

## DEVELOPMENT OF THE LET'S PLANT TREES COMIC BOOK ON STUDENTS' LEARNING OUTCOMES IN IPAS LESSONS IN ELEMENTARY SCHOOLS

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### ABSTRACT

In the intricate and multifaceted process of learning, it is imperative to utilize effective learning media in order to achieve the highest possible learning outcomes that align seamlessly with the established educational objectives. Among the various forms of learning media available, one particularly innovative and engaging medium that has the potential to significantly enhance student learning outcomes is the utilization of comics. In the context of its implementation within the learning process, comics play a uniquely advantageous role in facilitating the improvement of educational results. This is largely due to the fact that when students engage in comic-based learning activities, they are more likely to engage in critical thinking, cultivate their imaginative capabilities, and foster a heightened sense of curiosity regarding the educational material presented within the comics. Consequently, the primary aim of this research endeavor was meticulously designed to assist students in achieving commendable learning outcomes by incorporating comic media as a strategic tool to support and enrich the material delivery process. Through this approach, it is anticipated that students will not only enjoy the learning experience but will also gain a deeper understanding of the subject matter at hand. Ultimately, the integration of comics into the educational framework seeks to create a dynamic and stimulating environment that promotes active engagement and comprehensive learning among students.

### Article History

Submitted:

2 September 2025

Accepted:

17 November 2025

Published:

31 December 2025

**Keywords:** *Learning Results, Comics, Students, Science.*

### A. INTRODUCTION

Education can be comprehensively understood as a meticulously orchestrated endeavor aimed at cultivating an enriching learning environment and a systematic learning process, thereby enabling students to fully realize and harness their inherent potential to its utmost capacity. Through the pivotal influence of education, individuals are empowered to make informed decisions regarding their future trajectories, which inevitably has a profound and lasting impact on the overall quality and progress of a nation as a whole. This crucial aspect of education is enshrined in the National Education System Law No. 20 of 2003, as highlighted by Ahmad Susanto in his 2014 publication. The fundamental importance of education lies in its capacity to not only enhance individual capabilities but also to play a vital role in molding the character and cultural fabric of a nation that is both dignified and worthy, with the overarching goal of illuminating and enriching the collective life of the populace. Furthermore, education is instrumental in nurturing the potential of children, guiding them to evolve into individuals who are not only faithful and devoted to God Almighty but also possess noble attributes, maintain good health, acquire knowledge, demonstrate competence,

exhibit independence and creativity, and ultimately transform into democratic and responsible citizens who actively contribute to society.

In order to attain the high standards of quality education mandated by the National Education System, the indispensable role of educators cannot be overstated, as they are the linchpin in the educational process. Educators are tasked with the vital responsibility of actively engaging in the provision of quality education to their students, thereby ensuring that each learner receives the knowledge and skills necessary for their development. Those educators who are deeply motivated and unwaveringly committed to enhancing the quality of education for their students will invariably employ a myriad of strategies and resources to facilitate effective learning experiences, whether it involves implementing various instructional methods or utilizing tools and resources that bolster student comprehension during the learning process. Among the myriad of supportive resources that can significantly enhance student understanding is the integration of learning media into the educational framework. As articulated by Gagne in the work of Sadiman et al. (2012: 6), media encompasses any and all components present in a student's environment that have the potential to stimulate and enhance their learning experiences. The strategic incorporation of learning media within the educational process not only fosters a sense of enthusiasm for learning among students but also becomes particularly effective when the media employed is innovative, contemporary, and capable of captivating the attention of the learners. Specifically, learning media that prioritize visual elements are particularly advantageous in igniting the interest and enthusiasm of students, especially those in elementary education. A prime example of such media that emphasizes visual engagement is the utilization of comics.

Comic books can be comprehensively defined as a form of educational media that is creatively packaged in the format of illustrated narratives, which serve to clarify complex concepts and facilitate the construction of knowledge within students' minds. Comics represent a unique genre of children's literature characterized by the presence of images and sequential panels (boxes) that are meticulously arranged to form a cohesive story, often accompanied by text bubbles that convey dialogue and narration, as described by Burhan Nurgiyantoro in his 2013 publication on the subject (2013: 409). The illustrations found within comic books are not merely decorative; rather, they serve as vivid representations of scenes and events, effectively capturing the essence of the narrative by showcasing both characters and backgrounds in a visually appealing manner. Moreover, the text balloons integrated into these illustrations play a crucial role in reinforcing and amplifying the intended meaning that the comic artist—or creator—seeks to impart to the reader, thereby enhancing the overall comprehension and engagement of the audience with the storyline being presented.

