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Human Resource Competency Development in the Education Sector through Classroom Action Research (CAR)

Aulia Shafira Vanessa
Department of Management, Faculty of Economics, Sriwijaya University
auliashafiraav@fe.unsri.ac.id

Abstract

The development of digital technology and the utilization of Artificial Intelligence (AI) in education have brought significant changes to the learning process in higher education institutions. On the one hand, technology provides easier access to information and supports the effectiveness of learning activities; on the other hand, it also creates challenges related to academic integrity and students' critical thinking skills. This condition highlights the need for human resource competency development in the education sector through adaptive, innovative, and academically oriented learning strategies. This study aims to analyze the development of educational human resource competencies through the implementation of Classroom Action Research (CAR) in the SMART–Integrity Learning (SMILE) strategy among students of the Faculty of Economics at Sriwijaya University. The study employed a descriptive qualitative approach using the Classroom Action Research method, which was conducted through the stages of planning, action, observation, and reflection. The research subjects were students of the Faculty of Economics at Sriwijaya University enrolled in courses taught by the researcher. Data collection techniques included classroom observation, documentation of student assignments, evaluation of Turnitin and AI Detector results, and learning reflections. The findings indicate that the implementation of the SMILE strategy successfully increased students' awareness of academic integrity through the application of a maximum similarity limit of 25%, enhanced critical thinking skills through case-based discussions and the use of AI as a learning partner, and improved students' active participation in the learning process. This study demonstrates that the development of educational human resource competencies can be achieved through adaptive, collaborative, and academically ethical learning innovations to support more effective and professional learning quality.

Keywords*: Human Resource Competency Development, Classroom Action Research, Academic Integrity, Critical Thinking Skills.*

1. Introduction

The development of digital technology has brought significant changes to various aspects of life, including higher education. The increasingly rapid digital transformation has encouraged universities to adapt to the advancement of information and communication technology in the learning process. One of the technological developments that currently has a major influence on education is the emergence of Artificial Intelligence (AI). AI technology provides convenience for students in obtaining information, preparing learning materials, finding references, and even completing academic assignments quickly and practically. The presence of AI can essentially become a positive opportunity to support learning effectiveness when utilized wisely, proportionally, and responsibly.

However, behind the various conveniences offered, the use of AI in education also creates new challenges that require serious attention. The ease of obtaining instant answers through AI has the potential to reduce the quality of students' thinking processes if it is not balanced with adequate analytical and evaluative skills. Students tend to use AI as a tool to obtain final answers without going through the process of understanding concepts, analyzing problems, or building arguments independently. This condition indirectly affects students' critical thinking skills, which are considered one of the essential competencies in higher education learning.

Critical thinking is the process of using thinking skills effectively to help individuals make, evaluate, and apply decisions based on the beliefs or actions they take (Putri et al., 2025). Critical thinking is an ability possessed by every individual that can be measured, trained, and improved, and it has a significant correlation with mathematical thinking (Des et al., 2024). Critical thinking is not only related to the ability to understand information, but also

includes the ability to analyze, evaluate, interpret, and construct logical and systematic arguments. In the context of higher education, critical thinking skills are essential for students to solve problems rationally, make appropriate decisions, and generate innovative and solution-oriented ideas. Therefore, universities have a responsibility to create learning processes that encourage the optimal development of students' critical thinking abilities.

In addition to critical thinking skills, academic integrity has also become an important concern in higher education. Academic integrity is a fundamental part of academic culture aimed at preventing academic dishonesty. Academic integrity represents an expectation of the values of honesty, professionalism, and trustworthiness (Firmantyo & Alsa, 2016). In practice, academic integrity is demonstrated through students' ability to produce original academic work, use references appropriately, and avoid plagiarism in any form. In today's digital era, challenges to academic integrity are increasing along with easier access to various information sources and AI technology. Students can easily copy information from the internet or use AI to generate instant answers and written work without understanding the substance of the material presented. This phenomenon may lead to hidden plagiarism practices, superficial paraphrasing, and low awareness of the importance of academic ethics. If this condition is not addressed immediately, it may negatively impact the quality of learning and weaken students' academic character.

