

DESIGNING AN EDUCATIONAL COMIC ON GENDER FOR STUDENTS IN THE HUMAN AND HEALTH TOPIC OF GRADE 5 SCIENCE

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Abstract. In the 2018 general education program, gender education content is integrated into the theme “Human and Health” in the 5th-grade Science subject. Comics were identified as an effective pedagogical tool for delivering this integrated gender education, as the visual and narrative format helped elementary students engage with and comprehend sensitive, complex gender-related concepts more readily. Through a systematic process of analyzing, synthesizing, classifying, and organizing relevant theories, the study proposes a framework for designing gender education comics tailored for the “Human and Health” topic in 5th-grade Science instruction. The research results provide elementary school teachers with convenient guidelines for teaching gender education in the “Human and Health” theme of Science class, contributing to improving the quality of science education.

Keywords: Gender education, science, comics, elementary school.

1. Introduction

Gender education is a matter of particular concern worldwide. UNESCO defines comprehensive sexuality education as “A lifelong process of teaching and learning about cognitive, emotional, physical, and social aspects of sexuality. It encompasses sexual, reproductive, and health matters, as well as relationships, sexual orientation, gender identity, and roles, culture, and society. It focuses on the development of life skills” [1]. The quality and impact of gender education in schools depend on the learning environment, teacher capacity, teaching methods, and instructional materials [2]. Research worldwide related to the design and use of comics in teaching shows that comics are an educational tool that motivates and can be used in various teaching and training environments [3]-[4]. Students will be attracted, focused, interested, and enjoy learning, freely create, and easily absorb knowledge [5], all yielding positive results [3]. Thus, using comics in education is an effective approach for gender education.

In Vietnam, gender education is also a matter of concern, as the number of children being abducted and sexually abused is increasing. Elementary school students are required with basic knowledge of gender education as well as self-protection skills to avoid the risk of becoming victims of abuse and sexual exploitation [6]. Knowledge of gender education can be integrated into the teaching of subjects such as social studies, science, ethics, and extracurricular activities at the elementary school level [7]. To improve the quality of gender education, content, methods, and teaching materials are considered [8]. Nguyen Minh Giang et al. (2019) [9] affirmed the role of instructional materials in gender education for Elementary school students. Many other authors

such as Nguyen Minh Giang (2023) [10], Vu Thi Huong Giang (2017) [11], and Nguyen Cam Giang (2017) [12] have demonstrated that comics can be used to develop reading skills for preschool children, and their advantages can be effectively applied in gender education for elementary school students.

The analysis above demonstrates that gender education is highly regarded worldwide and in Vietnam. There have been many research studies related to gender education, particularly in elementary schools. Research directions primarily focus on content, methods, and instructional materials in gender education, including the role of comics in teaching. While comics are an effective instructional tool in various fields, including gender education, due to their positive impacts on students' achievements and attitudes, there is still a lack of research on the design of gender education comics for students in teaching various subjects, especially in elementary-level science.

The Science curriculum consists of six topics: Matter; Energy; Plant and Animal; Fungi, bacteria; Human and health; Organisms and environment. Among them, the topic “Humans and health” contains many favorable contents for integrating gender education into teaching for students. To enhance the effectiveness of gender education in teaching the topic of humans and health, there are various pathways and methods [13]. Based on the analysis of the role of comics in teaching and the requirements for addressing the topic of human health, thereby suggest a process for designing gender education comics for students in teaching the topic of humans and health in the 5th-grade Science curriculum, along with illustrative examples. The research findings serve as suggestions for elementary school teachers to effectively integrate gender education into the topic of humans and health in Science, contributing to enhancing the effectiveness of gender education for elementary school students.

