Article

Gender Differences and Critical Thinking: A Study on the Written Compositions of Primary Education Students

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Abstract: The development of critical thinking is essential to the treatment of gender perspective in Primary Education. For this reason, this study focused on determining the critical ability of primary students depending on gender, analysing the possible connections between the participants’ breadth of thought and spelling competence. The methodology was based on a humanistic–interpretative ad hoc approach to categorical organisation. A total of 636 Primary Education students from the Region of Murcia (Spain) participated in a field activity in which they created a written composition based on a pretext that contained an image showing a controversial gender situation; this illustration incited a critical response in the creation of each story. The compositions were analysed individually and qualitatively using the Atlas.Ti software (v.8.4). The most relevant results appear to prove the higher critical ability of the girls who participated in this study, and additionally show connections with the spelling competence of these students. However, the critical thinking and spelling values shown were still far from what would be expected of a developed society.

Keywords: creative writing; short stories; gender stereotypes; spelling; sexism

1. Introduction

Modern society requires that students receive an education that is open to fostering critical vision, as they can quite often observe or be part of situations where equality is not a priority. For this reason, the recognition and visibility of these cases plays an important role in subsequent action. The iconographic world and the culture of the image reproduce predominant visions, and sometimes it is important to stop, reflect and analyse the different intentions being conveyed. These circumstances are aggravated by the great deal of information handled by Primary Education students, which makes it necessary to develop their essential capacity for breadth of thought and the context of the desirable values of citizenship.

Teachers have a key role to play in developing acceptable critical skills in students. For this reason, in recent years, initial training in new methods based on reflection, personal autonomy, decision-making and creativity using active, participatory and playful methodologies has been encouraged in the classroom. More specifically, these methodologies concern social problems that generate a critical and personal vision of controversial issues [1] and also provide training for the creation of a more sustainable, equal world. Consequently, teaching–learning scenarios must be close to reality [2].

1.1. Critical Thinking and Gender Perspective in Primary Education

The development of critical thinking is fundamental for detecting and acting in favour of equality. In Primary Education, cross-cutting work must be carried out in all areas in order to promote a personal vision of the relevant subjects. If we analyse how our societies function, we find that what is really important is not the amount of knowledge and
data that a person has internalised, but the management and handling of their capacity to understand and to use this information in everyday situations with a critical approach \cite{3–6}. The creation of new curricula in Europe using the concept of competence is an attempt to approach this model of knowledge application.

The area of Spanish Language and Literature is an ideal space for introducing these skills, since reading and writing are a relevant source for obtaining and producing personal ideas and are a fundamental element of all school curricula. Children’s literature is also relevant in the development of critical thinking due to its representations of society, as well as the possibility of analysing the behaviours and attitudes projected by its characters from a critical and independent perspective. Consequently, there are several studies in this area that are connected to the gender perspective, both in the linguistic field and in relation to children’s literature \cite{7–12}.

Concern for gender equality is not new to modern classrooms, but has shown an evolution in its study. Studies such as those carried out by \cite{13,14} show that the gender preferences of students favour a spatial, mathematical perspective on the male side and an interest in the environment on the female side. For this reason, the more traditional studies by \cite{15,16} maintain a connection between thematic developments and new trends in equality \cite{17–21}. This is because we are faced with content that has not had the expected effect over time, which, together with modern social transformations, has given rise to the need to work towards and make visible an improvement in linked values and capacities. In this connection between gender equality and education, we should not forget the key factor of teacher training in the effective implementation of this cross-cutting work, since it can be a generator of change in the day-to-day life of the classroom. As such, in recent years, concern has grown, leading to an exponential increase in the number of studies promoting teacher training from a gender perspective \cite{22–25}. The field activity in this study is connected to students’ critical work on gender equality issues. For this reason, the breadth of thought envisaged by Primary Education students in their written compositions is analysed.

1.2. Writing as an Educational Tool for Gender Equality

In this work, creative writing was promoted on the basis of a literary pretext shared as an image, showing familiar characters in an unequal situation and encouraging reflection on and analysis of the content to be developed in the writing assignment. In this activity, students played an active role in recreation of the fiction by providing alternatives to the published story. Consequently, it was determined that one of the best ways to project students’ visions of gender equality is creative writing, as it allows them to observe the capacity for identification and action in situations of inequality using different categorical and critical standards. This creative writing exercise was presented in a simple manner, but internalised many relevant factors, as students’ compositions were generated using their personal experiences, values and thoughts from a gender perspective.