Problems related to low academic integrity and critical thinking skills were also found among students. Based on the researcher's observations and experiences during the learning process, many students still showed a high level of dependence on AI in completing assignments and answering discussion questions in class. When students were given case studies to analyze and solve, most of them spontaneously used their smartphones to search for answers through AI applications. However, when asked to explain the answers orally, students tended to experience difficulties and were unable to present the answers using their own understanding and language. This condition indicates that students have not fully engaged in deep analytical and conceptual internalization processes. Students focus more on obtaining instant answers rather than engaging in the thinking process that should become the core of higher education learning. Furthermore, in the assessment of papers and academic reports, high similarity levels and improper citation practices were still identified. Some students still lacked understanding of proper paraphrasing techniques and had limited awareness of the importance of originality in academic writing.

This phenomenon demonstrates challenges in developing human resource competencies in the educational sector, particularly in shaping students who possess strong academic integrity and critical thinking skills. Human resource development is a planned organizational effort to continuously improve human resource competencies over the long term. It is carried out to ensure the availability of human resources in accordance with job requirements and is aimed at improving individual performance, which ultimately contributes to organizational performance (Nikmah et al., 2023). Universities are not only responsible for producing graduates with academic competencies but also for shaping character, ethics, and adaptive and innovative thinking abilities.

The development of human resource competencies in education has become one of the strategic aspects that higher education institutions must pay attention to. Human resource competencies do not only include technical abilities or hard skills but also soft skills such as critical thinking, communication, collaboration, creativity, and integrity. Development has a broader scope in efforts to improve and enhance an employee's knowledge, abilities, attitudes, and personality traits (Selviyanti et al., 2023). In the era of digital transformation, these competencies are increasingly important because the workforce requires individuals who are not only capable of utilizing technology but also able to think analytically, adaptively, and ethically. In the context of higher education, lecturers play a strategic role in developing student competencies through innovative learning processes oriented toward strengthening academic character. Lecturers are not only responsible for delivering learning materials but also act as facilitators who encourage students to think actively, engage in discussions, analyze problems, and construct arguments independently. Therefore, learning strategies are needed that can integrate technological utilization with the strengthening of academic integrity and critical thinking skills.

One effort that can be implemented to address these challenges is the SMART–Integrity Learning (SMILE) strategy. The SMILE learning strategy is designed to integrate academic integrity reinforcement with the development of critical thinking skills through the utilization of AI as a learning partner in the educational process. In this strategy, AI is not positioned as a tool for obtaining instant answers but rather as a medium that encourages students to explore ideas, reflect, and conduct deeper analysis. The implementation of the SMILE strategy is carried out through several approaches, including the provision of learning contracts emphasizing the importance of academic integrity, the application of a maximum similarity limit of 25% through Turnitin checks, the use of AI Detectors to monitor AI utilization in academic assignments, and the implementation of case-based discussions using AI-generated questions. During the discussion process, students are asked to answer questions directly

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without reading from their smartphones, encouraging them to understand the material more deeply and build arguments based on their own thoughts. This learning strategy also provides reflective opportunities for students through the process of comparing students' answers with answers generated by AI. The process aims to help students understand different perspectives, strengthen analytical abilities, and improve evaluative skills toward various problems. Therefore, AI is utilized as a learning medium that supports the development of critical thinking competencies rather than replacing students' thinking processes.

The implementation of the SMILE learning strategy aligns with the concept of human resource competency development in education, which emphasizes the importance of soft skills development and digital literacy. Universities need to create learning systems that are adaptive to technological developments while remaining oriented toward the formation of students' character and academic ethics. The use of technology in learning should not eliminate students' thinking processes but instead become a tool to strengthen analytical abilities, creativity, and innovation.

This study employs the Classroom Action Research (CAR) approach as a method. According to Hopkins (as cited in Rusman (2020), Classroom Action Research is a type of research that combines research procedures with substantive actions. It refers to actions carried out within an inquiry discipline or an individual's effort to understand what is happening while simultaneously being involved in a process of improvement and change. Juanda (2016) stated that Classroom Action Research is an effort to improve the quality of education by directly addressing practical problems occurring in the classroom.This method was chosen because it provides opportunities for researchers to conduct planning, action, observation, and reflection continuously to improve learning quality. The use of Classroom Action Research in this study is considered relevant because the problems encountered are directly related to classroom learning processes. Through this approach, researchers can identify existing problems, design appropriate learning strategies, implement corrective actions, and evaluate the effective

ness of the implemented strategies. In addition, Classroom Action Research also allows continuous improvement based on reflections during the learning process.

Research related to human resource competency development through learning strategies based on academic integrity and critical thinking still has broad opportunities for further development, particularly in the context of AI utilization in higher education. Most previous studies have focused more on the use of AI as a learning medium or on ethical challenges related to AI in education. However, studies specifically integrating AI as a learning partner to improve academic integrity and critical thinking skills are still relatively limited.

