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Artificial Intelligence and Transformation of Student Academic Behavior at Sunan Ampel State Islamic University, Surabaya, B. F. Skinner's Perspective

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Abstract *This study aims to explore the role of Artificial Intelligence (AI) in transforming students' academic behavior at the State Islamic University of Sunan Ampel Surabaya through the lens of B.F. Skinner's reinforcement theory. The background of this research focuses on the potential of AI to support learning, while also presenting challenges, particularly concerning academic ethics. This study employs a descriptive qualitative approach with in-depth interviews, observations, and documentation to uncover students' motivations and behavior in using AI. The findings indicate that AI has a dual role as both positive and negative reinforcement in students' academic behavior. Ethical use of AI can enhance independence, engagement in learning, and academic quality. Conversely, AI also has the potential to facilitate unethical academic behaviors through negative reinforcement, such as plagiarism and task completion without deep understanding. This study suggests the importance of implementing positive reinforcement and strict disciplinary measures to encourage responsible AI usage in academic settings.*

Keywords *Artificial Intelligence, academic behavior, positive reinforcement, negative reinforcement, academic ethics, B.F. Skinner theory.*

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1. INTRODUCTION

Artificial Intelligence (AI) has become one of the most influential technologies in the last decade, especially in the world of higher education (Katsamakas dkk. 2024). This technology not only presents opportunities, but also challenges in creating a more interactive and adaptive academic environment (Mallillin 2024). AI is able to speed up the learning process, improve academic results, and facilitate more efficient management of educational institutions (Stukalina dan Zervina 2024). The use of AI in the academic sphere provides positive value, as is the result of research conducted in Lebanon and Saudi Arabia. This research shows that students' knowledge and attitudes towards AI are quite positive, thus contributing to the use of AI in teaching and learning activities (Kharroubi dkk. 2024).

In the midst of this progress, problems such as academic integrity and algorithmic bias have

emerged that can affect student academic behavior (Tindle dkk. 2023). One of these problems occurred among students at the State Islamic University (UIN) Sunan Ampel Surabaya. The results of the pre-research situation analysis carried out through a series of research activities, including direct observation of the academic activities of students at the State Islamic University (UIN) Sunan Ampel Surabaya and in-depth interviews with students and lecturers. The results of the situation analysis show that AI has become an integral part of the academic activities of UIN Sunan Ampel Surabaya students. AI is used in various aspects, starting from preparing papers, data analysis, and assistance in solving academic problems. At the same time, the findings also show a tendency for misuse of AI, where students often use this technology not as a learning tool that supports in-depth academic understanding, but as a means to replace roles in completing tasks in an instant way without adequate intellectual involvement. Several forms of misuse identified include the use of AI to automatically generate essays or answers without deep understanding, the practice of automatic paraphrasing to avoid plagiarism detection, and dependence on AI in writing academic assignments that should be done independently. Some of these problems basically lead to the misuse of AI, where AI is often used not as a learning tool that supports the academic process, but rather to facilitate academic cheating.

This finding is in line with previous research which states that the use of AI in the academic environment not only provides benefits in terms of efficiency and accessibility of information, but also has the potential to increase cases of academic ethical violations (Tindle dkk., 2023). Thus, this situation analysis emphasizes the need for stricter policies and digital literacy education for students to ensure AI is used ethically and supports better quality learning.

Analysis of the situation shows that students at UIN Sunan Ampel Surabaya are starting to use AI in various academic activities, both for learning and writing scientific papers. Generative AI such as ChatGPT, for example, is often used to produce answers or written work that should be done independently by students. This results in a decrease in the quality of learning and has the potential to obscure students' critical analysis skills and originality. This phenomenon is in line with findings at various international universities, where AI tends to be utilized to achieve academic goals instantly, even though it violates the principles of academic ethics (Katsamakas dkk. 2024). Other research also states that the use of AI which is often used by students actually leads to academic cheating (Ou, 2024).

Previous research on the impact of AI in higher education shows this technology provides significant benefits in learning, but also raises ethical and management challenges. Katsamakas et al. (2024) highlight that adoption of AI in higher education institutions can improve learning effectiveness, despite risks to academic integrity (Katsamakas dkk., 2024). Mallillin (2024) found AI plays a role in personalized learning and adaptive feedback to improve student academic performance (Mallillin, 2024). Meanwhile, Kharroubi et al. (2024) and Abou Hashish & Alnajjar (2024) revealed that students in

Lebanon and Saudi Arabia have a positive attitude towards AI, although they still face obstacles in understanding and implementation (Kharroubi dkk. 2024). Some studies also warn of the risks of AI misuse. Tindle et al. (2023) identified that generative AI can increase the potential for academic violations, especially for students with a tendency to cheat (Tindle dkk. 2023). Stukalina & Zervina (2024) highlighted the role of AI in university management and decision making, while Ou (2024) emphasized the benefits of AI in personalizing learning, although it still faces challenges related to data privacy and algorithmic bias (Ou, 2024). Rahiman & Kodikal (2023) also shows AI can increase lecturer engagement and the effectiveness of assessment methods, but risk factors, performance expectations, and student awareness remain crucial aspects in the adoption of this technology (Rahiman dan Kodikal, 2023).