At present, it is essential to recognize that comics have evolved beyond their traditional role as mere sources of entertainment for students; they have also emerged as significant educational tools that can facilitate learning in various subjects. The act of engaging with comics offers students the opportunity to enhance their imagination and foster creativity, particularly for those young learners who have yet to acquire

proficient reading skills. As articulated by the esteemed psychologist Seto Mulyadi, the experience of reading comics plays a crucial role in helping children visualize and conceptualize their imaginative thoughts, especially in cases where they have not yet developed the ability to read independently (Nick Soedarsao, 2015: 497). When comics are integrated into the educational framework as a medium of instruction, students are likely to find it considerably easier to comprehend the material being presented, thereby significantly reducing the chances of misinterpretation or misunderstanding. This phenomenon becomes even more pertinent in subjects such as science, which often require students to engage in processes of memorization, recognition, and the connection of abstract facts and concepts that are not readily observable. It is quite common for educators to rely heavily on traditional methods, such as rote memorization and direct lectures, as primary teaching strategies, which can inadvertently lead to a sense of monotony and cognitive fatigue among students during the learning process.

The realm of IPAS learning is intrinsically linked to the experiences of human life, encompassing a wide array of behaviors and fundamental needs that are inherent to individuals. As noted by Sumaatmadja in Hidayati (2008:124), the overarching aim of IPAS learning is to cultivate students into responsible and informed citizens who possess the knowledge, skills, and social awareness necessary to contribute positively to themselves, their communities, and their nation as a whole. To successfully realize the objectives set forth for IPAS learning, it is imperative for educators to skillfully design and implement innovative forms of learning media that are capable of actively engaging students and enhancing their understanding of core concepts, the material being taught, and their overall problem-solving abilities in response to challenges posed by educators. This approach ultimately aims to improve student learning outcomes, which are defined as the observable changes in behavior that learners exhibit following participation in educational activities. According to Nana Sudjana (2009:3), the outcomes of student learning can be viewed as behavioral transformations that encompass a comprehensive range of dimensions, including cognitive, affective, and psychomotor domains, which collectively contribute to a student's overall development.

In light of the findings derived from preliminary classroom studies, researchers have identified several pressing issues related to the implementation of IPAS learning. These issues include the insufficient utilization of diverse learning media by educators, who often rely solely on student textbooks as their primary educational resource, as well as a concerning trend of low academic performance among students, as evidenced by their average scores in IPAS subjects, which frequently fail to meet the minimum passing grade (KKM) requirement of 67%. Furthermore, insights gleaned from a questionnaire designed to gauge students' perceptions of the student textbooks used for IPAS material revealed several critical shortcomings: firstly, many students expressed difficulty in independently comprehending the content presented in the student books; secondly, it was noted that these student books were predominantly text-based, limiting engagement; and thirdly, it was observed that the textbooks did not

adequately ignite or stimulate students' natural curiosity about the subject matter. From this analysis, it can be conclusively inferred that the overall learning process lacks the necessary elements of engagement and excitement, which has a direct correlation with the persistently low academic achievement levels exhibited by students in their educational pursuits.

In light of the insights gleaned from the aforementioned IPAS learning framework, it has become evident that the existing conditions have failed to facilitate the development of meaningful educational experiences, primarily due to the educators' lack of initiative in devising effective media solutions to address these issues. This observation resonates with the perspective articulated by Sudjana (2011:68), who asserts that comic books serve a pivotal role in the educational landscape owing to their unique capacity to foster a heightened interest in both reading and learning among students. The execution of IPAS learning that integrates problem-based learning through the utilization of comic media has the potential to bridge the gap between academic content and real-world contexts by presenting relatable problems within the comics, thereby enabling students to actively construct their own knowledge through experiential learning as they engage with the challenges posed.

Furthermore, the analysis indicates that comic media possesses the ability to significantly enhance students' capacity for analytical thinking and critical problem-solving, allowing them to identify, explore, and effectively communicate various concrete issues while utilizing a diverse array of intellectual skills, ultimately fostering a continuous learning process. Drawing from the outcomes of comprehensive interviews and systematic observations that have been meticulously conducted, it has been noted that students exhibit a marked increase in engagement and interest in learning activities when the instructional material is presented with a strong emphasis on visual elements, with the incorporation of comics being a prime example of this approach.

## **B. RESEARCH METHODOLOGY**

The methodological approach adopted in the context of this particular study was a comprehensive literature review, which serves as a foundational research strategy in many academic inquiries. The researcher meticulously executed this approach by systematically identifying, critically examining, rigorously evaluating, and thoughtfully interpreting all relevant studies that were accessible in the existing body of literature. By employing this methodical process, the researcher was able to effectively review and pinpoint numerous journals or scholarly articles that corresponded to the specific keywords "Comic Development on Student Learning Outcomes in Science Education in Elementary Schools," thereby ensuring a focused and relevant examination of the topic at hand. This thorough investigation not only highlights the importance of the selected keywords but also underscores the significance of synthesizing existing research to draw meaningful conclusions about the impact of comic development in enhancing educational outcomes for students in elementary science education.