2. Content

2.1. Role of Comics in Gender Education in Teaching the Topic of Human and Health in 5th Grade Science

Comics are stories told through illustrations, often accompanied by text, commonly used for younger audiences [14]. Comics are stories told through a sequence of continuous images accompanied by dialogue bubbles annotated with speech and onomatopoeic words, among others, to convey information to readers most vividly and understandably possible. Comics with gender education content are referred to as gender education comics. Using comics can be an effective strategy for teaching gender education in schools and in the 5th grade science topic of Humans and Health, with the following roles: (1) Comics are an effective and engaging learning medium for students. Comics can be highly captivating and accessible to students, making them a valuable medium for teaching complex or sensitive topics like sexuality [15]. The visual storytelling method of comics can help students better understand and connect with concepts and issues related to gender [16]; (2) Improve student understanding and retention: Studies by Hosler & Boomer (2011) have found that comics can enhance students' comprehension and retention of educational content compared to traditional text-only materials [17]. The combination of text and images in comics helps students process information more effectively; (3) Address sensitive topics: Comics provide a less threatening way for students to engage with sensitive or taboo topics such as gender identity, sexuality, and gender-based discrimination [15]. The storytelling style of comics can make these topics more accessible and understandable to young learners; (4) Integrate gender education: Researchers have proposed frameworks for designing gender education comics that can be seamlessly integrated into the school curriculum, such as within science or health education units [18]. This allows gender education to be systematically implemented throughout the entire curriculum.

Analysis shows comics are a valuable tool for teaching integrated gender education content in 5th-grade science, positively impacting student achievement and attitudes. Well-designed gender education comics can help capture student interest and facilitate active engagement with the lesson content, thereby enhancing the quality of gender education and broader human health instruction. In summary, the strategic use of comics is a promising approach to effectively deliver gender education, fostering student learning and integration of these important concepts.

2.2. Content of Gender Education Comic Books Used in Teaching the “Human and Health” Topic in 5th-grade Science

Based on the research by Le Minh Thi (2022) [19] and Nguyen Minh Giang et al. (2019) [9] on the content of gender education in the elementary school curriculum, and the learning objectives for the “Humans and Health” topic in the 5th-grade science curriculum [13], we have identified the following content that can be integrated into educational comics:

Table 1. Content of Gender Education Comic Books Used in Teaching the “Human and Health” Topic in 5th-grade Science

Gender Education Content	Content of Gender Education Comic Books
<p>Human Reproduction: Explain the significance of human reproduction; Differentiate the biological characteristics and social characteristics of males and females; Demonstrate respect towards peers of the same and opposite genders; Utilize diagrams and certain terminology (egg, sperm, fertilization, etc.) to illustrate the process of human body formation.</p>	<p>1/ Comic: “I’m Going to Have a Little Sister!” * Objective: The comic aims to explore the significance of human reproduction. Through reproduction, each family and lineage can sustain successive generations; All children are born from their parents and inherit certain traits from them. * Summary: The story revolves around two young friends discussing two family photos: their parents’ wedding photo and their current family photo. After one friend explains the increasing number of family members and why they share similarities, both friends understand the importance of reproduction and the genetic traits within each family and lineage.</p> <p>2/ Comic: We Are Different * Objectives: The comic provides knowledge about distinguishing the biological characteristics and social characteristics of males and females; Besides commonalities, males and females have fundamental differences in the structure and function of reproductive organs. At a certain age, reproductive organs develop, causing biological differences between the female and male bodies; Students need to demonstrate respect towards peers of the same and opposite genders. * Summary: The story depicts a surprising and amusing situation when the older sister catches her younger brother standing to urinate. The older sister expresses some confusion to her mother about why her brother stands to urinate. After her mother explains her curiosity, the two sisters understand the gender differences and the lessons about respecting peers of the same and opposite genders.</p> <p>3/ Comic: “Where Do Babies Come from?” * Objective: The comic utilizes diagrams and terminology to illustrate the process of human body formation; It aims to help children understand the process of formation, development, and birth of a baby; Additionally, it aims to help children appreciate the challenges mothers face during pregnancy, learn to care for others, appreciate their mothers, and value themselves. * Summary: The story revolves around the adorable curiosity of a young child when their mother is pregnant. Through their curiosity, two friends explore the process of human body formation together. They also come to understand the challenges mothers face during pregnancy, learn to care for others, appreciate their mothers, and value themselves.</p>

