, p. 72). Ferris (2003, p. 30) states that students find teachers' evaluations and feedback valuable, they pay attention to follow them, they tend to use feedback as an aid in the development of their writing, and they attach importance to these feedbacks. In addition,

measurement and evaluation studies to be carried out in writing education will contribute to measurement and evaluation activities in the development of other language skills.

Evaluation of written products is a complex process in which many variables must be considered. It is important to make this evaluation with tools that allow to evaluate both the content of the written expression product and the functioning of the writing process in various dimensions. Demir &Yıldırım (2019, p. 461) state that it would be a correct approach to use rubrics, which are a tool in which the criteria and definitions for students' work are determined and their performance levels are measured by the scoring process, in the evaluation of writing products.

Rubrics are a kind of scoring tools that shows the dimensions of the feature to be measured in the evaluation of students' performance in different fields and consists of evaluation criteria, criterion definitions and a scoring strategy (Popham, 1997). When the literature is examined, it is seen that the rubrics; it enables valid and reliable assessments of student work (Duran &Özdiil, 2020; Mertler, 2021; Moskal &Leydens, 2000; Popham, 1997); it is more suitable and reliable for classroom applications by providing more useful information about students' writing skills (Ülper, 2009); it allows reliable, accurate, detailed and unbiased scoring, gives explanatory feedback to students, teachers, parents and school management about student achievements, and provides self-control when presented to students (Kutlu, Doğan, &Karakaya, 2010); It has been determined that it allows the products to be evaluated consistently and the evaluation process to be documented (Çepni, 2012).

In the light of this information, it can be said that the use of rubric would be beneficial in evaluating students' critical writing performances. However, when the literature was examined, no rubric was found to evaluate the critical writings of primary school students. For this reason, it is anticipated that the critical writing rubric developed in the research will contribute to primary school teachers, fourth grade students and researchers working in this field. In this direction, the aim of the research is to develop a rubric to evaluate the critical writing skills of primary school fourth grade students.

## **Method**

### **Research Design**

In this study, scanning design, which is one of the quantitative research approaches, was used. In survey studies, it is aimed to reveal the determined characteristics of a group such as attitudes, opinions and behaviors, the data are analyzed statistically and the results are interpreted by considering previous studies (Creswell, 2012, p. 376).

### **Study Group**

The study group of this research consisted of a total of 215 fourth grade students studying in the fourth grade in the 2020-2021 academic year, determined by purposive sampling technique, taking into account gender (110 girls and 105 boys) and socioeconomic levels (75 low, 69 medium, 71 high) consists of students.

### **Development of Data Collection Tool and Data Collection Process**

The data of the research was developed in line with the opinions of 54 classroom teachers, 12 Turkish teachers, 8 doctoral students continuing their graduate education in the field of Classroom Education and Turkish Education, and 16 academicians who are experts in the field of Basic Education; It was collected through a rubric consisting of 8 dimensions, 19 items and 5 levels. In the development of the scoring key and in the data collection process of the research, the following steps were followed by examining the literature (Çepni, 2012; Moskal, 2000):

- Needs analysis
- Stage of creation of dimensions and items
- The stage of determining the criteria and levels of the rubric
- Finalizing the scoring key and making its application
- Ensuring the validity and reliability of the scale

### **Needs analysis**

The researcher has a master's degree in Classroom Education and is doing her doctorate in Turkish Education. In addition, he has been working as a classroom teacher at (a public school) the Ministry of National Education for 12 years. In this process, the researcher observed that primary school fourth grade students had difficulties in critical writing activities and that students were reluctant to participate in these activities. The researcher shared these observations with other colleagues at the same school and firstly interviewed classroom teachers with fourth grade experience. As a result of the interview, the teachers stated that they did not give much place to critical writing activities in Turkish lessons. As a result of the conversations with the teachers about the reasons for this situation, it was determined that the teachers had difficulties in critical writing studies because they did not know what kind of activities to implement related to critical writing, the students were reluctant and find these activities boring and therefore the lesson time devoted to critical writing was inefficient. In addition, as a result of the interview, the teachers emphasized that one of the biggest reasons why they could not adequately include critical writing activities in Turkish lessons was the lack of an existing measurement tool to evaluate students' critical writings. Although the teachers partially did the activities related to critical writing in Turkish lessons, they stated that they could not give enough space to (include) critical writing activities because they did not know how to evaluate the products that the students put forward after the critical writing activities and therefore could not give feedback to the students.