Furthermore, this study is also relevant to human resource development in education because it focuses on developing student competencies as future workers who are adaptive to technological advancements. Today's workforce requires individuals who are not only capable of utilizing digital technology but also possess critical thinking skills, good communication abilities, integrity, and creative problem-solving competencies. Therefore, universities need to implement innovative learning strategies that address these demands. Through the implementation of the SMILE learning strategy, students are expected not only to improve their academic abilities but also to develop awareness of the importance of academic integrity and ethical technology utilization. This strategy is expected to create a more reflective, active, collaborative, and competency-oriented learning culture.

Based on the explanation above, research regarding the development of human resource competencies in the educational sector through Classroom Action Research is important to conduct. This study is expected to contribute to the development of innovative and adaptive learning strategies in response to technological advancements while simultaneously improving the quality of higher education learning. In addition, the results of this study are expected to b

ecome a reference for lecturers and educational institutions in developing learning models that can improve academic integrity, critical thinking skills, and student competencies in the digital era.

2. Research Methods

This study employed a descriptive qualitative approach using the Classroom Action Research (CAR) method. This approach was selected because the research focused on improving and developing the learning process through the implementation of the SMART–Integrity Learning (SMILE) strategy in enhancing students' academic integrity and critical thinking skills as part of human resource competency development in higher education. The

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development of student competencies is considered important in preparing adaptive, innovative, and ethically responsible human resources capable of facing the challenges of digital transformation and workforce demands. Through the implementation of the SMILE strategy, students were expected not only to improve their academic performance but also to strengthen essential competencies such as critical thinking, communication skills, problem-solving abilities, ethical digital literacy, and professional responsibility.

The study was conducted among second-semester students of Class C in the Diploma III Secretarity Program, Faculty of Economics, Sriwijaya University, who were enrolled in the Introduction to Business course taught by the researcher. The research subjects were selected purposively based on their involvement in the implementation process of the SMILE learning strategy. The research focused on learning activities involving the use of Artificial Intelligence (AI) in students' academic activities, particularly in assignment preparation, classroom discussions, and case study problem-solving.

The research implementation was carried out through several stages based on the Classroom Action Research model, namely planning, acting, observing, and reflecting. Research data were collected through several techniques, including observation, documentation, and learning reflection. Observation techniques were used to obtain data regarding students' activities during the learning process, levels of participation in classroom discussions, and behavioral changes related to the use of AI and academic assignment preparation. Documentation techniques were conducted by collecting documents such as students' assignments, Turnitin similarity check results, AI Detector evaluation results, learning contracts, assessment rubrics, and learning activity documentation. Meanwhile, learning reflection was used to obtain information regarding students' responses toward the implementation of the SMILE strategy as well as evaluations of the effectiveness of the learning process that had been conducted.

Data analysis in this study was carried out descriptively and qualitatively through the stages of data reduction, data presentation, and conclusion drawing. In the data reduction stage, the researcher conducted the process of selecting, simplifying, and categorizing the data obtained during the research. The data presentation stage was conducted by systematically organizing the data in the form of descriptive narratives to facilitate the data interpretation process. Furthermore, the conclusion drawing stage was conducted by analyzing the results of the implementation of the SMILE learning strategy on students' competency development, particularly in the aspects of academic integrity and critical thinking skills. To ensure the validity of the research data, the researcher applied data triangulation techniques through comparisons between observation results, documentation, and learning reflections. Triangulation was conducted to ensure the consistency of the data obtained throughout the research process. In addition, the researcher also conducted continuous evaluations of the learning process to ensure that the implemented actions were aligned with the research objectives.

Through the Classroom Action Research method, this study not only aimed to identify learning problems but also to generate practical solutions through the implementation of innovative and adaptive learning strategies in response to digital technological developments. Furthermore, this study was directed toward the development of human resource competencies in the educational sector by strengthening students' critical thinking skills, academic integrity, communication abilities, problem-solving skills, and ethical digital literacy. These competencies are considered essential components in preparing students as qualified human capital who are capable of adapting to technological changes and the evolving demands of the workforce. Therefore, this study is expected to contribute to the development of competent, adaptive, innovative, and ethically responsible human resources through learning processes based on academic integrity, critical thinking, and the ethical utilization of technology.