Starting from the problems and background that have been mentioned, the main aim of this article is to explore the role of AI in transforming the academic behavior of UIN Sunan Ampel Surabaya students. Exploring the intended purpose - in order to produce in-depth and comprehensive results - this research uses the theoretical perspective of B. F. Skinner's social behavior. B.F. Theory of social behavior Skinne is known for operant conditioning. This theory says that a person's behavior can be influenced by the consequences that follow that behavior (Skinner 1953). Behavior can be strengthened or weakened based on environmental responses, either through positive reinforcement, negative reinforcement, positive punishment, or negative punishment (Skinner 1971). In the context of the transformation of academic behavior triggered by AI, this theory is relevant because it explains how students can be stimulated to use or abuse AI based on the consequences they experience.

Through Skinner's theory of social behavior, it is hoped that the results of this research will be a stimulus for the importance of building an environment that supports ethical learning. Positive reinforcement such as rewards for independent learning and academic integrity can encourage students to make wise use of AI, while structured punishments for unethical behavior can help reduce misuse of the technology (Pintrich 2004). The behavior modification dimension in Skinner's theory is also expected to direct academic behavior in a positive direction, by encouraging it through a structured intervention process, such as by integrating AI literacy modules in a curriculum that emphasizes the ethical use of technology. (Holmes, Bialik, dan Fadel 2019).

Ultimately, it is hoped that this article can contribute to the development of responsible and sustainable AI-based teaching strategies, as well as support the formation of policies that support academic integrity in Indonesia.

2. METHOD

This research uses a descriptive qualitative approach which aims to explore and analyze how Artificial Intelligence (AI) influences the transformation of student academic behavior at Sunan Ampel State Islamic University (UIN) Surabaya. This qualitative approach was chosen because it is suitable for understanding social phenomena in depth, especially regarding student behavior and motivation in using AI (Creswell 2014).

Data collection techniques used include in-depth interviews, observation and documentation. Data validation is carried out through triangulation, including data source triangulation, method triangulation, and member checking to ensure the reliability and accuracy of the information obtained (Lincoln dan Guba 1985).

3. FINDINGS AND DISCUSSION

The Role of Artificial Intelligence in Transforming Student Academic Behavior from B. F. Skinne's Perspective:

Positive Strengthening of UIN Sunan Ampel Student Academic Behavior Through Artificial Intelligence

The role of Artificial Intelligence (AI) in the world of education has grown rapidly, including in the academic environment at Sunan Ampel State Islamic University (UINSA). The use of AI in this context can be understood as a positive reinforcement mechanism that encourages students to engage ethically in the learning process, develop new skills, and increase academic understanding. Based on the perspective of reinforcement theory B.F. Skinner, positive reinforcement functions to increase the frequency of a behavior by providing desired consequences (Skinner 1974). In an academic context, AI is a tool that not only increases learning effectiveness, but also stimulates students to be more proactive and independent in their academic activities.

AI has a significant impact on student learning behavior through various applications designed to support self-taught learning, data analysis, access to scientific information, and presentation preparation. Technologies such as machine learning, educational chatbots, and data analysis platforms have proven themselves as tools that strengthen students' motivation in pursuing new knowledge. Several studies show that AI can increase student learning engagement by providing instant feedback which is very helpful in evaluating and improving understanding of the material (Zawacki-Richter dkk. 2019). By providing fast feedback and personalizing learning materials tailored to student needs, AI creates a more interactive and relevant learning experience, which ultimately strengthens better learning motivation.

The ethical use of AI by UINSA students not only changes the way they learn, but also shapes their mindset towards education itself. With the presence of AI as a tool that has adaptive capabilities, students are encouraged to be more structured and organized in time management and understanding academic concepts. Studies show that the integration of AI in the teaching and learning process can encourage students to take more responsibility for their own learning and encourage the emergence of an independent learner attitude (Fischer dkk. 2020). This shows that AI, when used ethically and according to academic needs, becomes a tool that enriches the learning experience, and helps students develop critical and analytical thinking skills which are very important in the digital era.

Proper application of AI enables students to gain access to a wide range of high-quality learning resources, thereby broadening their academic horizons. Through this positive reinforcement, students feel encouraged to utilize AI as a means to explore more complex and challenging topics. Several AI platforms such as GPT Google Scholar, SciSpace, or ResearchGate provide easier access to scientific articles and international journals, allowing UINSA students to get the latest insights and literature. The study from Yang et al. (2021) stated that the availability of information through this AI platform makes it easier for students to deepen their understanding and improve the quality of academic assignments (Yang dkk. 2021).

The positive reinforcement provided by AI in the form of accessibility, efficiency, and support for independent learning fosters a conducive academic environment for UINSA students. With this positive reinforcement, students' academic behavior is directed into more active and productive learning practices. The end result is a transformation of academic behavior that is oriented towards developing self-quality, so that students not only gain knowledge, but also utilize AI technology to become more independent, innovative and ethical learners in utilizing academic resources.

