Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran
Volume 16 (1) 44 – 61, 2026
ISSN: 2088-5350 (Print) / ISSN: 2528-5173 (Online)
Doi: 10.25273/pe.v16i1.30
The article is published with Open Access at: http://e-journal.unipma.ac.id/index.php/PE

Reliance on artificial intelligence in completing academic tasks among fourth-grade students at a public elementary school in Bantul

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Abstract: The ease of access to digital technology within the family environment triggers changes in learning behavior that threaten the independent learning of students at the elementary education level. This research aims to profoundly understand the pure lived experiences, the direction of thoughts, and the essence of meaning of the phenomenon of artificial intelligence dependence among fourth-grade students at a Public Elementary School in Bantul through the application of the suspension of prejudice (*epoche*). Employing a qualitative approach with Edmund Husserl's Transcendental Phenomenology design, data were collected through in-depth interviews, observations, and documentation studies involving four students, one classroom teacher, and four parents. The results of the study indicate that smart applications are no longer utilized as assistive tools, but rather trigger cognitive offloading in the completion of academic tasks when students transfer the burden of direct thinking to machines for the sake of time efficiency and grade security. This condition creates an illusion of academic competence and elicits a moral justification that copying instant answers is not a form of cheating. The essence of this phenomenon is rooted in the desynchronization of supervisory regulations between the school and permissive parenting styles at home. These findings recommend a modification of teacher assignment models based on direct practice and the urgency of critical dialogue with parents.

Keywords: artificial intelligence; cognitive offloading; phenomenology; independent learning; elementary education

Received 21 July 2026**; Accepted** 30 October 2026**; Published** 10 November 2026

Citation: Faizu, Z. P. N., & Amaruddin, H. (2026). Reliance on artificial intelligence in completing academic tasks among fourth-grade students at a public elementary school in Bantul. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran, 16*(1), 44–61. https://doi.org/10.25273/pe.v16i1.30

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INTRODUCTION

The development of information technology in the 21st century has led the world past the Industrial Revolution 4.0 era towards the Society 5.0 era. During this period, the boundaries between physical space and the digital world have become increasingly blurred. The primary driver of these changes is the rapid advancement of artificial intelligence (AI), particularly generative AI and Large Language Models (LLMs) capable of generating human-like responses (Kasneci et al., 2023). Theoretically, artificial intelligence, initially designed to mimic human logical thinking (Damayanti et al., 2024; Santoso, 2023), has now evolved into an accessible tool that presents ready-to-use text answers instantly. Consequently, this technology is no longer utilized exclusively by higher education students or computer experts, but has spread extensively into daily life at home.

This ease of access within the family environment subsequently gives rise to new problems in the realm of education, particularly when elementary school-aged children begin using it without restrictions. Adults or university students may use AI to accelerate task completion, but the same technological interaction with fourth-grade elementary school students will result in a vastly different impact on cognitive development. At approximately 10 years of age, students are psychologically situated near the end of the concrete operational stage of development (Piaget, 1952). During this period, they critically require active cognitive engagement and productive struggle to internalize concepts and build long-term reasoning skills (Kapur, 2008). When these cognitive stages are replaced by rapid answers from virtual assistants, children's independent thinking is at risk of experiencing regression. This becomes a serious concern for the demographic of children under the age of 13, who are considered insufficiently mature to interact independently with artificial intelligence technology (UNESCO, 2023). This condition triggers the occurrence of AI dependence, a situation where the instant convenience offered by machines causes students to lose confidence in their own abilities to complete school assignments (Kurniawati, 2023). The weakening of this independent learning ultimately threatens the value of academic honesty, as children become accustomed to committing acts of plagiarism without remorse from an early age (Chan, 2024; Khalida et al., 2025).

This dependent behavior is also influenced by the innate characteristics of Generation Alpha as a demographic of children who, since birth, have been accustomed to living within a digital ecosystem (Hayati et al., 2024). Children of this generation tend to possess short attention spans when required to read dense and lengthy textbook passages (Febriana & Muflihin, 2025). Consequently, when assigned Homework (PR) by teachers that demands a manual reading process, they tend to bypass the active mental processing required to decipher text. This drives them to fall into patterns of cognitive offloading (Risko & Gilbert, 2016), where external tools substitute internal problem-solving. This habit of avoiding cognitive difficulties is further reinforced by the weak supervision of parents at home. The phenomenon of permissive digital parenting frequently occurs because parents experience fatigue after work or possess a limited understanding of technology. They subsequently choose to grant children freedom of access to devices in order to avoid arguments while accompanying their studies (Pratiwi et al., 2022). The erroneous view within the family environment, which assumes that rapidly completed school assignments are a sign of a diligent child, inadvertently fosters this dependent habit before the children bring it into the classroom (Theopilus et al., 2025).

Initial informal field observations at a public elementary school in Bantul indicated emerging patterns where students occasionally utilized digital assistance to complete homework assignments. To maintain strict methodological neutrality and adhere to the epoche principle, these preliminary glimpses are acknowledged solely as contextual background rather than pre-judged findings, motivating a formal empirical inquiry. This problem certainly contradicts the primary objective of elementary education in Indonesia today, which emphasizes meaningful learning, a pedagogical approach focused on active cognitive engagement rather than computational machine learning techniques

(Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2022). Furthermore, this situation causes teachers to experience teaching fatigue because much of their time is consumed by verifying the authenticity of student answers rather than focusing on learning assistance (Barlow, 2026; Kurniahtunnisa et al., 2025).