## **C. RESULTS AND DISCUSSION**

### **Komik**

Gumelar (2011:2) elucidates that comics represent a meticulously curated sequence of images that are organized in a manner that aligns with the narrative and the intentions of the creator, thereby facilitating ease of comprehension for readers, predominantly utilizing text balloons, text effects, and written words as substitutes for auditory elements. Furthermore, comics can also be characterized as a specific genre of cartoons that skillfully convey character development and intricately narrate a story through a sequence that is deeply interwoven with the visual imagery, all intended to provide entertainment and enjoyment for the audience. In a similar vein, Sudjana and Rivai (2013:64) assert that comics constitute a particular variant of cartoons that effectively reveal the nuances of character attributes and depict a storyline in a sequence that is intimately connected to the illustrations, with the overarching aim of both entertaining and educating the readership.

Comics can indeed be described as a unique form of cartoon that not only expresses the essence of various characters but also adeptly acts out a narrative in a sequence that is closely intertwined with the visual representations, all meticulously crafted to captivate and engage readers. The utilization of comics as an educational medium is particularly advantageous because it fosters a love for reading among students. In addition to featuring visually appealing illustrations, comics are equipped with engaging storylines that pique students' curiosity, thereby motivating them to delve deeper into the narrative without requiring direct encouragement or instructions from their teachers. One of the strategic initiatives aimed at enhancing student learning outcomes is the incorporation of compelling and captivating learning media, such as comics, into the educational framework.

### **Tree Planting Action**

The activity of tree planting represents a deliberate and strategic endeavor aimed at introducing trees or various types of plants into a designated location or area that has been selected for this purpose. In the context of this article, the focus is specifically on the tree planting initiative being conducted within the confines of a public park, which serves as a vital ecological space for both nature and community interaction. Within the illustrative comic that has been skillfully crafted by the students, they keenly observe and depict the surrounding park environment, which unfortunately suffers from a significant amount of litter and is prone to flooding, primarily as a result of careless waste disposal by individuals and the onslaught of heavy rainfall during certain seasons. This initiative centered around tree planting is not only intended to mitigate the environmental issues related to trash accumulation but also aims to actively contribute to the preservation and enhancement of the natural environment. Furthermore, this particular tree planting exercise is anticipated to instill and nurture a profound sense of mutual cooperation and collaborative spirit among the participating students, thereby promoting teamwork and community engagement. The depiction of the tree planting activity within our comic indeed effectively illustrates and utilizes the park setting as its backdrop. Nevertheless, it is our sincere hope that the incorporation of this comic as an educational medium for Integrated Science and Social Studies (IPAS) will serve to enlighten students and cultivate their awareness regarding the

importance of loving and caring for their immediate environment, whether that be within their homes, educational institutions, or the broader community. In addition to this, engaging with the comic is also envisioned to encourage a deeper sense of mutual cooperation, collaboration, and harmonious relationships among students, thereby fostering a positive social dynamic within their peer groups.

The subsequent points outlined below represent a selection of the principal themes and subject matter contained within the comic book titled "Let's Plant Trees!", a resource that we have meticulously designed and implemented to enhance and facilitate educational experiences within the classroom setting, serving as an effective medium for learning:

1. The text encompasses vital information detailing the various methods and best practices for ensuring the protection of our environment, particularly emphasizing the critical importance of disposing of waste in designated receptacles specifically designed for such purposes.
2. It also provides guidance on the appropriate reactions we should adopt when faced with the unfortunate sight of an unkempt environment littered with refuse, advocating for proactive measures such as picking up the discarded items and ensuring they are placed in a trash bin where they belong.
3. The significance of maintaining both the cleanliness and sustainability of our natural surroundings cannot be overstated, as engaging in responsible actions such as proper waste disposal directly contributes to the reduction of environmental pollution and plays a crucial role in preventing flooding incidents. This is primarily due to the fact that floods often arise as a direct consequence of the detrimental habit of littering, which obstructs natural waterways. When the rainy season approaches, a substantial amount of waste can become trapped within these channels, leading to blockages that ultimately result in severe flooding events.
4. Furthermore, this information serves to educate and inspire us towards fostering a lifestyle that prioritizes living in harmony with one another and our surroundings, while simultaneously encouraging collective cooperation and collaboration to address and mitigate the challenges posed by environmental degradation.