The positive reinforcement of the transformation of UINSA students' academic behavior through AI can also be seen in the following aspects:

AI as a Support for Autodidactic Learning

Sunan Ampel State Islamic University (UINSA) students are intensively starting to utilize Artificial Intelligence (AI) as a tool to support self-taught learning. This phenomenon reflects the transformation of learning behavior among students, where they become more independent and adaptive to the academic needs of UINSA students. Within the framework of positive reinforcement theory B.F. Skinner, the use of AI can be seen as a positive stimulus that increases the frequency of proactive and independent academic behavior, considering that AI provides various conveniences that strengthen learning motivation. Skinner (1974) emphasized that positive reinforcement in the form of pleasant consequences after a behavior will increase the possibility of the behavior being repeated

(Skinner 1974). In this context, AI acts as a positive reinforcement that encourages students to continue to access learning resources independently, improve skills, and accelerate understanding of academic concepts.

The use of AI as an autodidactic learning tool has proven to be more beneficial for students than traditional learning which relies on lecture methods or printed literature. Students can access various AI applications and platforms, such as Coursera, EdX, and Khan Academy which provide interactive learning videos and structured quizzes to strengthen understanding. According to Zawacki-Richter et al. (2019), this platform has an algorithm that is able to analyze student learning patterns, so that the material provided can be tailored to individual needs, as well as strengthening a personalized and efficient learning process (Zawacki-Richter dkk. 2019). Students who have difficulty understanding statistical concepts, for example, can use AI applications such as DataCamp or RStudio Assistant which provide interactive exercises and visual simulations to clarify concepts. This AI is proven to significantly improve conceptual understanding (Yang dkk. 2021).

Several types of AI also play a role in speeding up the learning process by providing instant feedback that strengthens student motivation to keep trying to correct mistakes. For example, Grammarly is used by students in preparing academic papers or essays. The tool offers real-time grammar correction and writing style suggestions, allowing students to improve the quality of their writing and deepen their understanding of proper academic language (Gonzalez, Johnson, dan Pardo 2020). This instant feedback not only helps improve technical writing skills, but also grows students' self-confidence, so that they work on writing assignments more often and intensively independently. From Skinner's positive reinforcement perspective, this instant feedback functions as a reinforcer that encourages students to repeat writing behavior and improve skills, thus having implications for improving the quality of students' overall academic output.

Real differences can be seen between students who actively integrate AI in the learning process and students who do not actively integrate AI in the learning process. Students who utilize AI show significant improvements in aspects of analytical skills and understanding of material compared to students who study without AI assistance. The study by Fischer et al. (2020) revealed that students who use AI platforms as learning tools have a higher tendency to master complex and abstract material compared to students who learn only through conventional methods (Fischer dkk. 2020). AI offers the flexibility to study at any time and repeat material as many times as needed. This strengthens learning autonomy and increases the intensity of student interaction with academic material. In Skinner's theoretical perspective, the availability of flexible learning access functions as positive reinforcement that not only enriches students' learning experiences, but also strengthens independent and sustainable learning habits.

In the long term, the impact of AI integration can be seen in improving academic quality and student self-confidence. Students feel better able to absorb and understand complex material with the help of AI, which ultimately leads to improved academic performance. This behavioral transformation is in line with Skinner's positive reinforcement theory, where positive consequences in the form of easy access and instant feedback from AI strengthen student learning behavior. Thus, AI not only functions as a tool, but also as an agent of change that motivates students to be more deeply involved in the learning process, improve critical thinking skills, and form more independent and responsible academic behavior.

AI as a Support for Presentation Tasks

Artificial Intelligence (AI) has become a tool that really helps students at Sunan Ampel State Islamic University (UINSA) in carrying out academic presentation assignments, especially in compiling relevant and interesting main points. In the perspective of positive reinforcement theory B.F. Skinner, the use of AI in this activity has positive consequences in the form of increasing the efficiency and quality of students' presentations, which ultimately encourages them to use AI more often in similar tasks. Skinner (1974) argued that behavior that is reinforced with beneficial consequences will tend to be repeated, and in this case, AI functions as a positive reinforcer that makes the presentation preparation process more effective and reduces stress on students (Skinner 1974).

Some types of AI are specifically designed to help students identify important points and prepare presentation slides in a more structured and professional manner. For example, applications like QuillBot and ChatGPT are often used to summarize complex information into more concise and easy-to-understand points. QuillBot, with its ability to paraphrase and rephrase information, makes it easier for students to filter relevant material, allowing them to construct arguments and explanations more effectively (Hassan, Smith, dan Taylor 2022). Additionally, ChatGPT is used by students to generate key ideas and relevant examples that can support their presentations. Both allow students to process lecture material or external sources into essential points, so that the audience can understand the essence of the material without losing the main essence.