3. Results and Discussions

The implementation of the SMART–Integrity Learning (SMILE) strategy through the Classroom Action Research approach showed several positive changes in the learning process, particularly in the development of students' competencies in academic integrity, critical thinking, communication skills, and ethical digital literacy. The implementation was carried out through stages of planning, action, observation, and reflection during the learning process in the Introduction to Business course for second-semester students of Class C in the Diploma III Secretarial Program, Faculty of Economics, Sriwijaya University.

A. Classroom Action Research Stages

In classroom action research, lecturers evaluate the learning process, implement new strategies aligned with educational values, and develop more effective teaching practices through reflection and direct teaching experience in the classroom (Ardine & Aini, 2023). This approach greatly contributes to improving students' competencies because the learning process does not only focus on delivering course materials, but also encourages students to think critically, actively participate in discussions, solve problems independently, and

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develop academic integrity and responsibility in the use of technology. Action research is generally conducted through several systematic stages that form a continuous cycle of improvement in the learning process. According to (Syah, 2016) action research consists of four main stages, namely planning, action, observation, and reflection. These stages can be explained as follows:

1) Planning Stage
   At the planning stage, the researcher identified several learning problems related to low academic integrity and students' critical thinking skills during the Introduction to Business course. Initial observations showed that many students depended heavily on Artificial Intelligence (AI) applications in completing assignments and answering classroom discussion questions. Students tended to focus on obtaining instant answers instead of understanding concepts and conducting independent analysis. The researcher also evaluated students' assignments using Turnitin and identified relatively high similarity scores in several papers and reports. In addition, some students still demonstrated limited understanding regarding proper paraphrasing techniques, scientific citation methods, and ethical academic writing practices. These conditions indicated the need for an innovative learning strategy that could strengthen students' competencies in academic integrity, analytical thinking, communication skills, and ethical digital literacy. Based on these findings, the researcher designed the SMART–Integrity Learning (SMILE) strategy as an intervention to improve the learning process. Several preparations were conducted during this stage, including the preparation of learning contracts, assessment rubrics, case-based discussion materials, Turnitin evaluation mechanisms, AI Detector monitoring, and guidelines regarding ethical AI utilization in academic activities.
2) Action Stage
   At the action stage, the SMILE learning strategy was implemented in classroom learning activities. The researcher introduced students to the importance of academic integrity, ethical technology utilization, and critical thinking skills in higher education learning. Students were informed about the maximum similarity limit of 25% for academic assignments and were guided on how to paraphrase correctly and cite references appropriately. The implementation process also involved case-based discussions supported by AI-generated questions. Students were encouraged to analyze problems independently, formulate arguments, and present their opinions without directly relying on AI-generated answers. AI was positioned as a learning partner to support idea exploration and reflection rather than as a substitute for students' thinking processes. Reflective learning activities were also conducted by comparing students' answers with AI-generated responses. This activity aimed to improve students' analytical abilities, evaluative thinking, and understanding of different perspectives regarding academic problems.
3) Observation Stage
   During the observation stage, the researcher monitored students' participation, learning behavior, and responses throughout the implementation of the SMILE strategy. Observations focused on students' participation in discussions, confidence in presenting arguments, critical thinking abilities, and awareness regarding academic integrity. The researcher also observed changes in students' behavior regarding the use of AI technology. Initially, many students tended to use AI to obtain direct answers without analysis. However, during the implementation process, students gradually became more capable of using AI critically and responsibly. Students began to compare AI-generated answers with their own perspectives and became more active in questioning and evaluating information. Observations were also conducted on students' assignments through Turnitin and AI Detector evaluations. Several assignments showed lower similarity scores after students received guidance regarding paraphrasing and citation techniques. This indicated an improvement in students' awareness of academic ethics and originality in academic writing.
4) Reflection Stage
   At the reflection stage, the researcher evaluated the effectiveness of the SMILE learning strategy based on observation results, assignment evaluations, classroom participation, and students' responses during the learning process. The reflection results indicated that the implementation of the SMILE strategy positively contributed to improving students' academic integrity, critical thinking skills, communication abilities, and ethical digital literacy. Students became more confident in presenting arguments independently and demonstrated better analytical thinking skills during discussions. They also showed increased awareness regarding ethical AI utilization and the importance of originality in academic assignments. However, several challenges were still identified during the implementation process. Some students initially experienced difficulties adapting to discussion-based learning because they were accustomed to relying on instant AI-generated answers. In addition, differences in students' digital literacy levels influenced their ability to use AI effectively and responsibly. Therefore, continuous guidance and supervision remained necessary to ensure the sustainability of the implemented learning strategy.

