



SNOW WHITE'S STORY FOR TEACHING SYMMETRY IN THE EARLY YEARS OF ELEMENTARY SCHOOL

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ABSTRACT

This article discusses some possibilities of using Children's Literature for the teaching-learning of Mathematics, which aims to analyze how the story of Snow White can be used for teaching Symmetry. Based on a bibliographic study, the relevance of the theme was highlighted. According to the assumption that literature is one of the tools that can provide students with reading and understanding of the world, we present some activities that allow exploring the potential of Children's Literature. We seek to use excerpts and illustrations from this story to teach Symmetry in the early years of elementary education. As the main conclusion of this study, we have that it is possible to develop Geometry activities to teach the subject in question in the context of that world-famous fairy tale. We aim to present a different way of teaching Mathematics, by seeking a meaningful learning and making teachers interested in this teaching strategy.

Keywords: Children's Literature; Symmetry teaching; teaching resource.

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INTRODUCTION

Magic mirror on the wall, who is the fairest one of all?

This adaptation of the well-known *Magic mirror on the wall* by Snow White's evil stepmother, represents our premise that using excerpts and illustrations from this story can be an adequate alternative to teach Symmetry in the early years of elementary school. The search for grounded and unconventional strategies to teach Geometry is both recommended and necessary. This is important since teaching in this area has been neglected in the country for many years (D'ANTONIO; PAVANELO, 2013), or superficially addressed at the end of a school year (GUDER; NOTARE, 2011).

Historically, the promulgation of the National Educational Guidelines and Framework Law (LDB Law n. 9,394/96) has provided an opportunity for discussions and implementations related to the teaching of geometry in teacher education and basic education institutions.

At that time, there were regulations and changes in textbooks that provided greater evidence of Geometry teaching to students in the early years of elementary school. Public policies and legislation in force have influenced the way Geometry is approached until today, like the textbooks of the National Textbook Program - PNLD (PIMENTEL, 2014).

Therefore, the Geometry taught in the classroom was still based only on studies of flat figures and geometric solids. Within this curricular component there were and there are still difficulties in pedagogical actions that show other knowledge within this curricular field, such as Symmetry.

More recently, the National Core Curriculum (BNCC) was instituted in Brazil as a “normative document that defines the progressive set of essential learning that all students must develop throughout Basic Education” (BRASIL, 2018, P.2), comprehending competencies and skills by subject for each year of Basic Education. Within the scope of the theme of this article, it states that “it is also important to consider the functional aspect that must be present in the study of Geometry: Geometric Transformations, especially Symmetry” (BRASIL, 2017, p. 271), alongside the minimum associated skills that the student is expected to develop in each school year. In terms of that, studies like the ones held by Santiago and Alves (2020) and Cruz and Ferreira (2018) present reports on the transposition of difficulties in teaching geometry by using school routines and activities involving other areas of



knowledge, such as Arts. Another relevant area would be Literature, among which we highlight Children's Literature or fairy tales.

In this scenario, the objective of this article is to analyze how the story of Snow White can be used for teaching Symmetry. The guiding question of the research was: Which emergent situations in Snow White's story can be used for teaching Symmetry? Thereupon, we present the foundation on Children's Literature and Teaching Mathematics related to Symmetry. We describe the methodological path used and present possible uses of Snow White's story to teach Symmetry.

CHILDREN'S LITERATURE AND TEACHING MATHEMATICS

When suggesting the use of Children's Literature for teaching Symmetry, it is necessary to take into consideration previous investigations on the importance and use of this resource for teaching, among which we highlighted Cândido, Diniz and Smole (2000), Zacarias and Moro (2005), Reame, Raniere, Gomes and Montenegro (2012) and Alencar and Cunha (2019).

Cândido, Diniz and Smole (2000) report on the encouragement that we should give to teaching Mathematics. Teaching proposals should boost the diversity of exploration of ideas in different mathematical contents, so that they could stimulate students' pleasure in learning, by always relating to the perception of their reality.