There are numerous studies in which creative writing and literary education underpin the aims pursued, such as \cite{26–29}. In all of them, reflection, the use of a readerly intertext and fantastic recreation play large roles, allowing controversial issues to be made more comprehensible to Primary Education students while representing the social reality that is taking place.

On the other hand, linguistic ability in writing seems to be subject to reflection and analysis, mainly when planning the text \cite{30}. This led us to create one of the objectives of this study: linking students’ spelling ability to the breadth of thinking they integrated into their written compositions. The studies by \cite{31–34} present a background to the spelling problems encountered in Primary Education, identifying them as one of the major obstacles to pupils conveying their ideas with the desired accuracy. Critical thinking includes a series of thinking skills that activate action processes, allowing one to analyse arguments in depth and reason with and interpret them in order to generate new arguments of one’s own. Divergence can play an important role in this process. For this reason, one of the greatest
challenges identified by the teachers of today is presented by the field of writing, together with its new forms and influences taken from societal knowledge and communication.

2. Materials and Methods

2.1. Objectives

The main objective of this study was to analyse the critical and linguistic vision of Primary Education students in the Region of Murcia (Spain). In order to provide a concrete response, we divided this objective into the following specific objectives:

- To assess the gender-critical responses of students to an image that integrates gender issues.
- To assess the spelling levels of Primary Education students according to their gender.
- To test the links between the spelling assessment of the written compositions and the critical thinking standards shown by students.

2.2. Participants

A non-probabilistic sampling method was used, as we were not performing a random selection, but rather a judgmental sampling, and so participants were chosen with the criteria of urban areas, digital centres and socio-economic levels taken into account. These participants were selected not for their representativeness, but for the potential information they could offer us; therefore, a close relationship was established between the researchers and the research subjects, integrating us into the context of the study. This convenience allowed for easier data collection.

This research focused on the last three years of Primary Education, since it was considered that pupils at this stage have been able to reach much greater linguistic and personal maturity, allowing them to successfully carry out the tasks proposed in the fieldwork. Therefore, the 636 participants ranged in age from 9 to 13 years old.

These pupils were characterised by being digital residents, as their critical perspective was not as well developed as desired. The use of the pretexts provided by the images corroborated this need to improve critical vision and, furthermore, allowed us to observe whether there was any differentiation according to the gender of the students. This study complied with the ethical standards of the Declaration of Helsinki 2013 and its subsequent modifications. Informed consent was also obtained from the participants.

2.3. Research Design and Fieldwork

This study utilised an evaluative research methodology with a diagnostic evaluation based on a humanistic–interpretative paradigm and a symbolic interactionism approach, framed as a phenomenological design and qualitative information treatment based on content analysis. As evaluative research, the knowledge it generated led to a final proposal for the improvement of teaching–learning processes. Its phenomenological orientation was used to discover everything significant in the perceptions and actions of the participants. Therefore, a diagnostic assessment was conducted based on the categorisation of the data. This research is part of a larger study [35], so this article focuses on the results derived from the gender of the participants, allowing comparisons to be made between the critical values obtained and the gender of the students who took part in the work.

The participants in the study had to produce a written narrative composition based on an image that acted as a pretext. This illustration elicited a critical response, as it contained a gender-discriminatory situation concerning the sharing of household chores. Its design belongs to [36] and is based on the characters of the classic story of Aladdin: https://tomwardstudio.com/assets/images/gallery01/2ea3a1be_original.jpg?v=21a619ce (accessed on 9 July 2024)

The ad hoc categories of analysis used were a means of approaching the data and, above all, the students’ thinking. We are convinced of the relationship established between the use of language and thinking; therefore, the coding of ideas in the students’ compositions was used to provide an insight into the students’ level of criticism and their attitude towards equal opportunities between genders.
2.4. Plan to Analyse the Information

Data were collected from the compositions generated by the participating students using a qualitative content analysis with the Atlas.Ti software (v.8.4) according to the following critical standards applied to the image described above: first standard: does not observe any problem associated with gender discrimination; second standard: names the problem observed, but does not offer a response; third standard: generates a critical response in the narrative created. This idea of categorisation is linked to the definition of synthesis, in which “several units of data are placed under the same topic or concept, so that it can be affirmed that this work is, in itself, a conceptual operation of synthesis, in that it allows a determined number of units to be reduced to a single concept that represents them” [37] (p.146).