In preparing presentation slides, students often use AI-based platforms such as Canva and Beautiful.ai, which allow the automatic creation of slides with professional visual formats. Canva provides templates tailored to the presentation theme, while Beautiful.ai optimizes slide layouts with intuitive design, allowing students to prepare high-quality visual materials without special design skills. The use of these tools not only speeds up presentation preparation, but also allows students to focus on the substance of the material being presented, moreover they do not need to spend excessive time on the technical aspects of creating slides. According to research from Huang and Siau (2020), AI-

based presentation applications that are able to adjust visual content based on cognitive design principles can increase the attractiveness of presentations and facilitate understanding for the audience (Huang dan Siau 2020). This is in line with the function of positive reinforcement, considering that students tend to be more confident and motivated when presentations are more structured.

The presence of AI that supports presentation tasks has also been proven to increase students' understanding of the material they are presenting, as well as making it easier for the audience to understand key points. By filtering and summarizing information, students can formulate and convey material more clearly and on target. The study from Zawacki-Richter et al. (2019) shows that students who use AI in presentation preparation are better able to explain complex concepts and theories in simpler language, so that the material can be more easily understood by audiences who may have different understanding backgrounds (Zawacki-Richter dkk. 2019). In the perspective of Skinner's positive reinforcement theory, the convenience offered by AI provides positive reinforcement that strengthens students' motivation to use AI ethically and sustainably, considering that they see a direct impact in the form of improving the quality of presentations and positive responses from the audience.

Apart from increasing understanding and skills in preparing presentation material, the use of AI also has a significant impact on students' level of self-confidence. With AI support, students feel more prepared and motivated in making presentations, because they have well-structured key points and attractive visuals to present. Research by Fischer et al. (2020) stated that students who have confidence in presentations tend to be more effective in communicating and demonstrate a deep understanding of the material, which ultimately has a positive impact on audience acceptance and appreciation (Fischer dkk. 2020). In this context, the presence of AI not only facilitates technical aspects, but also provides an emotional boost for students, because they feel satisfaction and appreciation for the effort they invest in presentation assignments.

The integration of AI in presentation assignments shows how this technology is a positive reinforcement for UINSA students. AI makes it easier for them to manage, understand and deliver academic material effectively, which ultimately enriches students' academic experience. With AI as a support, students can focus on substance, improve presentation skills, and strengthen self-confidence. This behavioral transformation is in line with Skinner's positive reinforcement theory, where positive consequences in the form of effectiveness, better understanding, and increased self-confidence strengthen students' academic behavior, so that they are more motivated to continue utilizing AI in academic activities in a productive and ethical way.

AI as a Support for Writing-Based Assignments

Artificial Intelligence (AI) has become an important tool that supports students at Sunan Ampel

State Islamic University (UINSA) in completing written assignments, both in the form of Scientific Writing (KTI), such as scientific papers and articles, and Popular Scientific Writing (KTIP), such as opinions, essays and general articles. The use of AI for this purpose shows how technology can function as a positive amplifier, thereby encouraging students to be more productive and creative in their writing activities. According to positive reinforcement theory B.F. Skinner, behavior that is followed by beneficial consequences tends to be repeated more often. In this case, AI provides easy access to academic resources and writing inspiration which functions as a positive consequence that strengthens the frequency of students writing independently and effectively (Skinner 1974).

As a supporter of the writing process, AI plays a role in two main aspects. First, as a tool to search for and access references from reputable scientific journals. Second, as a source of inspiration in designing writing structures and ideas. UINSA students utilize tools such as GPT Google Scholar and SciSpace to find references to high-quality and up-to-date scientific articles, including those indexed by Scopus. These tools use algorithms that can filter articles based on topic relevance and source reputation, making it easier for students to find credible and valid literature to strengthen the arguments in their writing. According to research by Zawacki-Richter et al. (2019), easy access to scientific literature through AI allows students to cite more quality sources, which ultimately increases the credibility of student written work (Zawacki-Richter dkk. 2019). This not only makes it easier for students to find relevant references, but also strengthens writing behavior that is based on valid academic practices, a form of positive reinforcement that supports the formation of productive and ethical academic behavior.

On the other hand, AI also functions as a creative tool that helps students find ideas and inspiration for writing topics, preparing outlines, and projecting writing structures. Students often use AI platforms such as ChatGPT to explore initial ideas, determine interesting titles, and design logical outlines. By entering several keywords related to topics of interest, students can receive topic suggestions, discussion lines, and even relevant theoretical approaches. This condition allows students to compose writing with a clear and systematic structure. Gonzalez et al. (2020) noted that the use of AI for writing inspiration has a significant impact on student creativity, because AI helps open new perspectives and provides references for ideas that may not have been thought of before (Gonzalez, Johnson, dan Pardo 2020). From a positive reinforcement perspective, the ease provided by AI in generating ideas provides positive reinforcement in the form of encouragement to write more often and develop creative ideas.

The presence of AI in the writing process brings real benefits to students, both in terms of efficiency and output quality. Before using AI, students often spent a lot of time looking for appropriate references and designing writing structures. With AI, students can save time significantly, which means students can focus more on developing content and arguments. The study by Fischer et al. (2020) shows

that students who use AI in writing produce work that is more structured, supported by relevant references, and has stronger arguments (Fischer dkk. 2020). This is in line with Skinner's positive reinforcement theory, where students get positive consequences in the form of better writing quality when using AI, which ultimately strengthens their motivation to continue relying on AI in their academic activities (Skinner 1974).