Based on these views of the teachers, the researcher decided to develop a rubric to evaluate critical writing studies. For this, first of all, the literature on critical writing was examined.

### **Phase of Creation of Dimensions and Substances**

In the process of creating the dimensions and items in the critical writing rubric, Turkish and classroom teachers' opinions, literature, expert opinions and student products were consulted. The following steps were followed in this process:

- The opinions of Turkish and classroom teachers about which criteria should be included in the evaluation of students' critical writings were taken. In order to get their opinions, a form was prepared and feedback was received from 27 Turkish teachers and 73 classroom teachers. In line with the opinions received, a draft was created about the points to be considered while writing a critical article.
- Then, 21 fourth grade students were asked to identify three issues that they observed in their environment or that they saw as a problem, and they were asked to write a critical article on a topic they wanted from among the topics they determined. The written products of the students were examined by the researcher and it was determined which points the students paid attention to or which elements they ignored while writing a critical article.
- The achievements in 2005, 2015 and 2018 Primary School Turkish Curriculums were examined, articles in peer-reviewed journals on critical writing were scanned, and the researcher created an item pool by examining master's and doctoral theses on critical writing and books on critical writing.
- The researcher examined the items in the item pool and determined 10 dimensions and 29 items for the scale. Then, the study was presented to the opinion of 8 doctoral students continuing their postgraduate education in the field of Classroom Education and Turkish Education and 16 academicians who are experts in the field of Basic Education. Dimensions and items were examined by experts in terms of content and level compliance, and they were reduced to 9 dimensions and 22 items due to reasons such as not being suitable for the level of primary school fourth grade students and not matching the definitions of critical writing skill in the literature.
- In line with the expert opinions, the researcher made the necessary arrangements regarding the dimensions and items of the rubric and finalized the critical writing scoring scale with 8 dimensions and 19 items in the rubric.

### ***The Stage of Determining the Criteria and Levels of the Rubric***

During the determination of the dimensions in the rubric and the scores of the items related to the dimensions, the literature was examined and the opinions of 12 classroom teachers, 8 Turkish teachers, 5 doctoral students continuing their graduate education in Turkish Education, and 4 academicians were sought. In line with the opinions received, the scores of the dimensions of the scoring key; planning (10), presenting evidence, persuading (15), questioning (20), multidimensional thinking (15), objectivity (15), consistency (15), clarity and fluency (5), shape, form (5) determined.

Since the target audience of the scoring key is primary school students, it was deemed appropriate to give 1 point instead of 0, in line with the practices of the Ministry of National Education, for the students with a low level in scoring. Thus, the lowest score a student can get from the scoring key was determined as 20 and the highest score as 100.

At the stage of determining the levels of the scoring key, expert opinion was taken from 4 academicians who are experts in the field of measurement and evaluation, and the scoring key; It was decided to rate it with a 5-point Likert scale as 1 (strongly disagree), 2 (disagree), 3 (partially agree), 4 (agree) and 5 (strongly agree).

### **Finalization and Application of the Scoring Key**

Dimensions, items, dimension and item scores and levels of the scale were rearranged in line with according to expert opinions and the rubric was finalized. Finally, an application was made in order to ensure the validity and reliability of the rubric, and the critical writings of primary school fourth grade students were evaluated with the rubric.

For the application, he asked the students in the study group to list some situations that they observed in their close environment or that they saw as a problem. The lists related to the problems determined by the students were examined by the researcher and the three issues that the students considered as the most problematic parts were determined. The teacher asked the students to write a critical article on any of these three subjects during two course hours (30+30). Finally, as a result of the application, the critical writings written by the students were scored with the critical writing rubric developed by the researcher. The results obtained regarding the validity and reliability of the scoring key are given below.