<p>- Stages of Human Body Development: Differentiate several key stages of human development (childhood, puberty, adulthood, etc.).</p>	<p>4/ Comic: “I Want to Be a Grown-Up” * Objective: Reflect the common desire of all children to grow up; Highlight each key stage of human development; Illustrate the process of change in individuals during each stage and the manifestations of puberty in both boys and girls; * Summary: The story follows a young girl who, after repeatedly feeling frustrated about having to always obey what adults say, constantly dreams of becoming a grown-up to have the freedom to do whatever she wants. She often questions her mother about this issue and receives detailed explanations from her mother about each stage of human development.</p>
<p>- Adolescent Health Care: Outlining and Implementing Necessary Measures to Care for and Protect Physical and Mental Health During Adolescence; Explaining the Importance of Maintaining Personal Hygiene, Especially During Adolescence; Developing Awareness and Skills in Maintaining Personal Hygiene, Particularly Genital Hygiene.</p>	<p>5/ Comic: The Pressure of “Flashlights” on the Face * Objectives: To explain the signs of puberty and its causes; To educate on proper hygiene practices (personal hygiene, face washing, appropriate diet, etc.) and behaviors to avoid (using stimulants, etc.) for healthy skin and well-being. * Summary: The comic depicts a child feeling insecure and embarrassed due to being teased by friends for having pimples on their faces. Upon learning about the situation, the child's mother comforts them and takes them to see a doctor. At the doctor's office, the child receives a detailed explanation about the signs of puberty and advice on maintaining personal hygiene to overcome acne during puberty.</p> <p>6/ Comic: The Secret to Successful Puberty * Objectives: To provide knowledge to prepare for puberty: the harmful effects of alcohol, stimulants, pornography, etc., and the benefits of a balanced diet and proper lifestyle; To help children recognize the signs and nature of puberty and develop proper self-care habits during this period. * Summary: A puberty awareness contest was organized at school for fifth-grade students. Four children signed up to participate in order to gain more knowledge to prepare for puberty and to apply what they know about the nature of puberty to develop self-care habits. With the efforts of each individual, the children ultimately won the contest's prize.</p>
<p>Preventing Victimization: Discussing the sense of safety and the right to safety, safeguarding personal integrity, and opposing any form of infringement; Presenting the risks that lead to sexual victimization and strategies for prevention and response when faced with potential harm; Compiling a list of trustworthy individuals for seeking assistance when needed;</p>	<p>7/ Comic: What to Do in the Face of Potential Harm * Objective: The comic aims to raise awareness among children about being vigilant in situations where there is a risk of harm and how to respond to such situations effectively. * Summary: The comic depicts a scenario where a child visits a neighbor's house to play. The neighbor, who is a friend of the child's father, is home alone. Suddenly, the neighbor hugs and touches the child's private area. However, the child knows how to run away from the father's friend, thus avoiding the risk of harm.</p> <p>8/ Comic: Protect Your Body * Objectives: The comic emphasizes the sense of safety and the right to safety, protecting personal integrity, and opposing any form of infringement; It illustrates the body's warning signals when encountering dangerous situations; It presents the risks that lead to sexual victimization and strategies for prevention and response when faced with potential harm; It compiles a list of trustworthy individuals for seeking assistance when needed; It articulates requests for help when oneself or friends are at risk of victimization; It addresses how to cope with personal victimization and unintended pregnancy. * Summary: The comic tells the story of two young friends who, despite their mother's advice, venture to a remote and deserted place for a day of fun. Consequently, the two girls find themselves in a highly dangerous situation. They encounter a stranger who repeatedly approaches them with inappropriate</p>