Zacarias and Moro (2005) as Candido, Diniz and Smole (2000) highlight that working with Children's Literature brings possibilities for Teaching Mathematics. They explain that despite the number of children's stories, there are still few that work on the specificities of Mathematical content.

In addition, Reame et al. (2012, p 152) considers that the mother tongue is related to Mathematics, as it helps in the interpretation, analysis and synthesis of ideas. According to the authors, these actions must go beyond reading and can be related to everyday life in a way that learning might happen. Thus, they consider the resource of Children's Literature as an enhancer for students' learning.

Alencar and Cunha (2019) consider Children's Literature important for teaching Mathematics and for reflection and study in teacher training. The authors present a formative



sequence developed with a group of teachers using children's stories. They corroborate with the previous authors, as they consider Children's Literature a significant and important resource for teaching Mathematics.

The results of the aforementioned researches reinforce that, from a very early age, children's literature is present in the lives of students, either through a story told or through content transmitted by the media. These contribute to the development of creativity, the imaginary world, fantasy and mathematical concepts.

RESEARCH ABOUT TEACHING SYMMETRY

Regarding the teaching of Symmetry in the early years of Elementary School, Salles et. al. (2012) addresses its study in the early years and its relationship with everyday life. According to the authors, the study of Symmetry enhances skills such as the observation of similarities, differences, and the perception of position. So that it promotes the observation of these geometric concepts in facts and everyday objects, such as in art, and, in our case, in illustrations of Children's Literature stories. According to them, symmetry assists in several mathematical contents such as: opposite numbers that are studied in elementary school and quadratic equations which is taught in high school, when studying the concept of parabola. Therefore, it is essential that students in the early years learn Symmetry content.

Thus, when presenting their activities for teaching symmetry, this article allowed students to identify symmetrical and asymmetrical shapes, as well as where the axes of symmetry meet. The first activity asked them to fold a paper in half so that the two parts coincided and from there they had to show what is a symmetrical shape. The second activity used grid paper for students to draw each symmetrical shape and use the mirror image and the axis of the shapes. Part of the didactic explanations presented to students in the early years of elementary school consists in saying that the shapes are symmetrical when it is possible to fold it so that the two parts coincide. (SALLES et. al., 2012).

Salles et. al. (2012) emphasize that Symmetry arises from the genesis of Geometric thought and its concept arises naturally whenever we notice regularities or patterns that are repeated. Therefore, it is possible to approach Symmetry through folding. Another way is by reflecting a shape or image in a mirror or on water. According to the authors, the use of a



mirror is fun and pleasurable for students, as it is a playful and discovery activity to be able to form/visualize whole objects from their half. Several mirror examples are found in literature (VELOSO; BASTOS; FIGUEIRINHAS, 2009). It also includes point symmetry, performed in relation to a point, seen in natural objects such as flowers (sunflowers and daisies) in which it is possible to identify the Symmetry by rotation.

The study by Rocha, Aguiar, Leão and Nunes (2012) developed a didactic sequence with a third-grade group of elementary school in an institution located in the region of Belém do Pará, using the Marajoara art and the Theory of Didactical Situations. The activities included: i) making shapes by using frames and ii) production of drawings in checkered pattern. As a result, it is concluded that tasks like these enable students to perceive with greater comprehensibility/clarity the characteristics of symmetrical knowledge.

Similarly, Lopes & Silva (2015) developed an experience with the same school year with the use of concrete materials and technology in van Hiele theory. The activities developed were: i) research on Escher's works, in which it was asked for students to observe their symmetries; ii) art with watercolor paper, which made it possible to create art using a symmetrical axis in the sheet; iii) identify the axis of Symmetry in other objects; iv) making dogs and cats by paper folding; v) creating mosaics; vi) use applications in MDMat¹ to identify whether the concepts were appropriated; vii) drawing on squared paper was also used as an evaluative activity. The study showed the need to think about different activities to teach Symmetry and proposes a reflection on the importance of using the manipulable or technological resources in activities. Lopes, Alvez & Ferreira (2015) developed another study in this sense, focusing on Geometric transformations with manipulable materials in elementary school through didactic sequences.