Looking at these issues, this study was conducted to fill the gap in the existing literature through a field-based phenomenological study. Most research on artificial intelligence in education so far has focused on the secondary school and higher education levels, where the students are considered to possess more mature thinking processes (Wibowo et al., 2023). Furthermore, previous studies more frequently utilized the Systematic Literature Review (SLR) method to examine the effectiveness of virtual assistants in general without directly observing the facts on the ground (Marsella et al., 2024; Purba et al., 2025; Zhai et al., 2024). Even though there is a quantitative study examining the correlation of AI with the mathematical calculation skills of elementary school children (Mardin, 2025), that approach only measures learning outcomes through numerical calculation alone and ignores the psychological aspects of the child. Such statistical approaches are not yet capable of capturing the emotional reality regarding why children choose shortcuts and how they interpret those actions in their daily lives. To date, field studies specifically examining how the temptation of this smart technology affects the thinking processes of elementary school-aged children directly from the perspective of their own consciousness are still very rarely found.

Therefore, this article aims to profoundly understand the lived experiences, the direction of thoughts, and the essence of meaning (*eidos*) of the phenomenon of AI dependence among fourth-grade students at a Public Elementary School in Bantul through the perspective of Edmund Husserl's Transcendental Phenomenology (Adawiyah et al., 2025; Nainggolan, 2022). This qualitative approach is positioned as an appropriate method to understand the students' perspectives purely without imposing moral judgments that blame the child (Maryani & Hilalludin, 2025). Through the application of *epoche* or the suspension of the researcher's initial prejudices, the field data obtained will be analyzed objectively. This writing is expected to provide a tangible scientific contribution to the development of pedagogical science, particularly in strengthening the character of children's independent thinking in the digital era. The entire discussion in this article will be elaborated progressively, beginning with examining the pure experiences of students when facing homework difficulties, investigating the direction of their thoughts when choosing to use AI applications, to discovering the essence of meaning regarding how students redefine independent learning and academic honesty at school.

METHODS

Research Design

This research was conducted using a qualitative approach with a Transcendental Phenomenology design. This design is rooted in the philosophical foundation developed by Edmund Husserl, which was subsequently operationalized into a practical methodological framework by Moustakas (1994). The selection of this design was based on the fundamental consideration that dependence on artificial intelligence technology cannot be measured merely by using numbers, but rather must be understood through direct narratives from the actors themselves.

To operationalize Husserl’s philosophical concepts in practice, the researcher employed the Moustakas (1994) method to capture the pure lived experience of students while simultaneously uncovering the direction of their thoughts (intentionality). In practical terms, the concept of epoche (suspension of prejudice) was operationalized by the researcher consciously withholding all moral standards, preconceived theories, and adult judgments during data collection in the field. Ultimately, all these stages culminate in the effort to discover the eidos (the deepest essence of the phenomenon) by following

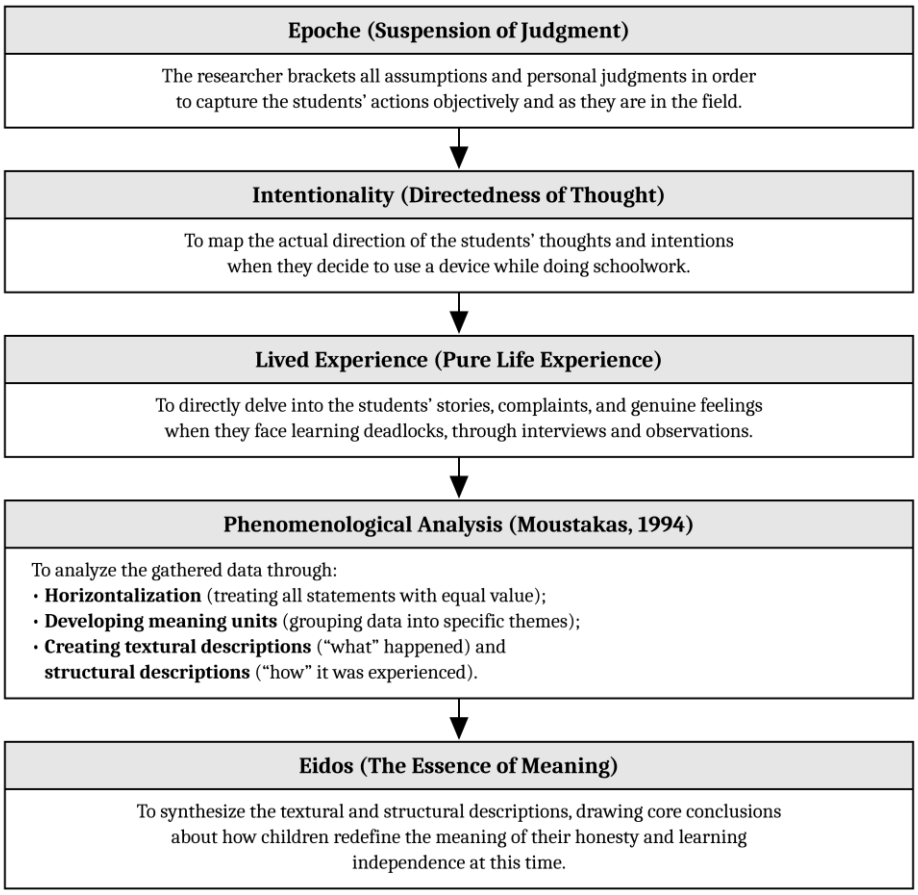


FIGURE 1. *Phenomenological research design flow (adapted from Moustakas, 1994)*

Moustakas's analytical steps, which include horizontalization, the formulation of meaning units, and the construction of textural and structural descriptions regarding how students redefine the boundaries of their independent learning and academic honesty.