<p>Articulating requests for help when oneself or friends are at risk of victimization.</p>	<p>touching. The girls raise their voices, protest against the man's actions, and quickly run back home. They recount the incident to their mother and together discuss various potentially risky situations and coping strategies. Additionally, they engage in a conversation with their mother about creating a list of trustworthy individuals who can provide protection and assistance, as well as discussing ways to cope with the unfortunate event of personal victimization.</p>
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Therefore, the topic “Human and Health” in 5th grade offers abundant content conducive to integrating gender education, such as the differences between boys and girls, how our bodies develop, gender diversity, gender equality, stages of human body development, adolescent health care, and prevention of abuse. These are valuable topics for students but are also sensitive issues. To help students overcome their inhibitions and actively engage in learning these topics, integrating gender education content into comic books proves to be an effective approach. Through reading and understanding comic books, students acquire scientific knowledge and gender education. With the knowledge they acquire, students are equipped to “prepare for a safe and effective life in a world where HIV/AIDS, sexually transmitted infections, unintended pregnancies, gender-based violence, and gender inequality continue to pose serious health risks” [1].

2.3. Design Process of Education Comics in Teaching the Topic of Human and Health in 5th-grade Science

We propose the following process for designing educational comics (figure 1) based on the steps for guiding children in creating comics by Nguyen Cam Giang (2017) [17] and the research on the design process for developing gender education materials for first-grade students by Nguyen Minh Giang (2023) [14], combined with our research team’s the practical experience in designing educational comics:

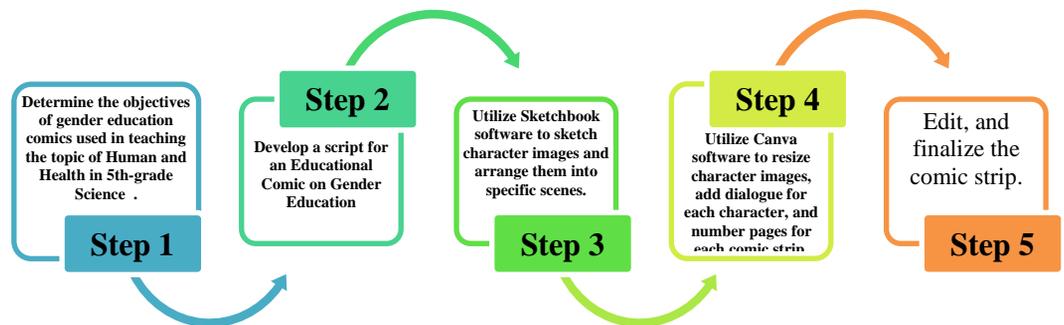


Figure 1. Design Process of Gender Education Comics Teaching the Topic of Human and Health in 5th-grade Science

Step 1: Determine the objectives of gender education comics used in teaching the topic of Human and Health in 5th-grade Science.

We studied the 2018 general education curriculum to list out the learning objectives of the lesson within the topic of Human and Health in 5th-grade Science. Then, we use this as a basis to identify the objectives of the integrated sexuality education comics to be used in teaching that topic/lesson. Determining the objectives serves as a guiding framework for identifying the content and learning outcomes required for educational comics. When summarizing the comic, we focused on the contexts and situations occurring in reality, thereby incorporating the content of sexuality education to ensure alignment with the comic objectives.

Step 2: Develop a Script for an Educational Comic on Gender Education

Based on the lesson requirements and comic objectives, we developed the script content in a specific sequence: First, the comic title was determined. Then, the setting was established, and the main storyline was outlined. Various situations were depicted, and character dialogues, plot twists, and supporting roles were selected. To appeal to elementary students, the story contains situations relatable to their daily lives and is suitable for their psychological development. It also integrates gender education, maintains scientific accuracy, and ensures logical consistency. The complete comic script was composed as a written document, which will serve as the basis for designing the comic using Sketchbook and Canva software.