Thus, the integration of AI in written assignments not only makes it easier for students in the technical writing process, but also enriches students in terms of ideas and strengthening the structure of quality writing. AI allows students to access various reference sources instantly, provide creative ideas, and speed up the writing process, all of which contribute to improving the quality of academic work. This transformation shows that AI is not only a tool, but also an agent of change that strengthens ethical and productive academic behavior patterns, in line with the principle of positive reinforcement in Skinner's theory.

Negative Reinforcement Transforms Academic Behavior Through AI

The use of Artificial Intelligence (AI) in an academic context not only functions as positive reinforcement that encourages productive learning behavior, but can also act as negative reinforcement that has the potential to encourage unethical academic behavior. In the perspective of negative reinforcement theory from B.F. Skinner, negative reinforcement is a process in which behavior is strengthened through the removal or avoidance of unpleasant consequences (Skinner 1974). In this context, AI functions as a tool that allows students to avoid academic burdens or undesirable consequences, such as the risk of low grades or an inability to meet academic standards. Negative reinforcement encourages students to use AI as an unethical shortcut in academic activities, such as copying AI analysis results without deep understanding or using technology to manipulate academic content.

The main motive that drives the use of AI in this unethical academic behavior is the desire to maintain good grades or complete assignments in a faster and instant manner. Students who feel burdened by academic standards often use AI as a means to avoid these burdens, instead of developing their full academic abilities. In writing assignments or reports, for example, some students use AI to generate text without really understanding the content, which allows them to complete the assignment quickly, but with minimal effort or understanding. This is in line with research from Selwyn (2019) which shows that students who are pressured by high academic expectations often tend to look for shortcuts through technology, even if it leads to violations of academic principles and ethics (Selwyn 2019).

The implications of using AI as negative reinforcement are quite serious, considering that it can

damage student academic integrity and reduce the quality of student learning. When AI is used to circumvent academic difficulties, rather than help overcome them, students lose the opportunity to develop critical, analytical, and evaluative thinking skills that are critical to their intellectual development. Fischer et al. (2020) found that students who relied too heavily on AI to fulfill academic assignments without a learning process showed lower understanding of academic material, which ultimately had a negative impact on long-term academic development (Fischer dkk. 2020). This shows that, although AI provides convenience and accessibility, its unethical use creates negative reinforcement that hinders the development of cognitive skills.

The negative reinforcement that arises through the use of AI can also affect student work ethic, where students become more focused on instant results rather than the learning process itself. Students who are accustomed to using AI as a tool to avoid academic challenges tend to develop a transactional mindset towards education, where their main focus is to graduate with good grades without considering the quality of understanding and the integrity of the learning process. According to Zawacki-Richter et al. (2019), this attitude creates the phenomenon of shadow learning, where students seem to achieve certain competencies without actually going through a substantial learning process (Zawacki-Richter dkk. 2019). This not only has implications for academic performance, but also for the future ability to adapt to professional demands that require critical thinking skills and a good work ethic.

Negative reinforcement transforms academic behavior through AI, in addition to spawning the behaviors already mentioned, negative reinforcement also gives birth to other specific negative and unethical behaviors, which can be specifically mentioned as follows.

First, AI as a substitute for the role, existence and duties of students. The use of AI in academic contexts is not always limited to an ethical supporting role. In many cases, AI actually replaces the role of students in completing academic assignments. This condition is often triggered by the motive to avoid negative consequences, such as the risk of lower grades or even failure to complete courses. Based on B.F.'s negative reinforcement theory Skinner, students may be inclined to use AI unethically to avoid these undesirable consequences. Skinner (1974) defined negative reinforcement as the removal or avoidance of unpleasant consequences following a particular behavior, which ultimately increases the likelihood of the behavior being repeated (Skinner 1974). In this case, AI functions as a negative reinforcement tool, where students use it to complete assignments without actually going through an in-depth learning process, but simply to avoid the threat of low grades or not graduating.

Several types of AI that are often used by students to replace themselves in their roles, existence and academic tasks include generative AI platforms and natural language processing tools that are capable of compiling content automatically. For example, ChatGPT is often used by students to write

essays, papers, or prepare reports. This tool can produce coherent and in-depth text in a short time, allowing students to avoid the process of in-depth research and analysis (Zawacki-Richter dkk. 2019). In many cases, students do not make further modifications or adjustments to the results provided by AI, but instead directly use the results as their work. This condition causes the substitution of students' academic role as active and critical learning agents with a passive role as recipients of content produced by technology.

Apart from that, applications such as QuillBot are also often used to automatically paraphrase texts, where students can quickly avoid accusations of plagiarism. QuillBot uses algorithms to reorder sentences and replace certain words, allowing students to restructure text without having to understand the original material. According to research by Selwyn (2019), this phenomenon shows the tendency of students to use technology to avoid academic workload, without considering ethics or the quality of the resulting understanding (Selwyn 2019). This phenomenon, in the perspective of negative reinforcement theory, shows how students try to eliminate the undesirable consequences of not being able to compose their own academic writing in instant ways.