Participants

The research was conducted at a Public Elementary School in Bantul with subjects selected through a purposive criterion sampling technique. The total subjects amounted to nine informants, comprising four fourth-grade students (S-1, S-2, S-3, and S-4), one classroom teacher (G-1), and four parents (OT-1, OT-2, OT-3, and OT-4). To maintain the principle of epoche and prevent the researcher from prematurely labeling students, the initial identification of student subjects was not based on the researcher's assumptions, but rather reported by the classroom teacher based on pedagogical evidence. The teacher identified these specific students due to a sharp discrepancy between their consistently perfect daily homework scores and their visible confusion when asked to solve similar problems verbally at the whiteboard without devices.

While selecting participants who already exhibit signs of technology reliance (such as AI-like language traces or open admissions of scanning questions) might raise concerns about circular findings or confirmation bias, this purposeful sampling strategy is essential in phenomenological research. The objective is not to prove whether the phenomenon exists, but to deeply explore the pure lived experiences of those who are actually undergoing it. To mitigate confirmation bias, the researcher strictly applied epoche during data collection by bracketing adult moral judgments and utilizing open-ended questions. This allowed the students to freely narrate their genuine feelings, which successfully revealed unexpected realities—such as their fear of obtaining poor grades and their longing to return to reading books—that contradicted any initial assumptions of mere laziness.

TABLE 1. *Details of the research informant selection criteria*

Subject Code/Initial	Role	Pedagogical Evidence (Observed by Teacher and Researcher)
S-1	Primary Subject (Student)	Cognitive Gap: Possesses a track record of consistently perfect daily Homework scores, yet is highly passive and unable to answer when verbally reconfirmed in class without devices.
S-2	Primary Subject (Student)	AI Language Trace: The sentence structure and vocabulary in the assignment book are highly standard/formal, exceeding the cognitive capacity and original linguistic style of a 10-year-old child.
S-3	Primary Subject (Student)	Open Admission: Has consciously admitted directly to the teacher or peers that they routinely scan questions using Google Lens or Meta AI at home.
S-4	Primary Subject (Student)	Instantaneous (Gen Alpha Characteristics): Submits assignments extremely rapidly but possesses a very short attention span and refuses when asked to read manual textbooks.
OT-1 to OT-4	Supporting Informants	Parents of Students S-1 to S-4; device providers/facilitators at home.
G-1	Key Informant	Fourth-Grade Classroom Teacher; primary evaluator who compares daily assignment (homework) scores with verbal tests at school.

Research Instruments

The researcher acted directly as the primary instrument in order to capture the entirety of the subjects' inner turmoil. Data collection was supported by three integrated techniques. First, in-depth interviews were conducted in a semi-structured manner through a flowing conversation technique. The interview guide was adapted to the linguistic range of ten-year-old children with an analytical focus on the locus of their feelings and inner reasons when choosing shortcuts. Second, non-participant observation was conducted passively inside the classroom to observe gestures of panic, complaints, and the students' low cognitive endurance when devices were prohibited. These observations were conducted over four sessions between January and April 2026, with each session lasting approximately 70 minutes (equivalent to two lesson hours). The observation protocol utilized structured field notes to systematically record specific physical behaviors, verbal complaints, and students' task-completion times during manual assignments. Third, a documentation study was conducted by analyzing the grammatical structure in the students' daily assignment books in order to trace the remnants of robotic vocabulary that were incongruent with their age, juxtaposed with the teacher's grade recapitulation book.

TABLE 2. *Instrument grid*

Research Problem	Phenomenon (Husserlian Concept)	Data Source	Data Collection Technique
How is the lived experience of students when facing difficulties and utilizing AI?	Pure Experience (Pre-reflective): Emotional reactions upon seeing Homework (PR) (panic, confusion, laziness). Physical process when opening the device and scanning the question. Feelings after the AI answer appears (relieved, instantaneous).	Students (S-1 to S-4), Parents (OT-1 to OT-4), Classroom Teacher (G-1)	In-depth Interview, Non-participant Observation, Documentation (Daily assignment books)
How do students feel in positioning and utilizing AI technology when completing their school assignments at home?	Intentionality (Direction of Thoughts): How students position AI (whether as an assistive tool or an absolute helping machine). Students' logical reasons (justification) why AI is preferred over books. Cognitive offloading process (transfer of thinking burden).	Students (S-1 to S-4), Classroom Teacher (G-1)	In-depth Interview, Classroom Observation (Comparing homework vs verbal tests at school)
What is the essence of meaning (*eidos*) of independence and honesty for students today?	Essence of Meaning (*Eidos*): The shift in the definition of "independent learning" in the eyes of students. Students' perspectives on academic honesty (is copying AI considered cheating?). Long-term psychological impacts.	Students (S-1 to S-4), Classroom Teacher (G-1), Parents (OT-1 to OT-4)	In-depth Interview, Member Checking (Cross-confirming findings to teachers/parents)

Procedure

Data collection was executed over a four-month fieldwork period from January to April 2026, progressing until the principle of data saturation was reached. Saturation was achieved when the textural and structural descriptions from the interviews began to yield repetitive core themes without any new significant insights emerging. The procedure commenced with preliminary observations, followed by four non-participant observation sessions in the classroom. The core stage consisted of in-depth interviews. One to two interview sessions were conducted per informant, with each session lasting approximately 30 to 45 minutes. To ensure a natural and comfortable atmosphere, interviews with the students and the teacher were conducted in the school library, while interviews with the parents were held at their respective homes. All interactions were conducted using the Indonesian language interspersed with Javanese to adapt to the children's daily linguistic habits. With permission, all sessions were audio-recorded and transcribed verbatim by the

researcher. The selected verbatim quotations were subsequently translated into English by the researcher for the purpose of this manuscript. The complete interview guide utilized in this study is available from the corresponding author upon request.