### **Ensuring the Validity and Reliability of the Scale**

Some steps were followed to ensure the validity and reliability of the critical writing rubric. These steps can be listed as follows:

#### **Steps for validity:**

##### ➤ *Scope validity*

In order to ensure the content validity of the scoring key, expert opinions (Classroom teachers, Turkish teachers, Classroom and Turkish Education doctoral students and academicians) were taken about whether the dimensions and items in the scale were suitable for the purpose intended to be measured. As a result of the expert opinions, it was determined that the content validity of the scale was sufficient.

##### ➤ *Criterion validity (Relevance and predictive validity)*

In order to ensure the validity of the scale, the scale was compared with the criteria made in the past, whose validity has been proven, and it was compared to similar measurement tools related to writing in the literature (Akyol, 2008; Calp, 2010; Demirel & Şahinel, 2006; Göçer, 2007; Güzel



&Karatay, 2019; Karatay, 2019; Keskinçilic & Keskinçilic, 2007; Kılınç & Şahin, 2012; Yıldız, 2013) were found to be appropriate.

In order to ensure the predictive validity of the scale, a pilot application was made and student products were evaluated with a scoring key developed by different raters. As a result of the evaluations of different raters, it was predicted that the measurement of the current scoring key would predict future measurements.

***Steps for reliability:***

- The fact that the expert opinions taken during the development of the rubric were emphasized that the dimensions and items in the scale were written in a clear and understandable way, and that the dimension and item definitions at the end of the application fully reflected what was intended to be measured, shows that the item discrimination power of the scale is high. This situation contributes to the reliability of the scale.
- The creation of the rating levels in the scoring key in the form of a 5-point Likert indicates that the scale is at a level that will minimize the scoring biases. This situation contributes to the similarity of the results in the process of scoring a product by more than one rater.
- In order for the measurement tool to measure a feature it tries to measure in a way that gives the same result every time, the consistency between the raters should be reflected statistically. In this direction, first of all, the kurtosis and skewness coefficients of the distribution of the scores given by both raters were examined in order to determine the statistical methods to be made regarding the obtained data. Huck, (2012) and Hair, Black, Babin, Anderson, and Tatham (2013) found that the skewness and kurtosis values were between -1 and +1; Tabachnick and Fidel (2013) stated that it has a normal distribution in the range of +1.5 -1.5. It was determined that the values obtained from the data in the study showed a normal distribution for both rater data (skewness=,197 kurtosis=,392).
- In order to ensure internal consistency, Cohen's Kappa statistics ( $\kappa$ ) were used to determine the coefficient for the reliability of the evaluations of the raters who scored the data ( $p < .05$ ). Test results are presented in Table 1:

**Table 1.** Concordance Between Rateers

Categories	Kappa Statistics Value ( $\kappa$ )	P
Draft	,70	,000
Aim	,71	,000
Presenting evidence	,80	,000
Persuasive expression	,81	,000
Questioning thoughts	,77	,000

Interrogative expression	,77	,000
Expose the problem	,84	,000
Solution to the problem	,87	,000
Different thought	,86	,000
Observation experience	,85	,000
Join the discussion	,85	,000
Impartiality	,85	,000
Objective language	,80	,000
Conflicting expression	,83	,000
Logical integrity	,83	,000
Sentence sorting	,90	,000
Plain language	,81	,000
Punctuation	,86	,000
Spelling	,72	,000

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When Table 1 is examined, it is seen that there is a statistically significant and significant level of agreement between the raters, since the Kappa statistical value is more than .70 and .70 in all categories. As a result of the analysis, a significant level of draft, purpose, questioning of thought, interrogative expression, spelling items; It has been determined that there is a very high level of agreement in the items of presenting evidence, persuasive expression, revealing the problem, solving the problem, different thinking, agreeing to an opinion, impartiality, objective language, contradictory expression, logical integrity, sentence ordering, plain language and punctuation. This situation contributes to the reliability of the scale.

- Seçer (2017) states that the Cronbach Alpha coefficient of a reliable measurement tool should be .70 and above, while Özdamar (2004) states that .80 and above is a highly reliable scale. The Cronbach Alpha coefficient of the developed rubric was calculated as .86. This contributes to the reliability of the scale.

It can be said that the rubric developed as a result of expert opinions and statistical measurements is valid and reliable.