Step 3: Utilize Sketchbook as a software to sketch character images and arrange them into specific scenes

Sketchbook allows users to visualize ideas and construct character images through simple operations. Users can easily edit, resize, or zoom in/out on images, and apply color schemes with a range of optimized tasks. The software is effective for creating artwork, including comics, even for beginners. Sketchbook offers 150 diverse brush types and a zoom function to refine delicate strokes and curves, allowing characters to have a vivid and meticulous appearance. The blank page can be adjusted in size, position, and pages can be added for convenience and layout intentions. Artists can sketch rough outlines using pencils, and then select various brush types and colors to apply to the character images and objects. The completed drawings will be saved as PNG files. The visual scenes must ensure aesthetic appeal, logical arrangement, and consistency. Characters with significant dialogue roles will be sketched with larger proportions. The colors must be vibrant and eye-catching to stimulate student interest. Consistency in character characteristics across illustrations is essential.

To sketch character images, users need to follow these steps: 1/Download the Sketchbook app from the App Store (for iOS) or Google Play Store (for Android); 2/ Open the app; 3/Add a drawing page; 4/Select a pencil tool and customize the size; 4/ Sketch the rough outline of the character; 5/Choose a brush and color; 6/Color the character and obj

Step 4: Utilize Canva as a software to resize character images, add dialogue for each character, and number pages for each comic strip

With a rich resource of images, diverse layouts, and a wide range of fonts, details, elements, and functions, Canva effectively supports resizing character images and adding dialogue for each character. The process of resizing character images and adding dialogue for each character is carried out as follows: 1/Open the Canva and log in; 2/Select the size for comic strip pages: First, users click on the “Create design” section at the top right corner of the Canva homepage interface. Next, choose the preferred size under the “Custom size” option; 3/Click on the “Upload” section to upload the PNG file saved in Step 3 to Canva; 4/Adjust the size and position of the character images to fit the page size of the comic strip; 5/Add speech bubbles for each character: Under the “elements” section, search for keywords such as speech, textbox, or frame to find and select speech bubbles. Then, under the “text” section, choose the “Add body text” option to add dialogue or narration. Users select a legible font and an appropriate size for the layout of each comic strip page. In this step, teachers need to pay attention to the placement of speech bubbles based on the reading sequence typical for Vietnamese readers, aiming to help students read in the correct sequence and understand the content of each page adequately; 6/Number pages: Under the “elements” section, users can select different types of numbers to number the pages of the comic strip. It is advisable to maintain consistency by placing the page numbers in a corresponding position for all pages of the comic strip. For example, page numbers can be placed in the top right corner; 7/Finalize and save the drawing.

Step 5: Edit and finalize the comic strip.

By using Canva, comic designer can review the entire comic strip by clicking on the grid icon at the bottom right corner of the screen. This provides an overview of the overall layout

and images of the comic. From there, adjustments can be made to certain details, arranging positions to ensure consistency and harmonious connection between pages, reviewing spelling errors, and aiming for product perfection. Then, save the product as a PDF or PNG file for use in the teaching process.

2.4 Illustrative Example of the Gender Education Comic Strip Design Process in Teaching the Topic of Human and Health in 5th-grade Science

Below is an illustrative example of the aforementioned process in designing a gender education comic strip for teaching the lesson “Preventing Sexual Abuse” in 5th-grade Science.

Step 1: Determine the objectives of gender education comics used in teaching the lesson “Preventing Sexual Abuse” in 5th-grade Science

According to the 2018 General Education Program for Science, the specific requirements for the lesson “Preventing Sexual Abuse” in 5th-grade Science are as follows: “Being able to talk about feelings of safety and the right to safety, protecting personal integrity, and opposing any form of abuse; Understanding the risks leading to sexual abuse and ways to prevent and respond to potential risks of sexual abuse; Being able to list trusted individuals for help when needed, and stating the requirements for help when oneself or friends are at risk of abuse”. Based on the aforementioned requirements, we establish the objective of the gender education comic strip used in teaching the lesson as follows: The comic aims to raise awareness among children about being vigilant in situations with the risk of sexual abuse and how to respond to such situations. From the topic's requirements and the story's objective, we summarize the story: The story revolves around a young child visiting a neighbor's house to play. The neighbor is a friend of the child's father and is home alone. Suddenly, the neighbor hugs and touches the child inappropriately. However, the child knows how to escape from the father's friend and avoid the risk of abuse.