Strict adherence to research ethics was maintained throughout the study. Formal research permission and ethical approval were obtained from the Elementary School Teacher Education Study Program at Universitas Nahdlatul Ulama Yogyakarta and the principal of a Public Elementary School in Bantul. Prior to any data collection, written informed consent was obtained from the classroom teacher and all participating parents. For the child informants, in addition to parental consent, verbal assent was directly obtained from the students, ensuring they understood that their participation was voluntary. To strictly protect participant privacy and anonymity, all personal identities were removed and replaced with specific alphanumeric codes (e.g., S-1, OT-1, G-1) in all transcripts and publications.

Data Analysis

Data processing was conducted through inductive phenomenological analysis steps referring to the guidelines by Hasbiansyah (2008). The first step is to describe the phenomenon honestly without one-sided judgment. The researcher then conducted horizontalization, namely considering all points of the participants' statements to have an equal degree of standing. These statements were filtered and grouped into meaning units or specific themes such as academic anxiety and digital parenting. The researcher conducted a textural description regarding the actual events performed and a structural description to observe the background of the subjects' social environment. The synthesis results of the two descriptions were distilled to discover the fundamental essence or the most core meaning of the phenomenon experienced by the subjects.

Trustworthiness of the data was established through several rigorous procedures. Source triangulation was achieved by cross-referencing the students' narratives with testimonies from their parents and the classroom teacher. To ensure accuracy with the 10-year-old participants, member checking was adapted to their cognitive level; rather than requiring them to read full transcripts, the researcher verbally summarized their core statements in simple language during short follow-up conversations to allow the children to confirm or correct the interpretations. Furthermore, the 'extended observation' involved an additional two weeks of informal field visits in late April 2026 to observe the students' natural behaviors during recess and unstructured time.

Finally, to systematically practice epoche, the researcher maintained a reflexive bracketing journal throughout the fieldwork. As an undergraduate researcher in elementary education, the researcher initially held a preconception that children's reliance on artificial intelligence was driven solely by laziness. Acknowledging and bracketing this assumption through a reflexivity statement in the journal was a crucial step. This reflexive practice enabled the researcher to consciously suspend adult biases and objectively uncover the students' deeper emotional realities, such as their intense fear of obtaining poor grades and their underlying longing for genuine learning.

RESULTS

School Environment Conditions and Subject Family Profiles

This research took place at a Public Elementary School in Bantul, Special Region of Yogyakarta. This school is situated in a relatively quiet environment and possesses adequate infrastructure to support the learning activities of the students. As a state educational institution, this school accommodates students with quite diverse family social and economic backgrounds. Currently, the school has implemented the Kurikulum Merdeka (Independent Curriculum), which demands the development of character and independent learning of students in their daily lives. The school actually possesses very strict disciplinary

TABLE 3. *Characteristics of artificial intelligence technology utilization by student informants*

Student Code	Type of Application Used	Method of Inputting Questions	Most Frequent Subject	Primary Objective
S-1	Meta AI	Typed and Photographed	Mathematics and IPAS	To finish quickly and then sleep
S-2	Meta AI and Google	Typed Directly	Javanese Language and Mathematics	Seeking the easiest way
S-3	Meta AI	Typed	IPAS	Replacing the mother's role when busy
S-4	Dola	Photographed and Typed	Mathematics and Pancasila	Accelerating the assignment in order to be able to sleep

Note. IPAS refers to Natural and Social Sciences, an integrated science subject in the Indonesian elementary curriculum. Dola refers to Dola AI, a text-based generative artificial intelligence assistant integrated directly into the WhatsApp messaging application.

rules regarding the prohibition of bringing smartphones into the school environment. However, a new problem emerges when children are at home because their digital activities become increasingly high and are very difficult for teachers to supervise. The educators at this school are beginning to face a tangible challenge in the form of changes in children's learning habits due to the ease of accessing instant information through artificial intelligence applications.

To understand the reasons behind the emergence of this dependence, we must examine the home atmosphere or family environment of each subject. The home environment becomes the primary setting where children's digital habits begin to form gradually. These habits are highly influenced by the parents' level of busyness, the availability of learning facilities, and the parenting patterns applied daily. In the family of S-1, the parents possess a highly open perspective regarding the utilization of smartphones for school purposes. The mother of S-1, namely OT-1, implements a relatively permissive parenting style and grants full trust to the child to manage their assignments without any periodic checking. Meanwhile, the family of S-2 possesses a parenting pattern that is based solely on verbal trust. The parent of S-2, namely OT-2, is aware that their child uses devices for learning, yet the functioning control mechanism is limited only to verbal confirmation without ever directly examining the child's device screen activity.

A slightly different condition was found in the family of S-3 and the family of S-4, where the factor of busyness outside the home became the primary trigger. The mother of S-3, namely OT-3, possesses a dual workload that demands highly strict time management in handling both household affairs and work. In situations when the mother is busy, the smartphone is ultimately given to S-3 as a substitute assistive tool to accompany the child in completing school assignments. This pattern makes S-3 accustomed to making technology the primary reference when the mother does not have free time. On the other hand, the family of S-4 faces the challenge of a divided parenting focus because the parents are currently caring for a baby who is still ten months old. This condition causes S-4 to frequently be forced to study alone independently without accompaniment from adults. The presence of smart applications ultimately fills the void of the learning companion role that cannot be fulfilled by the parents.