The use of AI as a substitute for academic assignments not only reduces students' intellectual involvement in the learning process, but also obscures their role as academic people who are responsible for self-development through the process of research, learning and service. When AI takes over tasks that students should complete themselves, they lose the opportunity to develop critical, analytical, and evaluative thinking skills that are important for their academic and professional growth. Fischer et al. (2020) highlighted that students who rely too much on AI tend to experience a decline in cognitive abilities, especially in terms of complex reasoning and problem-solving skills (Fischer dkk. 2020). By substituting their role as active learners, students not only avoid intellectual challenges, but also miss the opportunity to deeply internalize the knowledge that is the essence of education.

This phenomenon shows the dark side of the application of AI in the academic environment, where AI is no longer just a tool, but has become a substitute that erodes the essence and goals of education. With this negative reinforcement, students tend to use AI more often to avoid academic burdens, which ultimately has a negative impact on the quality of their education. AI, in this context, functions as an instrument that makes it easier for students to avoid academic tasks and responsibilities, creating pragmatic behavior patterns that prioritize graduation and high grades without going through the proper intellectual development process.

Second, AI as a support for academic dishonesty. The use of Artificial Intelligence (AI) in the academic environment is not only limited to tasks that support the learning process, but in some cases is also a means of academic dishonesty that allows students to manipulate data, information and references. The primary drive behind this behavior is the desire to avoid negative consequences, such

as low grades or academic failure, which they perceive as a threat to academic achievement and personal reputation. In the perspective of negative reinforcement theory proposed by B.F. Skinner, avoidance of these undesirable outcomes or consequences strengthens the behavior, because undesirable consequences, such as workload or academic difficulties are successfully eliminated. Skinner (1974) stated that negative reinforcement occurs when individuals avoid unpleasant stimuli, which in this case are academic challenges that should be an integral part of the learning process (Skinner 1974).

Several types of AI are tools that are often used by students to support academic dishonesty, such as natural language processing tools that are able to change and manipulate text automatically, to generative tools that can produce scientific content or reports based on user commands. ChatGPT, for example, is often used by students to produce academic texts in a short time, without going through an in-depth research and analysis process. This application allows students to avoid the process of critical thinking or substantive understanding, with results that appear academic and coherent, even though they lack valid substance. A study by Selwyn (2019) found students who feel pressured by high academic standards and time constraints tend to use technology such as AI to avoid difficulties in complex assignments, an action that compromises educational quality and academic integrity (Selwyn 2019).

Manipulation of data and information is also another form of academic dishonesty facilitated by AI. In some cases, students use applications such as QuillBot to rephrase or auto-paraphrase without actually understanding the changed content, which effectively disguises plagiarism and reduces the risk of being detected by anti-plagiarism software. This allows students to "compose" writing that appears original without attempting to understand or analyze the substance of the writing. Zawacki-Richter et al. (2019) show that students who use AI to avoid negative academic consequences, such as plagiarism detection, often focus more on how to complete assignments quickly than ensuring the validity and scientific integrity of the content created (Zawacki-Richter dkk. 2019). In Skinner's negative reinforcement theory, this behavior is continually reinforced as students successfully avoid the unpleasant consequences of difficult academic work, such as plagiarism detection or repetition of assignments.

AI is also frequently used for academic reference manipulation, where students can generate citations that appear valid, but are actually unfounded or even inaccurate. Applications such as CiteThisForMe allow students to automatically generate reference lists without verifying the accuracy of the sources, which can lead to academic data fraud. In the long term, this practice erodes trust in the results of scientific papers prepared with the help of AI, because students ignore the need to validate every reference they include. According to Gonzalez et al. (2020), this phenomenon reflects student

behavior patterns that are more oriented towards graduation and achieving grades rather than the learning process and academic integrity (Gonzalez, Johnson, dan Pardo 2020).

The use of AI as a support for academic dishonesty shows the negative impact of technology when it is used as a tool of avoidance rather than as an instrument of learning. Instead of improving academic quality, AI in this context actually becomes a negative amplifier that strengthens unethical academic behavior among students. Students who rely on AI to avoid academic challenges are not only compromising personal integrity, but also missing important opportunities to develop the critical, analytical, and evaluative thinking skills required in academia. Thus, AI in this role not only eliminates undesirable consequences, but also undermines the goals of education itself, which should be oriented towards the formation of an ethical and responsible academic character.

Positive Punishment Academic Transformation Through AI

The transformation of student academic behavior through the use of Artificial Intelligence (AI) is often not balanced with the implementation of positive punishments to suppress unethical behavior that may arise. In the context of B.F.'s theory Skinner, positive punishment refers to providing unpleasant consequences after an undesirable behavior occurs, with the aim of reducing the frequency of that behavior. Skinner (1974) explained that adding less pleasant stimuli after negative behavior can effectively reduce the individual's tendency to repeat the behavior (Skinner 1974). Unfortunately, in the context of the use of AI in the academic environment, the absence of strict positive sanctions or punishments has created a situation where AI-facilitated unethical behavior is increasingly widespread and uncontrolled.