The investigation by Santos & Teles (2012) analyzed seventeen collections of Math textbooks from the early years of elementary school which were approved by the National Textbook Program - PNLD (2010) available until 2012. It identified how the Symmetry content in these textbooks is approached. The results show that:

Symmetry content is addressed in all volumes of the early years, focusing on volumes 3 and 5, as a Geometric content, approaching what the textbook guide

¹ MDmat is the acronym for Digital Media for Mathematics, which is a virtual environment developed by a UFRGS research group guided by the professor Dr. Marcus Vinicius de Azevedo Basso.



proposes (BRASIL, 2010). In addition to this aspect, we observed, in the set of activities analyzed, different artistic modalities: drawing (completing the figure or drawing the symmetrical figure), activities involving the production of paper folding (such as *kirigami* and *origami*), patterns (handicrafts, mosaics and tapestry), paintings (with ink blot and paintings made by well-known artists). The images of architectural works and engravings have more than one artistic modality. The graph below shows how the artistic modalities are distributed in the analyzed collections. (SANTOS; TELES, 2012).

This observation is important since textbooks are one of the materials used by teachers in the classroom and in which we infer that the diversity of activities with Symmetry is valued. Other data mentioned by the authors are that within 200 activities, 178 were about symmetry by reflection and other 22 were about the symmetry of translation. Therefore, the activities presented in textbooks can promote reflections so that students build knowledge about Symmetry.

In addition to the strategies and support materials for teaching (such as mirrors and sights) (VELOSO; BASTOS; FIGUEIRINHAS, 2009), it is important that the teacher knows the mathematical content to be taught, including a deep perspective. This specialized knowledge (CARRILLO-YAÑEZ et al., 2018), includes knowledge of the topic itself - including the concept of Symmetry, definitions of geometric transformation, isometry, reflection, rotation, translation, properties, phenomena of origin and application -, connections to other topics and knowledge of mathematical practice, including ways of defining, proving, and the syntax involved (BASTOS, 2007; LOPES; ALVEZ; FERREIRA, 2015; SILVA, 2012).

From the curricular point of view, we consider the perspective of the national curricular bases which states that “Geometry cannot be reduced to the mere application of formulas for calculating area and volume nor to the immediate numerical applications of theorems about proportionality relations in situations related to bundles of parallel lines cut by secant lines or the Pythagorean theorem” (BRASIL, 2017, p. 270). It is recommended in relation to the teaching of symmetry in the early years of elementary school, that “the study of symmetries should be started by manipulating representations of flat geometric figures in squares or in the Cartesian plane, and using interactive geometry software.” (BRASIL, 2017, p. 272). The specific skills listed in the 4th and 7th grades are: “(EF04MA19) Recognize symmetry of reflection in figures and in pairs of flat geometric figures and use it in the



construction of congruent figures, with the use of graph paper and geometry software” (BRASIL, 2017, p. 293)

This set of research and regulations enabled us to investigate activities that can be developed using Snow White's story, according to the following methodology.

METHODOLOGY

We adopted a qualitative research perspective, of an analytical-descriptive study from documentary sources (written and audiovisual). As for the research context, this is one of the phases of the research project “Creating Children's Literature Stories for Teaching Mathematics”, coordinated by Edvonete Souza de Alencar, supported by Instituto Serrapilheira through which she searches and analyzes stories to identify mathematical content and further teacher training. We adopted an intentional sample of the story *Snow White and the Seven Dwarfs* (figure 1). This is the Brothers Grimm's version, for being one of the classics known by teachers and students, as well as for having elements associated with symmetry, - such as mirror, lakes, etc. - with the potential for didactic teaching that could significantly contribute to teaching Symmetry.