### **Data Analysis**

In the research, in order to determine the statistical methods to be made regarding the data obtained, a critical article was written to the fourth grade students of primary school and the articles were evaluated by different raters. The kurtosis and skewness coefficients related to the distribution of the scores given by the raters were analyzed with the statistical program.

Cohen's Kappa coefficient in order to determine the coefficient for the reliability of the evaluations of the raters who scored the data in order to ensure internal consistency in the research; Cronbach Alpha coefficient was determined with the statistical program in order to determine that the

dimensions and items in the rubric developed were consistent with each other and that the items were testing the same feature.

### **Discussion, Conclusion and Recommendations**

In the study, a rubric was developed to measure and evaluate the critical writing skill levels of primary school fourth grade students. Expression of measurement and teaching activities with numerical data; evaluation is the interpretation of these numerical expressions according to certain criteria (MONE, 2005, p. 10). Measurement and evaluation studies in writing education are important in terms of determining whether students' written expression skills are developed correctly or not and carrying out necessary development studies. For this reason, it can be said that measurement and evaluation practices are an indispensable element of the learning-teaching process. In this respect, it minimizes the measurement errors caused by the rater and negatively affects the accuracy of the measurement results (Dunbar, Brooks, & Miller, 2006), has a reflective function about the writing performance of the students (Goodrich-Andrade, 2001), and allows for valid and reliable evaluations (Dunbar, Brooks & Miller, 2006). Moskal & Leydens, 2000), a rubric was developed in this study to measure and evaluate the critical writing skills of primary school fourth grade students (Appendix-1).

Developed rubric; It consists of eight dimensions: "planning", "presenting evidence and persuading", "inquiring", "multidimensional thinking", "objectivity", "consistency", "clearness and fluency", "shape / form". In the process of creating these dimensions; The achievements in the Primary Education Turkish Curriculum were determined, articles in peer-reviewed journals on critical writing were scanned, master's and doctoral theses on critical writing and books on critical writing were examined. Below are the reasons for the dimensions determined at the end of this process to be included in the critical writing scale.

A plan is among the basic principles of writing education, as it enables the formation of a subject unity and contributes to the achievement of the foreseen goals of the writing. As a matter of fact, it is stated in the Turkish Curriculum (MONE, 2005, p. 17) that the writing process should start within a certain plan by reviewing the emotions, thoughts and prior knowledge structured in the mind. In this direction, in critical writing, which is one of the writing types, a plan suitable for the purpose of writing must be prepared before writing, and a planning section must be organized in which thoughts are analyzed and physical and mental preparations are completed before writing. For this reason, it was decided that the "planning" dimension should be in the critical writing scoring key.

Alan (1994, p. 179) emphasizes that in a critical article, after the writing plan and purpose are revealed, the thoughts in the article should be expressed with clear and understandable evidence in a way that will convince the target audience. The concept of evidence expressed by Larson (2001, p.8) and Mortensen (2004, p. 21) as influencing the behaviors, attitudes and judgments of others without coercion, by speaking or writing, is applied to MONE (2005, p. 115) and Kurland (2021), it is a fundamental element that must be present in a critical article. As a matter of fact, Wallace & Wray (2008, p. 12) emphasize the necessity of supporting his claims with appropriate evidence in order to

convince the readers in a critical article. In this direction, it can be stated that in a critical article, it is necessary to put forward the evidence, assumptions and arguments with appropriate examples in order to convince the reader. For this reason, it has been decided that the dimensions of "presenting evidence and persuading" must be absolutely necessary in the evaluation of critical writings.

The writing methods and techniques used by primary school students from the first grade differ from the fourth grade and leave their place to critical writing, which is a questioning and planned writing type in which cause-effect relationships are established and problems are resolved (Demirel &Şahinel, 2006, p. 113). In this direction, it can be said that questioning is an important element in critical writing, which is one of the types of writing in which mental skills such as objectively looking at events and situations, making comments, generating ideas and finding solutions are used most intensively (Chamberlain &Burrough, 1985, p. 214; Karabay, 2013, p. 1736; Karaca, 2019, p. 22; Kılınç &Tok, 2012, p. 274; Topçuoğlu &Tekin, 2013, p. 1600). Critical writing; since it is a type of writing in which prejudices, assumptions and all kinds of information presented are questioned and discussed, it has been decided that there should be an "inquiry" dimension in the evaluation of a critical writing.