The links between categories used to provide an answer to the third specific objective were established by analysing the concurrence of codes, thus establishing relationships between the two main categories analysed: the critical standards and the spelling of each composition. Thus, data were obtained by linking the number of compositions that showed a given number of spelling mistakes to each of the critical standards defined by the concurrence of the codes used in the individual analysis of each written composition.

The 636 compositions were linked to one of the three named categories on the assumption that each composition was associated with only one category, depending on the content of the story created by the student. It should be noted that during the analysis process, 43 compositions were eliminated due to the poor legibility of the students’ handwriting; following the alphabetical order of the six schools involved, the written compositions eliminated according to the school are shown in Table 1.

Table 1. Compositions removed from the sample.

<table>
<thead>
<tr>
<th>School</th>
<th>Deleted Compositions</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>R</td>
<td>11</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>8</td>
</tr>
<tr>
<td>F</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
</tr>
</tbody>
</table>

The data concerning the compositions created by the participants allowed us to obtain a total of 593 individually written compositions. This number was obtained after subtracting the 43 eliminated compositions from the total of 636, allowing us to work with a fairly large sample for a qualitative study.

3. Results

The results are organised according to the gender of the participants, as one of the study variables which directly connects to the planned objectives of this research. Firstly, we provide our results with reference to the critical standards with which each composition was ranked. This generates the categorical distribution shown in Tables 2 and 3, setting out a direct relationship with the first specific objective. Secondly, we show the orthographic domain of the results in an attempt to respond to the second specific objective, the gender variable.
Table 2. Frequency of critical categories according to the gender of the participants.

<table>
<thead>
<tr>
<th>Critical Categories</th>
<th>Frequency in Girls</th>
<th>Frequency in Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>First standard</td>
<td>178</td>
<td>190</td>
</tr>
<tr>
<td>Second standard</td>
<td>84</td>
<td>61</td>
</tr>
<tr>
<td>Third standard</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>271</td>
</tr>
</tbody>
</table>

Table 3. Percentage of critical categories based on the gender of the participants.

<table>
<thead>
<tr>
<th>Critical Categories</th>
<th>Percentage in Girls</th>
<th>Percentage in Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>First standard</td>
<td>55.28</td>
<td>70.11</td>
</tr>
<tr>
<td>Second standard</td>
<td>26.09</td>
<td>22.51</td>
</tr>
<tr>
<td>Third standard</td>
<td>18.63</td>
<td>7.38</td>
</tr>
</tbody>
</table>

3.1. Critical Standards

Firstly, Table 2 shows a categorical distribution of the critical standards shown by the students in the stories they created. The numbers of written compositions attributed to each category are divided according to the critical standard reached with respect to the situation of the pretext. Thus, it is shown that a total of 178 stories created by girls and 190 by boys met the first critical standard, in which students did not identify any problems associated with gender discrimination in the given image. Some examples of student creations in this section are as follows: “The Genie and Aladdin win a game console tournament”; “Aladdin is a gamer with many subscribers”. These examples show that the gender equality issues raised by the image of the pretext were not discussed in the story created by the participants.

The total number of stories that met the second standard, in which the participants were aware of the gender problem shown in the pretext image, was 84 by girls compared to 61 by boys. Some examples of these compositions are given below: “Jasmine gets angry with Aladdin because he is always playing with his game console and not doing the housework”; “Jasmine scolds the Genie and Aladdin for playing the game console and not cleaning up, then discovers that the game is fun and joins in by beating them at the game”. These stories show how students at this critical standard had the ability to identify the underlying gender problem in the pretext, but were not able to generate a solution to it.

The third and most critical standard, in which students were able to not only visualise the problem but offer an answer to it in the course of their story, was met by a total of 60 stories written by girls and 20 stories by boys. The final row shows the total number of compositions, which establishes the distribution of the participants who met one of the three critical standards to be 322 girls and 271 boys. Some examples of stories falling within the third standard are given below: “Jasmine gives an ultimatum to the Genie and Aladdin because she is tired of doing the housework while they play video games and finally, they all work together and clean the house much faster”; “The Genie and Aladdin feel bad because Jasmine is tired of doing the chores by herself and they create a schedule where everyone works equally”. As can be seen in these texts, the situation is identified, and an egalitarian solution to the gender issue raised by the pretext is offered.