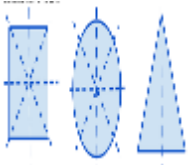

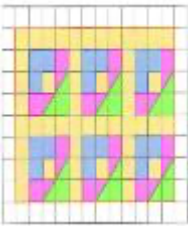

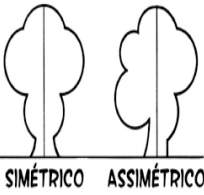
Figure 1 – Snow White
Source: Os Amiguinhos (2017)


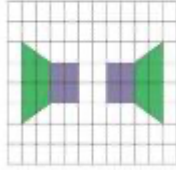

Regarding data collection, we performed exploratory and analytical readings of the original Brothers Grimm's story, which data source was the book by Rideel publisher of 2015 (GRIMM, w/n). We selected excerpts from the text and illustrations that could have their contribution to teaching symmetry analyzed. Some illustrations were taken from the

audiovisual work “Snow White and the Seven Dwarfs” in Portuguese/short story and music/with *Os amiguinhos* (Os amiguinhos, 2017, 19m26s) because the analyzed book lacks illustrations.

As for the analysis of the data, during the readings, we selected the possible excerpts and illustrations that could be used to achieve our objective. The same process was carried with the audiovisual material, which was to watch the full video and the images were analyzed in their context. The analysis categories (Chart 1) were: situation (or episode) of the story; educational activity; associated theoretical references; potentially developed skill of the National Core Curriculum BNCC.

Chart 1. Instrument for analyzing excerpts from the story and activity development

SITUATION	ACTIVITY	ASSOCIATED REFERENCES	BNCC SKILL DEVELOPMENT (EF04MA19)
<p>1 – Castle</p> 	<p>Castle making by folding paper</p>	 <p>Source: https://www.vivadecora.com.br/pro/curiosidades/simetria/</p>	<p>Recognize reflection symmetry in pairs of flat geometric shapes</p>
<p>2 - The house</p> 	<p>Mosaic construction</p>	 <p>Source: Teles, Borba, Monteiro, 2017.</p>	<p>Construction of congruent figures (using graph pattern and geometry software)</p>
<p>3 – The animals, faces, trees and the window</p> 	<p>Symmetric and Asymmetric</p>	 <p>Source: Villaça, 2019.</p>	<p>Recognize reflection symmetry in figures</p>

4 – Reflection 	Symmetry analysis with mirrors	 Source: Atividades de Simetria, 2017.	Recognize reflection symmetry in figures
5- The apple 	Development of symmetric figures	Source: Monteiro, 2017.	Construction of congruent figures (using graph pattern and geometry software)

Source:

In the following section we will present excerpts from the selected stories and illustrations, with the tasks which were proposed.

Symmetry in the story context of Snow White

Situation 1 (the castle) – We begin our story analysis with the first image, which shows the kingdom where Snow White's parents lived. Specifically, the image of the castle allows the observation of what symmetrical objects are and whether the castle can be a symmetrical object or not.

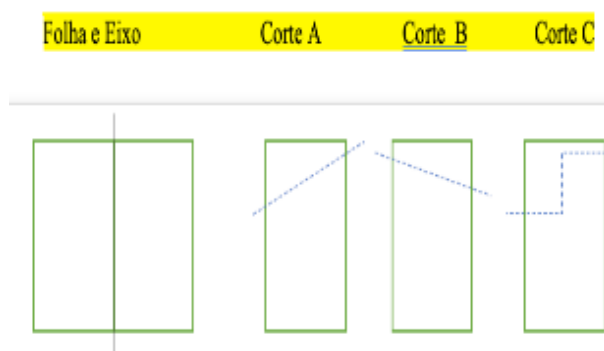


Figure 2 – Castle image
Source: Os Amiguinhos (2017)

Based on this image, it is possible to carry out with the students an assembly of flat figures, figures which were previously marked with their axis of symmetry (image). Providing students to observe that the castle can be symmetrical. It will also allow a moment of

discussion to reflect on the characteristics of what are symmetrical and non-symmetrical objects. One of the possibilities would be making a castle by using a paper sheet, following the steps of **Activity 1**:

1. Take an A4 paper sheet and fold it in half.
2. Crease this fold well and cut (follow the dotted line below).



3. Unfold the paper after cutting it and place it on the board for a group discussion. (Place image of an open sheet after cutting B and C)
4. Explore the characteristics of symmetry: the axis of symmetry. Notice the symmetry of reflection of the different cuts that students made (from each cut above).
5. Discuss students' definitions of what symmetry is, the terms they use, and create a consensus, systematizing a definition mathematically appropriate to the educational level in question.
6. Ask students to make their castle using the same process, identify the axis of reflection symmetry. Compare with a symmetrical castle and a non-symmetrical castle (from Figure 2).