The Pure Lived Experience of Students when Encountering Academic Deadlocks

Based on the field data findings, the students' experiences in utilizing artificial intelligence are not actions planned from the outset. These actions more frequently emerge as a spontaneous response when students encounter sudden learning difficulties. The interview

data indicate that fourth-grade students tend to feel confused or experience cognitive fatigue when faced with questions containing excessively long or complex sentences. Obstacles also arise when the answers to those questions cannot be found within their textbooks. In such urgent and pressured conditions, smartphones become the primary choice as the fastest way out. This phenomenon is clearly reflected through the admission of S-1, who chose to switch to using a smartphone when their head began to feel dizzy upon reading extremely long question texts.

> "*Biasanya pernah ada pakai HP, soalnya aku kepalanya udah pusing sekali. Kalau bacaannya panjang terus susah, aku nyari di internet.*" [I usually use my phone sometimes because my head already hurts a lot. If the reading is long and hard, I look it up on the internet.] (S-1, fourth-grade student)

This action pattern is also reinforced by the researcher's observation results while in the field. When confronted with Homework questions, the students tend to bypass the stage of reading the questions deeply. They choose to directly open the camera feature or type the question sentence into the search column of a smart application to obtain results rapidly. Another subject, namely S-2, also admitted that the use of device assistance was selected solely to simplify the completion of school assignments. For S-2, the process of seeking answers by reading manual printed books is evaluated as a highly boring activity because they feel lazy to analyze long reading texts.

> "*Biar gampang, kalau di buku harus dibaca. Kalau AI tinggal difoto dan ditulis. Cuman yang itu aja, yang gampang lah.*" [To make it easy, if it is in a book you have to read it. If it is AI, you just take a picture and write it down. Just that, the easy way.] (S-2, fourth-grade student)

The lived experience undergone by these students ultimately culminates in a new habit in the form of the practice of copying answers entirely without alteration. When the answer results from the smart application have appeared on the device screen, the students no longer process or rethink the information. They directly transfer the entire answer text into their respective notebooks. Another informant, namely S-3, explained that they always copy the answer in full. Although occasionally having the chance to skim the text, S-3 still transfers all sentences from the device screen without any parts being reduced so that the assignment can be completed without obstacles.

> "*Langsung aku salin. Ada beberapa tak baca dulu. Tapi tetap semua jawabannya itu langsung aku salin di buku itu.*" [I just copy it right away. Some of them I read first. But still, I just copy all the answers directly into the book.] (S-3, fourth-grade student)

The act of transferring the entire answer text without a selection process confirms that for the students, the completion of school assignments has shifted from an activity of understanding the material into an activity of merely fulfilling an obligation. The absence of this re-reading process proves that the children treat the machine's answers as an absolute truth that does not need to be re-examined. It is this exact condition that prevents the students' memory from recording the content of the lesson they have just written in their workbooks.

The Practical Objectives of Students in Saving Time and Securing Grades

Interview results prove that the primary objective of fourth-grade students in utilizing artificial intelligence is purely driven by the desire for school assignments to be completed as quickly as possible. The time successfully saved from such instant assignment completion is subsequently utilized by them to engage in other, more enjoyable activities at home, such as resting or playing. This highly honest reason was conveyed directly by S-1, who believes that the smartphone assists them in being able to sleep immediately.

> "*Biar cepat selesai terus langsung tidur.*" [So it gets done fast and I can go straight to sleep.] (S-1, fourth-grade student)

A similar objective was also expressed by another informant, namely S-4. For children in this age range, Homework is frequently viewed as a burden that obstructs their desire to rest immediately. The utilization of virtual assistants is ultimately positioned as the shortest

route to conclude this learning obligation. S-4 openly conveyed that they prefer utilizing smartphones so that their assignment is completed quickly, enabling them to rest directly without needing to think about the difficulty of the lesson questions anymore.

> "*Enggak mau main. Pengen pakai AI aja, terus langsung tidur.*" [I do not want to play. I just want to use AI, then go straight to sleep.] (S-4, fourth-grade student)

In addition to saving time, the students actually harbor another objective concerning their emotional security both at home and at school. The students utilize automated answering machines as protective tools to avoid teacher reprimands or parental anger resulting from obtaining poor assignment grades. There exists fear and doubt within the children if they force themselves to answer questions manually yet the final result turns out to be incorrect. The score of one hundred provided by the machine ultimately functions as a safeguard for their academic standing in the classroom. This anxious feeling is acknowledged by S-4, who feels highly worried if their assignment grade decreases due to answering errors.

> "*Khawatir, takutnya kalau pakai AI nganu, nilainya berkurang kalau salah.*" [I feel worried, I am afraid if I use AI, um, my grade will drop if it is wrong.] (S-4, fourth-grade student)

The fear of such grade deductions demonstrates the immense pressure felt by students concerning the demands of the final learning outcomes. For elementary-aged children, obtaining perfect grades is the safest path to secure praise at home while simultaneously avoiding reprimands at school. The utilization of automated answers is ultimately positioned as a self-protective fortress so that they continue to appear capable in the eyes of adults without having to exhaust their energy and reasoning.

Feelings of Doubt and Students' Self-Justification Regarding Cheating

The inner conflict experienced by the students demonstrates the existence of a highly unique feeling of hesitation within them. On one hand, the children experience extraordinary practical benefits from smartphones. However, on the other hand, whispers of conscience emerge in the form of guilt and profound fear if this copying habit is discovered by the teacher. In order to suppress this anxiety, the students' minds create a reason for justification by altering the understanding regarding acts of cheating. Students construct a new understanding that copying answer sheets from smart applications feels safer and more appropriate compared to the act of cheating from a classmate's book. This feeling of guilt mixed with fear is openly acknowledged by S-2 when they utilize the device at home.