The application of positive punishment that is relevant in this context could include various forms of academic sanctions applied when students are proven to use AI unethically. Positive punishment could take the form of additional educational assignments, where students are required to take an academic ethics module or attend a workshop on the ethical use of AI. Research by Selwyn (2019) shows students who are subject to educational sanctions or additional assignments after academic misconduct have a lower likelihood of repeating the behavior, because they are forced to reflect on their actions and understand the ethical consequences of those actions (Selwyn 2019).

The absence of strict positive punishment in the context of using AI in academic environments often causes students to feel safe about using this technology unethically. In practice, many educational institutions do not yet have adequate regulations or control mechanisms to detect or punish academic behavior that violates ethics with the help of AI. Without positive punishment, students face no real consequences that deter them from using AI unethically. As explained by Gonzalez et al. (2020), students who do not face the risk of positive punishment tend to be more permissive in using

technology unethically, because there are no direct consequences that encourage them to consider the impact of such behavior (Gonzalez, Johnson, dan Pardo 2020).

The absence of positive punishment also contributes to the proliferation of unethical academic behavior involving AI, where students are increasingly encouraged to take shortcuts in their academic activities. As AI technology becomes increasingly sophisticated, students have easier access to utilize various applications that are capable of generating academic content automatically, such as ChatGPT and QuillBot, without needing to master or understand the content. When positive punishment is not enforced, students are more susceptible to the temptation to avoid academic challenges and take instant routes that undermine the integrity of education. According to Fischer et al. (2020), without effective positive punishment, this pattern of unethical behavior will become increasingly entrenched in the academic environment, blurring the boundaries between ethical and unethical learning, and weakening the value of education itself (Fischer dkk. 2020).

The lack of positive punishment in the face of unethical use of AI by students is a key factor that supports the spread of academic behavior that is not in accordance with academic integrity standards. In Skinner's perspective, the implementation of strict positive punishment will provide clear boundaries for students, where the use of AI that violates ethics will be followed by consequences that cause inconvenience or additional burden. By implementing positive punishment, educational institutions can play an active role in forming an academic environment that emphasizes ethical values and responsibility in the use of technology, as well as encouraging students to be wiser in using AI as a learning tool that strengthens their academic quality, not destroys it.

Negative Punishment Transforming Academic Behavior Through AI

In the context of transforming academic behavior through the use of Artificial Intelligence (AI), negative punishment is an aspect that is often overlooked in efforts to reduce unethical academic behavior carried out by students. Based on B.F.'s theory Skinner, negative punishment involves removing a pleasant stimulus or something desired after an undesirable behavior has occurred, with the aim of reducing the likelihood of the behavior being repeated in the future. Skinner (1974) emphasized that negative punishment is effective in creating a deterrent effect, because individuals tend to avoid behavior that causes the loss of something of value (Skinner 1974). In an academic context, the application of negative punishment could take the form of reducing certain access or opportunities for students who are proven to utilize AI unethically, which should create pressure for students to avoid this unethical academic behavior.

One example of negative punishment that can be applied is reducing student access to several academic facilities that depend on academic integrity. Students who are proven to use AI unethically

can be subject to sanctions in the form of being banned from class or eliminating the opportunity to revise assignments or exams for students who are proven to be using AI for manipulative purposes. According to research by Selwyn (2019), this temporary access restriction has the potential to provide a strong deterrent effect for students, because they lose direct access to academic resources that support their studies (Selwyn 2019). By reducing access which is important for the smooth learning process, students are encouraged to be more responsible and ethical in utilizing AI technology.

In fact, many academic institutions, including UINSA have not implemented this negative punishment policy explicitly in regulating the use of AI among students. As a result, students do not feel worried about significant sanctions when they use AI unethically, whether in the form of plagiarism, data manipulation, or preparing assignments without an in-depth analysis process. Fischer et al. (2020) revealed that when students do not face the risk of losing something of value due to unethical behavior, they tend to be more permissive and more likely to repeat the behavior (Fischer dkk. 2020). This absence of negative punishment makes the situation worse, as students feel increasingly free to utilize AI as a shortcut that replaces their own academic efforts, thereby expanding unethical practices in the academic environment.

The absence of negative punishment also contributes to the proliferation of unethical academic behavior facilitated by AI. With the ease and widespread access to AI technology, students who are accustomed to using AI for unethical purposes have a greater tendency to repeat this behavior in the future. Gonzalez et al. (2020) noted that students who do not feel any concrete threats or sanctions due to unethical behavior tend to develop a pragmatic mindset in education, where their main focus is achieving grades or graduation without considering the long-term impact on personal abilities and integrity (Gonzalez, Johnson, dan Pardo 2020). In the perspective of Skinner's negative punishment theory, these behaviors continue to be repeated, because students do not face the loss of access or opportunities they value as a consequence of their actions. Without effective negative punishment, unethical academic behavior that utilizes AI is increasingly taking root in the academic environment, eroding the ethical values and responsibilities that should be upheld in the educational process.