The basis of questioning is to look at events from different perspectives and to think multi-dimensionally. One of the writing types in which multidimensional thinking is felt most intensely is critical writing (Nas, 2003, p.205). Topçuoğlu &Tekin (2013, p. 1600) state that different perspectives are an important element of critical writing instead of accepting without questioning the information obtained through observation, experience, intuition, reasoning and other channels, he tries to evaluate and draw conclusions from different aspects (Özdemir, 2008, p. 95; Özden, 2008, p. 139). Since it is important for the individual to express what he/she wants to convey in his/her critical writings from different perspectives by thinking from multiple perspectives, it has been decided that the "multidimensional thinking" dimension should be included in the evaluation of a critical writing.

Critical writings that offer different perspectives by allowing the reader to think multi-dimensionally are also verifiable and provable, objective writings that are independent of the author's personal opinion. Topçuoğlu &Tekin (2013, p. 1601) and Paul &Elder (2005, p. 40) state that objectivity is an important component of critical writing skills, and that a critical writer can base a text on criteria such as clarity, precision, depth, freedom, logic, and objectivity. They say they should write. Critical writings play an important role in the development of students' ability to look at events and situations impartially, to make comments, to produce ideas and solutions; Göçer, 2010, p. 181; Karaca, 2019, p. 22; MONE, 2005, p. 66-68). For this reason, it was decided that there should be a dimension of "objectivity" in the evaluation of a critical article.

In a critical article, it is important for the statements to be in integrity in terms of meaning and to be consistent with the purpose of writing the article in the process of conveying what is wanted to be told to the reader in an objective style. The connection and consistency between the ideas in the text is of great importance in the interpretation of the text by the reader. Demirel (1999, p. 80) and

Kuşdemir & Bulut (2008, p. 291) state that consistency is one of the main features expected to be in the writing content of primary school students. For this reason, it was decided that the "consistency" dimension, which is also the basis of critical writing skills, should be included in the evaluation of critical writings.

In a successful article, the author's expression must be clear, plain, simple, effective and fluent (Raimes, 1993, p.6). As a matter of fact, Karabay (2013, p. 1731) emphasizes that an author should evaluate his writing in terms of clarity, integrity and organization after finishing writing. For this reason, a critical writer should also review what he has written by considering the element of clarity and fluency in his critical writing, identify the expressions that disrupt the integrity of meaning, if any, and correct them (Paul & Elder, 2005, p. 40). In this direction, it can be said that clarity and fluency are important elements in a critical writing. In addition, due to the fact that the event or work is written in accordance with the order of occurrence in an article, the establishment of meaning relations between events and thoughts, and the presence of appropriate transition expressions between paragraphs are among the main features expected to be in the writing content of primary school students (Deniz, 2003, p. 242; Kavcar, 2002, p.12; Kuşdemir & Bulut, 2018, p. 290; MONE, 2015, p. 25) it was decided that the dimension of "openness and fluency" should be included in the evaluation of a critical article.

Spelling and punctuation in an article is an important and necessary element in writing the language according to certain rules and in creating the writing standards of the language (Özbay, 2011, p. 181; Parlatur, 2010, p. 315). Akyol (2008, p. 248) stated that the correct use of punctuation marks in the text is an important criterion in writing evaluations; Göçer (2005, p. 241) and Calp (2010, p. 231) emphasize that attention should be paid to spelling and punctuation in the evaluation of written expression. As a matter of fact, in the Primary Education Turkish Curriculum (MONE, 2015, p. 25) "Identifies, corrects, and rewrites/edits the text if there are spelling and punctuation errors." The inclusion of the outcome emphasizes the importance of spelling and punctuation in an article. Considering that a critical writing should be fluent and understandable, it is important to follow the rules of spelling and writing principles in critical writings. For this reason, it was decided that the "form/form" dimension should be included in the evaluation of a critical article.