Step 2: Develop a Script for an Educational Comic on Gender Education

Based on the specified lesson requirements and the objectives of the comic, the storyline has been determined. We are now creating the content for the comic script. The main character is a young child named Ha Anh, along with supporting characters Uncle Hai and Ha Anh's mother. The following is the complete script of the story: “Ha Anh's house is next to Uncle Hai's house. Uncle Hai is Ha Anh's father's friend. Ha Anh likes Uncle Hai very much because he often takes Ha Anh out to play and gives her many gifts. One day, Ha Anh went to Uncle Hai's house alone to play, and Uncle Hai was home alone. On the table in Uncle Hai's house, there was a very beautiful necklace. Ha Anh was attracted to that beautiful necklace. The little girl pointed at the necklace and said:

“Wow, Uncle Hai, your house has so many beautiful things. Can I look at it, please?”

Uncle Hai happily replied, “Of course.”

While Ha Anh was engrossed in admiring the necklace, Suddenly, Uncle Hai hugged and touched Ha Anh's private part. Ha Anh was extremely frightened, her heart pounded rapidly. Ha Anh shouted, “Uncle, stay away! This is my private part, you're not allowed to touch it.”

In response to the girl's panic, Uncle Hai showed an interested expression and said, “Good girl Ha Anh! Now, you are a young lady.”

Ha Anh said, “Uncle, take your hands off me, you're not allowed to touch me like that!” Ha Anh spoke while trying to break free from Uncle Hai's arms, rushed towards the door, and ran back home.

At this moment, Uncle Hai said “This is our secret. You must absolutely not tell anyone about this, otherwise, everyone will stay away from you and no one wants to play with you! I will not let you get away with it if you tell!”

When she got home, Ha Anh - full of pent-up anger - told everything to her mum, “Mom, I have just been to Uncle Hai’s house. He grabbed me in the private part but I tried to get out.”

Ha Anh recounted everything to her mother. Her mother listened silently and then embraced her, saying, “You have done very well! You knew how to protect yourself against the risk of being abused.”

In response to her mother’s words, Ha Anh said, “I will definitely tell my friends to be cautious so that no one will be harmed anymore.”

Mother said, “Good girl, darling!”

From then on, Ha Anh never went to see Uncle Hai again. She also told many of her other friends to protect themselves from the risk of abuse .

Step 3: Utilize Sketchbook to sketch character images and arrange them into specific scenes

Based on the script developed in Step 2, we will now sketch the distinctive features of each character using Sketchbook. The characters will be drawn in a cartoon style with round, playful lines. Using a 0.5mm pencil tool allows for easy sketching on the device, similar to hand-drawing on paper. When sketching, it is important to ensure consistency in the characteristics of each character across the panels. Characters who have more dialogue and play a significant role in conveying the story’s content and ideas will be sketched in larger proportions. In the comic “What to Do When Facing the Risk of Violation,” the main character, Ha Anh, is sketched with short hair and cute little bangs, which are her distinctive features. The yellow dress symbolizes vibrant energy, positivity, and cuteness (Figure 1). Uncle Hai will have a green shirt, representing a contrasting cool color to Ha Anh’s warm color palette (Figure 2). Additionally, Ha Anh’s mother will be dressed in the same color tones as Ha Anh, in orange and red (Figure 3).



Figure 1. Ha Anh



Figure 2. Uncle Hai



Figure 3. Ha Anh’s Mother

After sketching the character images, we need to place them in the appropriate positions on each page of the comic to match the context. Next, save all the comic panels as PNG files.