The application of negative punishment in the context of unethical use of AI is very important to create clear boundaries for students in the use of this technology. By removing important access or opportunities, educational institutions, especially UINSA can encourage students to be more careful and ethical in using AI, as they face the risk of losing access to valuable facilities or opportunities. Through consistent application of negative punishment, unethical academic behavior can be suppressed, creating a healthier and higher integrity academic environment, and ensuring that AI is used ethically to support the quality and goals of education, not undermine the quality and goals of education itself.

The Critical Relevance of the Role of AI in Transforming the Academic Behavior of UINSA Students from B. F. Skinner's Perspective

Transformation of student academic behavior by utilizing Artificial Intelligence (AI) which applies B.F.'s theory of reinforcement and punishment. Skinner provides an important framework for understanding the patterns and motivations behind emerging ethical and unethical behavior. Skinner's perspective on positive reinforcement, negative reinforcement, positive punishment, and negative punishment shows its critical relevance in the context of the use of AI in academic settings. Weaknesses in the implementation of positive and negative punishment by educational institutions are one of the main factors that enable the misuse of AI for unethical purposes.

Indecisiveness in implementing positive and negative punishments by the campus and lecturers results in weak control over students' academic behavior in utilizing AI. In Skinner's theory, reinforcement and punishment act as external control mechanisms that influence the frequency and direction of behavior. Skinner (1974) emphasized that positive and negative reinforcement can strengthen behavior, while positive and negative punishment aims to reduce the frequency of undesirable behavior (Skinner 1974). In this case, the absence of consistent positive and negative punishments for unethical use of AI means that students do not experience significant consequences for their actions, so that unethical behavior becomes more entrenched and has the potential to develop. Research by Fischer et al. (2020) supports this, showing that without a strict punishment system, students tend to take shortcuts in academic assignments involving AI (Fischer dkk. 2020).

The absence of positive punishment, such as additional assignments or ethics training for students who violate the rules for using AI, also has an impact on the formation of permissive and pragmatic behavior patterns among students. Students who do not receive real consequences for their violations tend to develop a transactional mindset, where their main focus is only on academic results, such as grades or graduation, without paying attention to the learning process and quality. This is in line with the findings of Selwyn (2019) who noted that students who do not accept the consequences of unethical use of AI tend to treat technology as a shortcut to achieve academic goals instantly, even though this is detrimental to the integrity of education (Selwyn 2019).

On the other hand, the absence of negative penalties, such as reduced access to academic resources or restrictions on certain academic rights means that students have no real obstacles to using AI unethically. In Skinner's theory, negative punishment is effective in creating a deterrent effect, where individuals will tend to avoid behavior that causes them to lose something of value. Gonzalez et al. (2020) explained, when negative punishment is not applied, students have a greater tendency to repeat actions that violate ethics, because they do not face the risk of losing rights or access that they consider important (Gonzalez, Johnson, dan Pardo 2020). In the academic context, the absence of negative

penalties for unethical use of AI facilitates the proliferation of unethical academic behavior, which ultimately undermines the norms and standards of academic integrity.

Reflections on Skinner's theory in this context show that the transformation of academic behavior through AI is very dependent on the presence of a firm and consistent system of reinforcement and punishment. The absence of effective positive and negative punishment from campuses and lecturers means that students do not have clear boundaries in using AI, which has implications for increasing unethical academic behavior. As a solution, educational institutions need to design policies that integrate the principles of reinforcement and punishment in accordance with Skinner's theory to create an academic environment that is conducive to the development of ethical behavior. With this policy, students will be more encouraged to use AI wisely and responsibly, which will not only contribute to improving the quality of learning, but also strengthen the ethical values that are the foundation of higher education.

CONCLUSION

In Skinner's perspective, the transformation of academic behavior triggered by AI through reinforcement and punishment, on the one hand, succeeded in encouraging UINSA students to integrate it into ethical and positive academic behavior. The presence of AI for UINSA students encourages independent learning, completion of presentation assignments and written assignments. Unfortunately, this positive impact is not comparable to the negative impact it causes. The urge to avoid negative consequences, such as lowered grades and insincerity, actually motivates students to take shortcuts and instantaneous ways that lead to violations of academic ethics. The absence of punishment, whether in positive or negative aspects, makes the situation even worse. AI tends to be utilized not only as a tool, but also as a means to achieve instant results at the expense of academic integrity.

In the context of Sunan Ampel Surabaya State Islamic University (UINSA), the use of AI in student academic behavior shows the critical relevance of B.F.'s theory. Skinner. The lack of positive and negative penalties for unethical use of AI causes students to feel free to use the technology without consequences. As a result, unethical academic behavior becomes more common. Therefore, the application of positive reinforcement, such as rewards for ethical behavior, and negative punishment, such as limiting academic access for ethical violations, needs to be implemented to direct UINSA students to responsible and ethical use of AI, strengthen academic integrity, and enrich the quality of education.

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