Drawing upon the themes and messages conveyed within the comic titled "Let's Plant Trees!", one can gain a profound understanding and appreciation for the critical significance of both preserving and diligently maintaining the cleanliness of the environment that surrounds us in our daily lives. This understanding is rooted in the fact that nature serves an invaluable and indispensable role in the overall well-being and quality of human existence. Furthermore, the values of togetherness and collaborative effort among individuals are equally essential, as they contribute positively to the fabric of life in various settings, including but not limited to the home, the educational institutions we attend, and the broader community in which we reside. In essence, the interplay between environmental stewardship and social cooperation fosters a healthier and more harmonious living experience for all. Consequently, it is

imperative for us to recognize these interconnected aspects as we strive to create a sustainable future. Ultimately, the insights derived from such narratives encourage active participation in both environmental conservation and community-building initiatives.

### **The Effect of Comics on Students' Science Learning Outcomes**

The incorporation of comic books and graphic narratives into the educational sphere has demonstrated a remarkably substantial impact on the academic performance and overall learning outcomes of students, particularly in the domains of science and social studies, commonly referred to as IPAS, at the elementary school level. Through the implementation of carefully designed comic illustrations and narratives, the educational attainment of students utilizing these comics reveals a pronounced enhancement when juxtaposed with traditional or conventional pedagogical approaches that typically rely heavily on text-based instruction. Notably, comics possess the unique ability to render the learning experience more contextual and engaging, which serves to facilitate a higher level of active participation and involvement from students throughout the educational process. As a versatile medium for instruction, comics present numerous advantages worth considering in the educational framework. To begin with, comics are adept at delivering information through visually appealing formats that captivate the attention of young learners, thereby aiding their comprehension of complex concepts that might otherwise prove challenging to understand if presented solely through written text. Furthermore, the integration of comics into the curriculum has the potential to significantly bolster students' enthusiasm for reading, which subsequently enhances their overall literacy skills and capabilities. Additionally, the incorporation of comics into the learning environment can foster a more interactive and collaborative atmosphere within the classroom, encouraging students to engage with one another and participate more fully in the learning experience.

In the context of educational practices within Indonesia, the utilization of comic books aligns harmoniously with the broader initiatives aimed at enhancing the quality of foundational education. By leveraging media that resonates with the interests and preferences of children, educators can craft a more impactful and meaningful learning experience that resonates with their students. In this regard, it is evident that students who take on active roles in the learning process often exhibit enhanced educational outcomes compared to their more passive counterparts. The application of comic-based media in the realm of science education within elementary schools holds immense potential to elevate student learning performance significantly. With the appropriate pedagogical strategies and support mechanisms provided by educational institutions, this medium could serve as an exceptionally effective tool, empowering students to grasp the subject matter in an enjoyable and interactive manner.

Moreover, the strategic use of comic books as instructional media within the IPAS curriculum at the elementary school level manifests numerous beneficial effects that contribute positively to the enhancement of student learning outcomes. By connecting IPAS lessons to the engaging world of comics, educators can encapsulate educational

content within visually stimulating images that not only draw students' attention but also pique their interest in the subject matter being taught. Furthermore, the employment of comics as an educational medium has the added advantage of improving students' reading abilities and fostering a greater interest in literacy and reading activities. Consequently, this increased engagement in reading will lead to more frequent reading habits and a deeper curiosity regarding the meaning and context of the materials they consume. This enhancement in literacy and comprehension skills will undoubtedly have a significant impact on students' academic performance in science subjects, particularly those related to the natural world and social interactions within their communities and environments.

#### **D. CONCLUSION**

Following a comprehensive and meticulous examination of existing scholarly literature, it has become increasingly evident that the incorporation of comic books as an educational medium possesses a multitude of distinct advantages and inherent strengths; therefore, we have made the deliberate decision to utilize this innovative medium as a strategic approach to enhance the learning outcomes of students, particularly in the realms of science and technology subjects. Our aspiration is that this comic book learning medium will serve as a valuable resource for educators, enabling them to convey complex material and essential knowledge to students with greater ease and effectiveness. The rationale behind this choice stems from the fact that comic book learning media create an engaging and stimulating atmosphere, as they encompass not only written text that fills the pages but also visually captivating animated illustrations that effectively draw the attention of students, thereby imparting learning experiences and impressions that resonate with the Integrated Science and Technology (IPAS) curriculum, particularly with regard to the themes of environmental stewardship and harmonious living, as vividly illustrated in the comic book we have meticulously developed. Ultimately, our goal is to foster a more dynamic and interactive learning environment that not only promotes academic achievement but also instills a deeper understanding of critical ecological concepts among students, encouraging them to become more conscientious and informed individuals in today's rapidly evolving world.

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