During the development of the rubric, the field experts expressed their opinions about the dimensions and items of the rubric being suitable for the purpose to be measured. Based on these views, it was concluded that the content validity of the scoring key was sufficient. In addition, the experts stated that the developed rubric is suitable for similar measurement tools in the literature and that the measurement results of the current rubric will predict future measurements. These statements of the experts give the result that the rubric is at a sufficient level in terms of criterion validity.

During the development of the rubric, field experts state that the dimensions and items in the rubric are clear and understandable, and that the dimension and item definitions fully reflect what is

intended to be measured. These statements of the experts show that the item discrimination power of the rubric is high, and this gives the result that the rubric is reliable.

Forming the rating levels in the scoring key in the form of a 5-point Likert shows that the scale is at a level that will minimize the scoring biases and gives the result that it will contribute to the similarity of the results in the process of scoring the written products by more than one rater. This gives the result that the scoring key is reliable.

According to the findings obtained from the data in the study, it was concluded that the data of different raters showed normal distribution, and the Cohen's Kappa and Cronbach Alpha coefficients, which were determined to provide internal consistency and to determine the coefficient for the reliability of the rubric, were statistically significant.

The data obtained as a result of the expert opinions taken during the development of the rubric and the evaluation of the students' critical writings with the developed rubric show that the rubric is valid and reliable. It has been concluded that the rubric developed in this direction can be used as an alternative measurement tool to evaluate the critical writing skill levels of primary school fourth grade students. In addition, current studies on the age and developmental characteristics of primary school students should be conducted, and scoring keys for critical writing for different grade levels should be developed, taking into account the results of these studies.

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**Appendix.1.** Fourth Grade Students of Primary School the Key to Scoring Critical Writing Skills

Student name and surname:							EXTENT TOTAL SCORE
Extent	Items	I strongly disagree	I do not agree	I partially agree	I agree	Absolutely I agree	
		1	2	3	4	5	
Planning 10 point	<i>She/He wrote her/his article within a certain plan by creating a draft for writing. (5 points)</i>						
	<i>She/He determined the purpose of writing. (5 points)</i>						
Providing Evidence and Persuasion 15 point	<i>In her/his article, she/he made claims supporting her thoughts (5 points)</i>						
	<i>In her/his article, she/he presented evidence in line with the claims that support her/his thoughts. (5 points)</i>						
	<i>She/he used persuasive expressions in her/his article (Isn't it? Am I not right? We have to admit that it is a fact, although, etc.). (5 points)</i>						
Questioning 20 point	<i>In her/his article, she/he questioned the relationship between thoughts on the subject. (5 points)</i>						
	<i>She/he used interrogative expressions in her/his article. (5 point)</i>						
	<i>She/he outlined a problem that was the subject of her/his article. (5 points)</i>						
	<i>In her/his article, she/he produced solutions to the problem she/he put forward on the subject. (5 points)</i>						
Versatile Thinking 15 point	<i>In her/his article, she/he included expressions that lead to different thinking (but, but, but, nevertheless, or, whereas, etc.). (5 points)</i>						
	<i>In her/his article, she/he included her opinions based on her/his observations and experiences. (5 points)</i>						
	<i>In her/his article, she/he expressed whether she/he agreed with an opinion or not, along with the reasons. (5 points)</i>						
Objectivity 15 point	<i>In her/his article, she/he approached events and situations with an impartial point of view. (7.5 points)</i>						
	<i>She/he used an objective language in her article, not including subjective expressions (I think, if it were me, etc.). (7.5 points)</i>						
Consistency 15 point	<i>She/he did not include contradictory statements in her/his article. (7.5 points)</i>						
	<i>She/he wrote her/his article in logical integrity without deviating from the subject. (7.5 points)</i>						

Clarity and Fluency 5 point	<i>She/he arranged the sentences and paragraphs in her/his article in accordance with the flow of thought. (2.5 points)</i>						
	<i>She/he wrote her/his article in a clear, understandable and simple way. (2.5 points)</i>						
Shape/ Format 5 point	<i>She/he used punctuation marks appropriately in her/his article. (2.5 points)</i>						
	<i>She/he wrote her/his text in accordance with the rules of spelling. (2.5 points)</i>						
GENERAL TOTAL SCORE							