Table 3 shows the percentages derived from the above frequencies according to the gender distribution of the participants and the critical standards at which each composition was ranked. We are faced with data that show that 55.28% of girls and 70.11% of boys fell into the first critical standard; it should be remembered that this standard was defined as the lowest degree of critical thinking. The second standard was achieved by 26.09% of girls compared to 22.51% of boys. Finally, the third standard, which contained the written compositions with the highest critical potential, was achieved by 18.63% of girls and 7.38% of boys.
3.2. Spelling

Spelling was also linked to the gender variable; Table 4 shows the distribution of spelling errors according to the numbers of boys and girls participating. In order to generate these results, the written compositions of the Primary Education students were individually assessed linguistically. Firstly, each production was linked to a code according to the number of errors, and secondly, the code was attributed to the gender variable. Next, the concurrence of the codes was generated, which produced the numerical data shown in Table 4, taking into account that 322 girls and 271 boys created the 593 stories that make up the total.

These data show that 18.32% of the stories written by girls had zero spelling errors compared to 7.75% of the stories written by boys. One misspelling occurred in 18.32% of the stories written by girls compared to 16.97% of those written by boys. Two spelling mistakes were present in 25.16% of the stories written by girls and 17.34% of those written by boys. Three errors were present for 15.84% of the stories written by both girls and boys. Four spelling mistakes were reported in 9% of the stories written by both girls and boys. This trend seems to change when five spelling mistakes were reported, as stories written by girls accounted for 4.97% compared to 9.23% of those written by boys. Texts with six errors accounted for 2.48% of the total for girls and 7.75% for boys. The remaining data continue this trend, with values below 5% shown for both girls and boys.

Table 4. Misspellings based on the gender of the participants.

<table>
<thead>
<tr>
<th>Misspellings</th>
<th>Girls (322)</th>
<th>Boys (271)</th>
<th>Total (593)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>0</td>
<td>18.32</td>
<td>59</td>
<td>7.75</td>
</tr>
<tr>
<td>1</td>
<td>18.32</td>
<td>59</td>
<td>16.97</td>
</tr>
<tr>
<td>2</td>
<td>25.16</td>
<td>81</td>
<td>17.34</td>
</tr>
<tr>
<td>3</td>
<td>15.84</td>
<td>51</td>
<td>15.87</td>
</tr>
<tr>
<td>4</td>
<td>9.01</td>
<td>29</td>
<td>9.96</td>
</tr>
<tr>
<td>5</td>
<td>4.97</td>
<td>16</td>
<td>9.23</td>
</tr>
<tr>
<td>6</td>
<td>2.48</td>
<td>8</td>
<td>7.75</td>
</tr>
<tr>
<td>7</td>
<td>2.80</td>
<td>9</td>
<td>4.06</td>
</tr>
<tr>
<td>8</td>
<td>0.31</td>
<td>1</td>
<td>3.32</td>
</tr>
<tr>
<td>9</td>
<td>1.24</td>
<td>4</td>
<td>1.85</td>
</tr>
<tr>
<td>10</td>
<td>0.31</td>
<td>1</td>
<td>2.58</td>
</tr>
<tr>
<td>11</td>
<td>0.31</td>
<td>1</td>
<td>2.21</td>
</tr>
<tr>
<td>12</td>
<td>0.62</td>
<td>2</td>
<td>0.37</td>
</tr>
<tr>
<td>13</td>
<td>0.31</td>
<td>1</td>
<td>0.74</td>
</tr>
</tbody>
</table>

3.3. Links between Critical Categories and Spelling Mistakes

The above-mentioned categorical association makes it possible to see the contrast between the linguistic aspects and the breadth of thought that the participants demonstrated in their written compositions. For this reason, it is important to highlight the concurrence of codes in both categories, i.e., to specify how many spelling errors were made by the students who showed more or less critical ability. For this purpose, Table 5 was created, showing both the percentage and the frequency for these students according to the two categories mentioned above.
Table 5 shows that of the students who made no spelling errors, 8.15% met the first critical standard, 17.93% met the second critical standard and 30% met the third critical standard. Similarly, of the students who made one spelling mistake, 15.49% met the first critical standard, 17.24% met the second standard and 28.75% met the third standard. Another trend can be identified in the written compositions with four spelling mistakes, with 10.33% of the narratives linked to the first critical standard, 8.28% to the second and 7.50% to the third standard.

More data worth highlighting appear in the compositions that showed the highest percentages in each critical standard; 30% of texts meeting the third critical standard showed zero spelling mistakes, followed by 28.75% of stories with one spelling mistake. As for the second critical standard, 24.14% of the compositions in this category showed two spelling mistakes, while 17.93% showed no errors. Finally, with respect to the first critical standard, i.e., stories showing the least breadth of thought, 22.01% showed two spelling mistakes, followed by 16.58% of productions which showed three.