Situation 2 (the house): It house is related to the home of the seven dwarfs (Figure 3), presented later in the story, in the excerpt: “She ran as far as her feet could carry her, and just as evening was about to fall she saw a little house and went inside in order to rest” (Grimm, 1937). This situation allows us to develop **Activity 2** – making a mosaic. With this image it is also possible to build a mosaic with flat figures, allowing students to reflect on the characteristics of what symmetry is. As pointed out by Salles et al (2012), these first actions enable reflection on the axes of symmetry.



Figure 3 – The seven dwarfs' house.

Source: Os amiguinhos (2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>

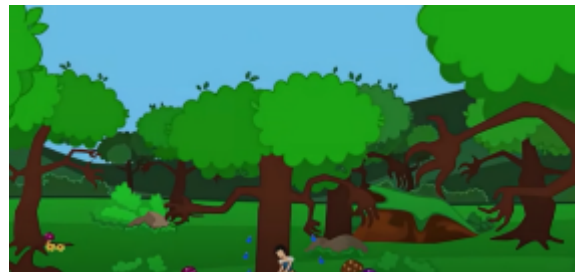
Situation 3 (animals, faces, trees and window): By using other images from the story it is possible to ask students to identify which are the possible symmetrical objects and which are the non-symmetrical objects. This emerged from the excerpt: “Once upon a time in midwinter, when the snowflakes were falling like feathers from heaven, a queen sat sewing at her window. ” (GRIMM, 1937). Aspects of different images can be used (Figures 4, 5, 6, 7 and 8), as they allow the observation of objects, from the initial phase of the story until the moment when Snow White is taken to the forest by the hunter as a request by her stepmother.



Figure 4 – Image of the ebony wood (window)

Source: Os amiguinhos (2017)

<https://www.youtube.com/watch?v=H2r7PbIv4b0>



Figures 5 and 6 – Snow White in the Forest

Source: Os amiguinhos (2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>



Figures 7 and 8 – Snow White's arrival at the seven dwarfs' house

Source: Os amiguinhos (2017)

<https://www.youtube.com/watch?v=H2r7PbIv4b0>

Activity 3 (symmetrical and non-symmetrical): With several figures it is possible to identify and study the characteristics of Symmetry. Students reflect whether animals, faces, trees and the window are symmetrical or not. It also allows students to begin to relate this knowledge to the objects found in their daily lives.

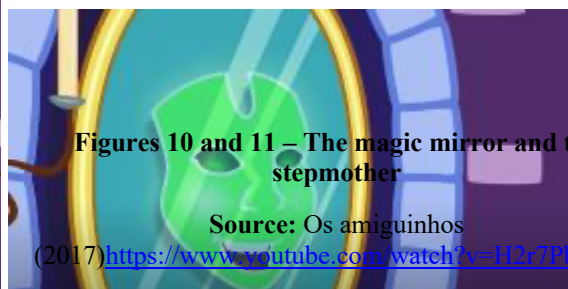


Figure 9 – Living with dwarfs and flowers

Fonte: Os amiguinhos(2017)

<https://www.youtube.com/watch?v=H2r7PbIv4b0>

Situation 4 (reflection). We also selected Figures 10 and 11 that can promote tasks on Symmetry by reflection, as they show moments when the stepmother asks the famous question to the mirror: *Magic mirror on the wall, who is the fairest one of all?*



Figures 10 and 11 – The magic mirror and the stepmother

Source: Os amiguinhos
(2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>



Activity 4 (Symmetry analysis with mirrors): Thus, with figures 10 and 11 it is possible to do tasks such as presenting the mirror as an object that can be used for Math classes. Depending on where the mirror is placed, it is possible to see the other half, according to Salles et. al (2012) and Veloso, Bastos & Figueirinhas (2009). In addition to that, by making a small change in the stepmother's quote, we can play with the students, in which we ask them: *Magic mirror on the wall, is there anyone more symmetrical than me?* By using the mirror, it's possible to make observations about what it would look like to be a symmetrical person in the mirror.