> "*Ya merasa bersalah, takut salah. Takut ketahuan.*" [Yeah, I feel guilty, afraid of getting it wrong. Afraid of getting caught.] (S-2, fourth-grade student)

Smartphones are viewed as smart and impartial tools, so the act of transferring their text is considered part of a legitimate activity of seeking learning references. This reasoning is reflected in the unique mindset of elementary school students, who perceive the rule against cheating as applicable only between fellow humans. The justification for this shortcut was voiced with great conviction by S-4 when comparing the act of copying school assignments from a peer's work with the act of retrieving answers from a smart application.

> "*Kalau nyontek temen kan tidak boleh. Kalau pakai AI iya boleh.*" [Cheating from a friend is not allowed. But using AI is allowed.] (S-4, fourth-grade student)

Even though the students are trapped in the comfort of assignment books that always receive perfect grades, deep in their most honest hearts, some students actually harbor a desire to break free from device dependence in the future. Through their awareness, these specific children admit that being constantly spoon-fed answers by a smartphone prevents them from learning and instead harms their own understanding. The longing to once again experience a pure and independent learning process is explicitly captured through the hope of S-3, who wishes to refocus on reading textbooks.

> "*Lepas, biar nanti enggak keterusan enggak cari di buku. Biar aku juga bisa sambil melajarin yang lain juga.*" [I will let it go (stop using it), so it does not become a habit of not looking in the book. So I can also learn other things too.] (S-3, fourth-grade student)

This statement from S-3 serves as vital evidence that beneath their practical desire for instant answers, the students still possess a critical awareness regarding the long-term detriments of their technological shortcuts. Such an intrinsic realization provides a crucial psychological foundation for both educators and parents to intervene and guide the children back to independent learning habits before the cognitive dependency becomes permanently ingrained.

The Leniency of Parental Supervision and Evidence of Teacher Observation at School

The discussion regarding students' learning habits cannot be separated from the role of the home environment, as well as how parents provide space for the freedom of daily technology access. Parents frequently permit the utilization of smartphones as a practical way out when they are hindered by the busyness of work outside the home, resulting in the inability to directly accompany the child. The guardian of S-3, namely OT-3, openly admitted that they grant permission for smartphone utilization so that the child's Homework can be completed rapidly without piling up when they are occupied with work affairs.

> "*Iya kalau buat PR tapi sulit menurutnya, dia pinjam, tak pinjamin karena biar cepat selesai. Kalau saya sedang tidak sibuk tak ajari mas, tapi kalau saya sedang sibuk tak suruh pakai HP.*" [Yes, for homework, if he finds it hard, he borrows my phone, I lend it to him so he finishes fast. If I am not busy, I teach him, but if I am busy, I tell him to use the phone.] (OT-3, parent)

The weakness of supervision within the family environment also frequently manifests in the form of granting permission based solely on verbal inquiries, without being accompanied by a direct examination of the child's smartphone screen. The parent of S-2, namely OT-2, explained that they permit the child to open the smartphone purely due to trusting the child's statement claiming the desire to complete school assignments. It is this supervisory loophole that indirectly provides an opportunity for students to hunt for quick answers covertly without adult accompaniment.

> "*Ya taunya belajar, kan bilangnya mau ngerjain tugas. Ya saya bolehin asal beneran belajar.*" [I just know he is studying, because he said he wanted to do his assignments. Yeah, I allow it as long as he is actually studying.] (OT-2, parent)

Meanwhile, the changes in children's learning habits at home have been fully recognized by the school through the direct observation of the fourth-grade classroom teacher, who can immediately identify when a child submits an assignment resulting from a smartphone. This observation was directly corroborated by the researcher's documentation study, which juxtaposed the students' homework with their in-class manual writing. For instance, in a natural and social sciences (IPAS) assignment, the text copied into their homework book contained sophisticated academic phrasing, complete with formal quotation marks (e.g., mentioning terms like "ekosistem seimbang" or structured scientific definitions) that heavily contrasted with the simple, spontaneous phrasing of their in-class manual exercises. The teacher realizes that such advanced vocabulary and structured quotation usage exceed the cognitive capacity of a ten-year-old, meaning the excessively perfect appearance of the assignment serves as concrete documentary evidence of machine-generated answers.

> "*Kalau dari AI kan kelihatan, itu kan kayak luas, terus kata-katanya tertata, kalimatnya tertata gitu. Kalau anak kelas 4 sepertinya belum segitu pencapaiannya kalau kata-katanya.*" [If it is from AI, you can tell, it is broad, the words are structured, the sentences are neatly arranged. I do not think fourth-graders have reached that level of vocabulary yet.] (G-1, classroom teacher)

The detrimental impact of this habit of being spoon-fed instant answers is clearly visible when the students are in the classroom. The teacher observed a specific, visible decrease in cognitive perseverance among the four identified students (S-1 to S-4) when they were asked to complete practice questions independently without the assistance of smartphones. The students who usually submitted homework with perfect grades conversely became the group that gave up quickly and frequently voiced verbal complaints when encountering cognitive obstacles at the classroom whiteboard.

> "*Mengeluh. Sama-sama mengeluh. Kalau itu mengeluh e mah. Kebanyakan mengeluh saat diberi tantangan.*" [They complain. Both of them complain. They really just complain. Mostly complaining when given a challenge.] (G-1, classroom teacher)

The attitude of easily complaining and giving up quickly within the classroom is a tangible consequence of learning habits that are overly pampered by the convenience of technology at home. This behavioral disparity reinforces that the fortress of discipline constructed by the teacher at school instantaneously collapses when students return to a home with minimal supervision. Without the existence of aligned disciplinary agreements between the family and the school, the ease of digital access will conversely continue to weaken children's mental learning resilience in the long term.