Step 4: Utilize Canva to resize character images, add dialogue for each character, and number pages for each comic strip

The process of adjusting the sizes of character images, adding dialogue for each character in the comic “What to Do When Facing the Risk of Violation,” and numbering the comic pages is carried out according to the steps outlined in Step 4 of the procedure presented in Section 2.3. Under the “Custom Size” section, we have selected the dimensions of 20cm x 25cm for the comic. We then proceed to adjust the size and position of the character images of Ha Anh, Uncle Hai, and Ha Anh’s mother to fit the context of each comic page. Next, we add speech bubbles for each character. The color of the speech bubbles will be consistent with the character lines: pink for Ha Anh and her mother, and corresponding green for Uncle Hai. We then select the “Text” option and choose “Add Body Text” to incorporate dialogue and narration. The placement of speech bubbles follows a left-to-right order to align with the Vietnamese reading sequence, ensuring that students read the content correctly and comprehend the narrative of each page. Finally, we number the comic pages at the top-right corner of each page.

Step 5: Edit, and Finalize the Comic

We will proceed to review each comic page, considering the images, layout, dialogue, character sizes, etc., to refine the product. The final version will be saved in both PDF and PNG formats. Below is the complete comic that we have constructed:

WHAT ACTION DO WE NEED TO AVOID THE RISK OF BEING ABUSE?



The comic “What to Do When Facing the Risk of Violation” teaches children not to allow anyone to invade their boundaries and protect themselves from the risk of violation. Teachers can incorporate the above comic into the topic of “Preventing the risk of violation”. Here are some specific ways to use it: *Use it as a warm-up activity*: The teacher distributes the comic to students and asks them to read it and answer questions such as: What unsafe situation did Ha Anh encounter? How did Ha Anh respond to that situation? Do you agree with her response? Why or why not? After students answer the questions, the teacher can lead into the lesson by stating that this is just one situation with the risk of violation. In reality, we may encounter many other situations like this, so what should we do in such situations? Specifically, we will study the topic of “preventing violation.” *Use it for introducing new knowledge*: The teacher presents the situation from the comic and asks students to study page 1, page 2, and the dialogue of Uncle Hai on page 3. Then, the teacher asks students to predict what Ha Anh will do in that situation. The teacher continues by having students study the subsequent pages of the comic. This way, students will easily recognize the situations with the risk of violation and the appropriate responses. *The teacher can also use the comic for practice and application activities as follows*: The teacher removes some dialogues from certain parts of the comic, such as Ha Anh's dialogue on page 3, “Uncle, please stay away. This is my private space, and you're not allowed to touch it.” On page 5, the teacher can remove the dialogue “Ha Anh pulls away from Uncle Hai's filthy embrace, runs towards the door, and goes back home.” Then, the teacher asks students to study the comic and write the missing dialogues in those empty speech bubbles. *The comic can be used for application*

activities as well: Based on the comic that students have studied, the teacher asks them to create another comic that depicts a different situation with the risk of violation and the preventive measures.

Gender education comics can be effective teaching tools. The vivid imagery, relatable stories, and appealing visuals can stimulate student interest and engagement. Well-designed comics that align with lesson objectives can guide students to understand gender education and broader human health topics. However, teachers should use comics judiciously as supplementary visual aids, integrating them at appropriate moments based on the lesson and classroom dynamics. Thoughtful implementation is key to maximizing the effectiveness of gender education comics in 5th-grade science instruction.

3. Conclusion

Through the analysis, synthesis, classification, and systematization of research works related to gender education, research works related to the use of comics in teaching, and based on the analysis of the role of comics in teaching and the required criteria, we propose the content of gender education comics in the topic of human and health for 5th-grade science. At the same time, we study the proposed process of designing gender education comics for students on the topic of human beings and health in 5th-grade Science, accompanied by illustrative examples. The constructed comics can be used in various stages of the teaching process, such as introducing the topic, forming new knowledge, practicing exercises, or applying knowledge, contributing to enhancing the effectiveness of gender education for elementary school students. Through the aforementioned process, teachers can design their own comics to use for gender education on the topic of human beings and health in 5th-grade Science. In further research, we will refine and conduct pedagogical experiments to provide more comprehensive and conclusive findings on this research topic.

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