4. Discussion

This discussion is organised according to the specific objectives set out in the Section 2. As such, the first objective of this article, to determine students’ critical standards with respect to the pretext image according to variations in gender by integrating the proposed fieldwork activity to reveal gender discrimination, is shown below. Consequently, three different categories of critical standards are identified which demonstrate the capacity of the participating students to react critically to the pretext situation through their qualitatively analysed written compositions.

The results of the objective of using critical standards, summarised in Figure 1, allow us to affirm that generally the percentages of students’ critical responses to a situation of inequality were quite low, far from the desirable parameters. If we look at the more specific aspects of our objective, we find that girls showed a significantly higher critical capacity, given that the third critical standard, which was categorically defined as offering a solution to the situation of inequality, was met by 18.63% of girls compared to 7.38% of boys. These results were confirmed by the second critical standard, as 26.09% of girls met this standard compared to 22.51% of boys. Perhaps the most striking detail is shown by the first critical standard, which was defined as compositions that neither mentioned nor identified the gender problem shown in the pretext. These results were confirmed by the second critical standard, as 26.09% of girls met this standard compared to 22.51% of boys. Perhaps the most striking detail is shown by the first critical standard, which was defined as compositions that neither mentioned nor identified the gender problem shown in the pretext. These results are important because they show that current students need more training in gender perspectives linked to critical vision; 70.11% of boys and 55.28% girls met this standard. These data seem to prove a more active involvement in social change on the part of the participating girls, as they showed
greater critical mastery and thus a capacity for deeper analysis, as well as the creation of possible outcomes to the situations posed by the pretext image.

![Graph showing distribution of percentages in critical standards by gender](image)

**Figure 1.** Distribution of the percentages in the critical standards according to the gender of the participants.

If we reflect on the great deal of information to which Primary Education students are exposed on a daily basis, we can deduce that they require the essential skill of critical thinking. The relationship between education and society is relevant when preparing students at each educational stage [38] to receive an education that will enable them to function in the current social framework, in which critical thinking is essential.

We must not forget that the pretext used in this study was an image, so it is important to take a closer look at the current audiovisual culture in which social networks monopolise our students’ time. Therefore, the development of critical thinking in order to discern contexts of gender discrimination is a relevant task, as shown by the representation of this study’s data in Figure 1. In most cases, students are not able to identify these situations, which leads to linguistic imitations, behaviours and attitudes that do not contribute to equality.

Gender issues associated with education are currently alive and well, as shown by studies such as [39–43]. If we look at the social discourse, such inequalities seem to have been overcome, but these results show that it is still necessary to strengthen values related to equality. The subject of Spanish Language and Literature in Primary Education is a privileged space due to its connection with children’s literature and the transversal critical reflection of texts, as it fosters our own understanding and self-definition, and is therefore a key to societal knowledge and the constant improvement of values [44]. For such improvement to work realistically in the classroom, the concept of critical reading must be addressed [45] with the aim of making stereotypes that are dominant in our culture more visible [46,47].

The second part of this discussion is organised according to our second specific objective: comparing the spelling levels and genders of the participating students. It is worth remembering that the spelling evaluation carried out in this study followed a typology of subcategories, so each individual narrative was linked to a code referring to the number of errors it contained, giving rise to a semantic network grouping the results of all the written compositions, which is summarised in Table 4. The results show that the ability to compose orthographically correct texts should be worked on as a higher priority in primary classrooms, because only 13.49% of the 593 stories analysed contained no errors. The curricular objectives of this stage of education place literacy as a cornerstone of the system. For this reason, we are not yet achieving the values desired by the entire educational community.

It is important to pay attention to the gender variable, as this average was constructed from 18.32% of compositions written by girls and 7.75% by boys. A trend can also be observed showing that girls obtained better scores related to spelling issues, with higher
percentages of girls showing 0, 1 or 2 spelling mistakes per composition and lower frequencies of girls showing 6, 7, 8, 9, 10 or 11 spelling mistakes per composition. This seems to prove that the boys who took part in the study showed slightly lower levels in the spelling evaluation compared to girls.