DISCUSSION

Meaning-Making of Lived Experience and the Paralysis of Children's Logic

The findings of this research indicate that the pure lived experience of fourth-grade students when confronted with difficult homework is dominated by feelings of pressure and mental fatigue. The dizziness experienced by S-1 and the laziness expressed by S-2 upon seeing long reading texts demonstrate the occurrence of a reading endurance crisis in children. In Husserl's perspective, this inner experience is pre-reflective, wherein children react purely to discomfort before they contemplate the long-term consequences of their actions. When smartphones present instant answers, a process of cognitive offloading occurs (Risko & Gilbert, 2016), namely the direct transfer of the burden of remembering and thinking to the machine.

While some existing literature, such as the correlational study by Mardin (2025), suggests a positive relationship between AI integration and analytical thinking skills, such statistical approaches do not capture the causal reality of unsupervised learning at home. In practice, delegating the reasoning process to artificial intelligence systems leads to detrimental outcomes. As clarified by Maghfiroh & Widhiastuti (2025), AI dependence actually produces negative effects on critical thinking, even among mature university students. When this unchecked cognitive offloading occurs at the fourth-grade level, it does not assist learning; rather, it paralyzes the children's foundational understanding because their basic analytical faculties are still in the developmental stage.

The habit of avoiding long readings genuinely demonstrates the fragility of foundational basic literacy in these students. When children choose to directly photograph questions using a device camera without attempting to analyze the sentence structure first, they lose a crucial stage in the learning process, namely the stage of deciphering meaning. In elementary education, homework is designed not merely to produce a completed answer sheet, but rather as a means to train children's concentration span and sitting endurance through *productive struggle* (Kapur, 2008). Experiencing and overcoming these cognitive difficulties is essential for their development. When a machine takes over the deciphering stage, students circumvent the active mental processing required for comprehension. This lack of active engagement offers a pedagogical explanation for the observation that students cannot recall or explain the material they have just copied during in-class manual tests. If this shortcutting habit continues without supervision, schools risk producing a generation of learners who are capable of writing beautiful sentences on paper, yet completely fail to comprehend the meaning of the sentences they wrote themselves.

Directedness of Thought (Intentionality) and the Danger of the Illusion of Academic Competence

Analysis of the intentionality or the direction of students' consciousness demonstrates that their thoughts are not directed towards the mastery of the lesson material, but rather directed towards two pseudo-achievements, namely time efficiency and grade security. For Generation Alpha, who are accustomed to the fast-paced rhythm of visual information, manual school assignments are viewed as a slow obstacle that disrupts their playing and resting time at home. Consequently, smartphones are positioned as the most practical burden-relieving tools.

This condition gives rise to the "illusion of competence," a psychological phenomenon that Ferdinanda et al. (2026) have documented among pre-service teachers and university students. In the context of this current study, the fourth-grade students feel capable because they consistently submit homework with perfect scores, even though the answers are entirely generated by algorithms. This illusion is quickly exposed when the classroom teacher (G-1) tests them at the whiteboard without devices; the students immediately demonstrate a passive attitude and low perseverance. Furthermore, while Oktafia et al. (2025) warn that AI dependence triggers a decline in problem-solving abilities among higher education students, observing this same reliance in elementary school children is far more alarming. Literature specific to children's digital education (Su & Yang, 2022) highlights that when young learners use smart technology to bypass cognitive challenges, they actively miss out on developing the foundational persistence necessary to confront academic difficulties.

Furthermore, the magnitude of the students' fear regarding grade deductions demonstrates a shift in learning objectives within their consciousness. For learners at this age, the score of one hundred is no longer understood as a measure of knowledge comprehension, but rather as a shield to secure their self-esteem in front of teachers and parents. When children feel that obtaining poor grades will result in reprimands or anger, they automatically seek the safest path to save themselves; ultimately, devices are positioned as an emotional safety valve. This psychological phenomenon serves as a practical critique of the assessment culture in elementary schools, which frequently over-glorifies final numerical results yet underappreciates the children's effort process when making mistakes. As long as schools and homes continue to utilize perfect scores as the sole benchmark of a smart child, students will continue to be driven by fear to rely on machine answers for the sake of securing their position in the classroom.

Epoche Reduction: Dissecting the Moral Justifications Behind Early Plagiarism

The application of the epoche attitude, or the suspension of prejudice, successfully uncovers the children's way of thinking in morally justifying their actions. As shown in the data, S-2 initially experienced a sense of guilt and fear of being caught. However, this feeling of guilt is subsequently neutralized through a new formulation of reasoning. The students construct a distinction where copying answers from a machine is considered legitimate, which they view as entirely different from the act of cheating from a peer's workbook. In their consciousness, virtual assistants are simply positioned as neutral learning references rather than human entities they are deceiving.

This dynamic can be understood through the concept of moral disengagement (Bandura, 1999), where individuals rationalize their actions to suppress feelings of guilt. While Chan (2024) documented an absence of *AI guilt* among university students who feel no human figure is directly harmed by their plagiarism, this current study finds a more nuanced reality at the elementary level. The young students actually feel guilty at first, but they actively suppress this emotion by convincing themselves that the "no-human-victim" rule makes their shortcut acceptable. Nevertheless, based on established educational ethics, the act of transferring machine text entirely without active processing is consistently categorized as a form of academic plagiarism (Khalida et al., 2025).

The emergent logic that distinguishes between the rules of copying from humans and copying from machines may have long-term implications for their academic development.