After that, students can make their friend's symmetrical drawing in pairs. This task is called *my friend is a mirror*, in which each pair facing each other will receive a paper sheet containing axes of symmetry and colored pencil for drawing their classmates. This can be complemented with Figure 12, which shows how Snow White sees her bewitched stepmother through the peephole of the seven dwarfs' house. Each student can be asked to symmetrically draw the vision that Snow White had of her stepmother through the peephole.

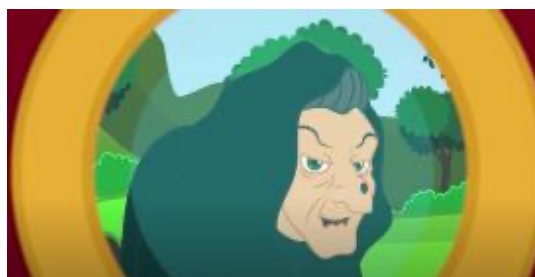


Figure 12 – The bewitched stepmother

Source: Os amiguinhos (2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>

It should be noted that Figure 13 shows the moment when the prince has a vision of the princess who will appear on his way in the water reflection. We are aware that this is something illusory since the reflection that should appear would be that of the prince or of the sky, however, we decided to use this illustration to show that water in appropriate conditions can reflect objects.



Figure 13 – Water reflection

Source: Os amiguinhos (2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>

This figure can inspire students to reflect and identify other objects that also carry out the reflection. Another action, in addition to the story, but which connects with the daily life of each student, would be creating a “facial symmetry test”, using images (printed or digital) of people's faces (the students, their parents or others), in which a supposed vertical symmetry axis can be drawn. The image is shared and reflected so that side by side one can analyze the existence of symmetry between the real and the mathematician. They will be able to verify that the real person is different from both the symmetry on the left and right side of their faces.

Situation 5 (the apple): The most emblematic moment in the story is possibly when the princess is bewitched by her stepmother while eating the apple (Figure 14). With this motto, it is possible to develop the following activity.

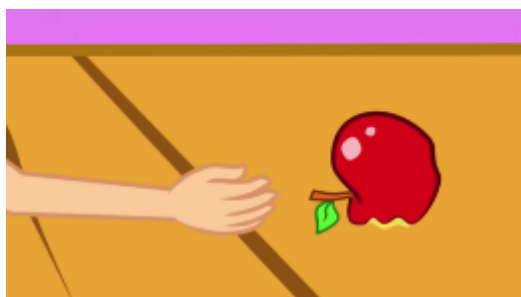


Figure 14 – The poisoned apple

Source: Os amiguinhos (2017) <https://www.youtube.com/watch?v=H2r7PbIv4b0>

Activity 5 (making symmetrical figures). By using this illustration it is possible to reflect if all apples are symmetrical. Which will lead students to notice that they are not. This will boost a new reflection by using fantasy and the plot of Children's Literature. We can tell the students that the poisoned apple given by the bewitched stepmother looked so perfect, that



Snow White couldn't help and ate it. We can propose that students draw a symmetrical apple using graph paper or other material that allows the use of axes.

Given the above, we present some suggestions that can be developed using the story of Snow White for teaching Symmetry. We are aware that other suitable proposals can and should be carried out depending on the educational context.

FINAL CONSIDERATIONS

In this article we analyze how the story of Snow White can be used to teach Symmetry. As the main conclusion of this study, we have that it is possible to develop Geometry activities to teach Symmetry by setting as a context the world-famous story herein referred. Our main results & activities were:

- Activity 1 – making a folded sheet castle, linked to Situation 1 - The Castle - which allows students to develop/explore the concepts/skills of recognizing symmetry of reflection in pairs of flat geometric figures and explain that two figures are symmetrical in relation to a line, when all its points are at the same distance from the line or axis of symmetry.
- Activity 2 – Making a mosaic linked to Situation 2 - The House - in this activity students can draw and reflect the image in different axes of symmetry, involving both the creative side and the ability of visual perception.
- Activity 3 – Symmetrical and non-symmetrical, linked to Situation 3 - Animals, faces, trees and the window - it is possible with this activity to stimulate visual perception, understand the symmetry of reflection, identify and create symmetrical and non-symmetrical figures.
- Activity 4 – Symmetry analysis with mirrors, linked to Situation 4 Reflexes - in this activity it is possible to return to the idea of symmetry axis, where the symmetry axes divide the figures into two symmetrical parts, that is, as if it were the object and its image reflected in the mirror.
- Activity 5 – Construction of symmetrical figures, linked to Situation 5 - The Apple – in this activity there is this possibility to stimulate visual perception in the construction of symmetrical figures and to understand the symmetry of reflection.



We realized that teaching Mathematics by using Children's Literature can be an enhancer for the elaboration of well-planned classes that present Mathematics and connected it to stories, in a playful and contextualized way. The possibility of working in this perspective with mathematical concepts demands a proper planning by the teacher about what and how to teach at each moment.

As for the limits of the study, we highlight the relevance of the activities suggested in different contexts. We know that the diversity of students and teachers' experiences are important variables in each teaching and learning situation. For this reason, we do not intend to bring a definitive reference for teachers, but rather, to promote reflection and alternatives on the teaching of Symmetry through the use of Children's Literature. As a continuation of the research, we plan to carry out more analysis of stories that address Symmetry, as well as other mathematical content.

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O USO DA HISTÓRIA DE BRANCA NEVE PARA O ENSINO DA SIMETRIA NOS ANOS INICIAIS DO ENSINO FUNDAMENTAL

RESUMO

O presente artigo aborda algumas possibilidades de utilização da Literatura Infantil para o ensino-aprendizagem da Matemática, que tem por objetivo analisar como a história da Branca de Neve pode ser utilizada para o ensino de Simetria. Com base em um estudo bibliográfico ressaltou-se a relevância do tema. Partindo do pressuposto que a literatura é uma das ferramentas que podem proporcionar aos alunos a leitura e a compreensão de mundo, apresentamos algumas atividades que permitem explorar o potencial de Literatura Infantil, onde buscamos utilizar trechos e ilustrações dessa história para ensinar simetria nos anos iniciais do ensino fundamental. Como principal conclusão desse estudo, temos que é possível elaborar atividades de geometria para ensinar o tema em questão tendo como contexto a referida fábula, mundialmente conhecida. Esperamos, com este trabalho, apresentar uma forma diferenciada de ensino da Matemática, buscando um aprendizado significativo e despertar o interesse dos professores para a utilização desta estratégia de ensino.



Palavras-chave: Literatura infantil; Ensino de simetria; recurso didático.

EL USO DE LA HISTORIA DE BLANCA DE NIEVE PARA LA ENSEÑANZA DE LA SIMETRÍA EN LOS PRIMEROS AÑOS DE LA EDUCACIÓN PRIMARIA

RESUMEN

Este artículo analiza algunas posibilidades de utilizar la literatura infantil para la enseñanza-aprendizaje de las matemáticas, cuyo objetivo es analizar cómo se puede utilizar la historia de Blancanieves para la enseñanza de la simetría. A partir de un estudio bibliográfico, se destacó la relevancia del tema. Asumiendo que la literatura es una de las herramientas que puede brindar a los estudiantes la lectura y la comprensión del mundo, presentamos algunas actividades que permiten explorar el potencial de la literatura infantil, donde buscamos utilizar extractos e ilustraciones de esta historia para enseñar simetría en los primeros años de la escuela primaria. Como principal conclusión de este estudio, tenemos que es posible desarrollar actividades de geometría para enseñar el tema en cuestión, teniendo como contexto la mencionada fábula, conocida mundialmente. Esperamos, con este trabajo, presentar una forma diferente de enseñar Matemática, buscando un aprendizaje significativo y despertando el interés de los docentes por el uso de esta estrategia de enseñanza.

Palabras clave: literatura infantil; enseñanza de la simetría; recurso didático.

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