In order to respond to our third specific objective, the links between the two main categories analysed in the written compositions of the students who took part in the study were established, and a link between the orthographic/linguistic progression of the students and their breadth of thought was reflected in the critical standards achieved. Specifically, a trend can be observed linking a lower number of spelling mistakes to greater critical thinking ability, since the highest percentage of texts with the fewest spelling mistakes was found in the third critical standard, followed by the second critical standard. If we look at written compositions with a higher number of errors, such as texts with four spelling mistakes, the trend is completely different, since the highest number of texts met the first critical standard, which seems to prove that the spelling ability of the participants and their breadth of thinking are connected.

5. Conclusions

The development of critical thinking in primary school classrooms is a cross-cutting endeavour that has a major impact on building a gender-equal society. For this reason, from the Didactics of Language and Literature, a privileged environment is generated that can promote a breadth of thought derived from critical reading and literature as a source of knowledge and context representation, as well as the need to project our ideas and values through writing.

Consequently, in this study, a field activity was created that allowed students at this educational stage to produce a written composition in which their capacity to analyse and react to situations connected with gender was encouraged, based on an image that acted as a pretext with popularly known characters from children’s literature. This activity made it possible to analyse each of the narratives created by the students and to create a series of categories of critical standards in connection with their response to the gender inequality posed in the illustration. In addition, relevant results were extracted according to the gender of the participants, as it seems that girls had a higher knowledge of equality and significantly higher values in the critical dimension, although these results were far from what we would wish for in today’s developed society. Therefore, it was established that priority should still be given to projects and activities in primary school classrooms in which the perspective of gender plays a leading role.

In addition, our results seem to prove that the most critical students were also the ones who showed the best spelling skills in their compositions. This pattern is connected with the theory, set out at the beginning of this paper, that spelling is identified by teachers as one of the major challenges in their students’ writing.

Our study does not replicate previous research, and aspects such as the relationship between spelling and critical thinking associated with gender differences do not constitute a line of work for which there are many references.

We can consider that the relationship between spelling and critical thinking has been studied more in the case of a foreign language (mainly English) [48–52]. But we can also allude to the relations between L1 and L2 or foreign language, pointing out that there is usually a correspondence between the mastery of a mother tongue and those that are being acquired. In other words, there will be greater possibilities of acquiring these second or foreign languages if the command of the mother tongue is strong.

From our point of view and as one of the conclusions added to our findings, the relationship between language and thought already provided by Sapir-Whorf [53] helps to understand that the more developed the former is in terms of linguistic mastery (verbal and non-verbal; and within them, deepening of its different dimensions), the more the latter is projected and expanded. Therefore, if our desire is to train people in critical thinking, we will have to work towards a normative knowledge of a language, reflecting on its rules,
thus influencing metalinguistic ability and creating a bridge towards language games that reveal the person’s critical capacity.

This development of the mental and the linguistic must result in the vision and perception of the world. Our aspiration is to achieve the concept of personhood and not to distinguish stereotypically between masculine and feminine. A greater mastery of the word will allow metacognition and the development of metalinguistics, key factors for critical thinking, to take place. People who are trained in this way may initially pay attention to the division between masculine and feminine, but the maturity that comes from applying criticism to their reasoning will allow them to assume that we must talk about people rather than masculine or feminine aspects. Overcoming this exclusionary vision and moving towards a complementary one should be the path opened up by this contribution.

One of the ways to improve upon our research and, therefore, this text, could be to reconsider the critical standards used in the analysis of results. For example, comprehension or interpretation skills could be taken into account when replicating or extending the study.

Following the development of this study, it is possible to propose new avenues of research that can be addressed on the basis of the findings presented. In relation to the participants, other groups involved in education, such as families, could be included in the future, with the aim of collecting information about habits related to media elements, the use of technology and, for example, the reading/writing habits of students at home. Similarly, inquiring about the discourse of the teachers who have trained these students would be very interesting in terms of promoting critical thinking or equal opportunities between genders. Given their role as mediators, the perspective of teachers as role models is key to showing that students may have desirable characteristics with regard to gender equality (SDG 5) and the application of a critical spirit to the vision of reality.


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Institutional Review Board Statement: Not applicable as the research was carried out in Spanish universities and, therefore, the procedures carried out with the participants in any studies are required to comply with the ethical standards of the Declaration of Helsinki (2013) and its subsequent amendments, as published on the official website of the University of Murcia, the institution from which this research is proposed (https://www.um.es/web/comision-ética-investigacion/informacion (accessed on 9 July 2024)). In addition, the article is the result of the doctoral thesis of Professor Domingo Albarracín-Vivo. It passed various ethics and quality commissions in order to be defended. On page 333 https://digitum.um.es/digitum/handle/10201/112664 (accessed on 9 July 2024).

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