By applying the epoche principle, it becomes evident that the students are not deliberately manipulating ethics; rather, they are operating within a new digital environment where traditional definitions of cheating seem inapplicable to them. If this redefinition of honesty remains unaddressed as they progress to secondary or higher education levels, there is a risk that their understanding of original academic work might become fundamentally altered. Therefore, addressing this phenomenon requires pedagogical sensitivity rather than mere punitive measures. Teachers and parents must initiate open dialogues to bridge this ethical gap, guiding the children to understand that academic integrity applies to the authenticity of the learning process itself, regardless of whether the source is human or an automated system.

Finding the Eidos: The Disparity of Parenting Rules and the Longing for Pure Learning

The culmination of this entire phenomenological analysis is the discovery of the eidos, or the most essential meaning. The core meaning of the AI dependence phenomenon at a Public Elementary School in Bantul is rooted in the lack of synchronization in rules between the school and home environments. At school, teachers have conditioned a device-free zone so that students think independently. However, this regulation collapses when students return home due to permissive digital parenting triggered by the busyness of parents' work (Pratiwi et al., 2022). The absence of critical dialogue between parents and children regarding the boundaries of technology utilization ultimately transforms the home into a place that fosters the loss of learning independence (Theopilus et al., 2025).

The severance of the supervisory bridge between school and home tangibly threatens the realization of the grand ideals of national education outlined in the Pancasila Student Profile (Profil Pelajar Pancasila), particularly in the dimensions of critical reasoning and independence (Sitanggang & Andriany, 2024). Elementary education is genuinely a mental training ground for children to experience confusion, to be courageous in making mistakes, and to persistently seek solutions. When artificial intelligence applications are always present to cut short this phase of confusion within their homes, children lose a valuable stage to train their mental resilience. If this imbalanced parenting ecosystem is continuously left unaddressed without any improvement in communication between homeroom teachers and parents, elementary schools will only graduate a generation of learners who appear highly agile when staring at smartphone screens, yet are extremely fragile and prone to complaining when the impact of real problems approaches their lives (Maryani & Hilalludin, 2025).

Ultimately, the admission from specific students regarding their desire to reduce smartphone dependency reveals the essential meaning (eidos) of the experience for these participants. Rather than representing a universal truth about all learners, this finding shows that for these children, the fast-paced convenience of artificial intelligence has not completely erased their appreciation for genuine understanding. When S-3 expressed the wish to return to reading books to truly grasp the material, it demonstrated that being constantly given instant answers can eventually lead to a sense of dissatisfaction. This indicates that technological shortcuts do not always replace the sense of achievement gained from solving problems independently. This remaining awareness among the students serves as a practical foundation for schools and parents to adjust their guidance, helping the children rebuild their independent study habits while the opportunity still exists.

CONCLUSION

This phenomenological study reveals that the lived experience of fourth-grade students when facing difficult homework is characterized by mental fatigue and a low endurance for reading. Consequently, their intentionality when utilizing artificial intelligence is not directed toward mastering the material, but rather toward time efficiency and grade security. This AI dependence serves as a practical shortcut for cognitive offloading, allowing

children to submit perfect assignments while actually experiencing an illusion of academic competence.

Furthermore, the essential meaning (eidos) of this phenomenon lies in the students' moral neutralization of academic integrity. The children construct a new justification, believing that copying from a machine is a legitimate action and distinct from the violation of cheating from a human peer. Despite this flawed reasoning, the students' underlying admission that they eventually want to study independently indicates that their appreciation for genuine learning has not been entirely lost.

To address this issue, collaborative synergy between schools and families is highly required. Educators are advised to modify homework designs, shifting from conventional text-based questions—which are easily answered by AI applications—to hands-on practices or contextual projects. Simultaneously, parents must be guided to improve their active digital supervision and stop measuring their child's diligence solely by the speed of task completion. Future research is expected to explore process-based assessment models that can safely evaluate children's independent reasoning across different elementary grade levels.

ACKNOWLEDGMENTS

The authors wish to express their deepest gratitude to the principal and the entire teaching staff at a Public Elementary School in Bantul, particularly the fourth-grade homeroom teacher, who granted permission for the research site and facilitated the conduct of this study. The authors also extend profound appreciation to the students and parents who willingly dedicated their time and provided honest accounts as informants. The school and the families have made an extraordinary contribution in providing complete field data for this research. Additionally, gratitude is directed towards the Elementary School Teacher Education Study Program, Faculty of Education, Nahdlatul Ulama University of Yogyakarta for the academic and administrative support provided during the preparation process of this article.

DECLARATIONS

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethics Approval and Consent to Participate

Formal research permission and ethical approval were obtained from the Elementary School Teacher Education Study Program at Universitas Nahdlatul Ulama Yogyakarta and the principal of a Public Elementary School in Bantul (No. 36/UNU.FIP.PGSD/PRM/IV/2026, dated April 14, 2026). Written informed consent was obtained from the classroom teacher and the parents of all participating students. For the child informants, in addition to parental consent, verbal assent was directly obtained from the students. Consent for publication of anonymised data was obtained, ensuring all personal identities were replaced with specific alphanumeric codes (e.g., S-1, OT-1, G-1).

Availability of Data and Materials

The data supporting the findings of this study are available from the corresponding author upon reasonable request; they are not publicly available because they contain information that could compromise participant privacy.

Author Contributions

Ziyan Pradana Nuru Faizu: Conceptualization, Methodology, Investigation, Formal analysis, Data Curation, Writing – original draft. Hidar Amaruddin: Supervision, Writing – review & editing. All authors have read and approved the final version of the manuscript.

Declaration of Generative AI and AI-Assisted Technologies in the Manuscript Preparation Process

During the preparation of this work, the authors used Gemini 3.1 Pro (Google) to translate the manuscript from Indonesian to English and improve language readability. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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