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B. Human Resource Competency Development

Human resource competency development can be carried out through education and training. Education is implemented through study assignments, while training can be conducted through classical methods such as seminars, workshops, and formal training programs, as well as non-classical methods such as coaching, mentoring, and e-learning (Yudhy & Setiadiputra, 2017). In the context of this study, the SMILE learning strategy can be categorized as a non-classical training approach, particularly through coaching, mentoring, and e-learning, because the learning process involves direct guidance, reflective learning activities, and the utilization of technology and Artificial Intelligence (AI) in classroom learning activities. Human resource competency management begins with the processes of planning, organizing, developing, and evaluating human resource competencies (Damingun, 2017). This concept of human resource competency management is aligned with the stages of Classroom Action Research, which consist of planning, action, observation, and reflection. Human resource competencies need to be developed and prepared to face future challenges at the executive, managerial, and employee levels.

1) The Relationship Between Human Resource Competency Development and Academic Integrity

The development of human resource competencies has a close relationship with the implementation of academic integrity in the higher education learning process. University educators have responded by placing a bigger focus on authentic learning activities and authentic assessment, so that students develop the skills and practices that they will need in their future careersAcademic integrity is one of the fundamental values that plays an important role in shaping students' character, ethics, and professionalism as future human resources entering the workforce (Sotiriadou et al., 2019). From the perspective of human resource development, competency does not only include knowledge and technical skills (hard skills), but also encompasses values, attitudes, and professional behavior (soft skills) that reflect individual responsibility and ethics. The implementation of academic integrity in the learning process helps students develop honesty, discipline, responsibility, and respect for others' intellectual work. These values are essential components in developing qualified human resources because the workplace requires individuals who are not only academically competent but also possess strong morality and work ethics. Students who consistently practice academic integrity are more likely to demonstrate ethical and professional decision-making abilities in professional environments.

This finding aligns with Human Capital Theory (Becker, 1993), which posits that investment in education, training, and human resource development leads to increased productivity and work quality. In the academic context, professional HR development serves as a vital instrument to cultivate educators who are innovative, adaptive, and globally competitive (Sukanti, 2025). In addition, academic integrity is closely related to the development of independent thinking and intellectual responsibility. Students who complete assignments originally and independently tend to become more accustomed to analyzing, evaluating, and solving problems on their own compared to students who rely on plagiarism or instant answers generated by Artificial Intelligence (AI). This condition contributes to the development of human resource competencies in critical thinking, creativity, and problem-solving skills, which are highly required in the modern workforce. In the era of digital transformation, the relationship between human resource competency development and academic integrity has become increasingly important because the accessibility of technology and Artificial Intelligence (AI) may reduce the quality of students' thinking processes if not balanced with ethical technology utilization. Therefore, strengthening academic integrity becomes an important part of human resource competency development to ensure that students are capable of utilizing technology ethically, responsibly, and productively. Academic integrity also supports the development of students' professionalism as future employees and professionals. Individuals with strong integrity are generally more trusted in carrying out responsibilities, maintaining accountability, and working according to organizational ethical standards. Therefore, the implementation of academic integrity during the educational process can serve as a foundation for developing competent, adaptive, professional, and ethically responsible human resources capable of facing workforce challenges in the digital era.

2) The Relationship Between Human Resource Competency Development and Critical Thinking

The development of human resource competencies is closely related to the improvement of critical thinking skills in the educational process. Critical thinking is considered one of the essential competencies required in the modern workforce because it enables individuals to analyze information, evaluate problems, make rational decisions, and develop effective solutions in complex situations. In the context of human resource development, critical thinking is categorized as an important soft skill that supports

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individual performance, adaptability, and innovation in professional environments. Higher education institutions play a strategic role in developing students' critical thinking skills through learning processes that encourage analysis, discussion, problem-solving, and independent reasoning. Students who possess strong critical thinking abilities are generally more capable of understanding problems comprehensively, evaluating information objectively, and generating logical arguments based on evidence and analysis. These competencies are highly important in preparing students to face increasingly dynamic workplace demands and technological developments. Critical thinking skills also have a significant impact on fostering innovation. Based on these findings, organizations can strengthen the development of employees' critical thinking skills through specialized training programs and problem-based learning approaches (Sukanti, 2025). In professional environments, employees are expected not only to follow instructions but also to identify challenges, evaluate alternatives, and provide innovative solutions to organizational problems. Therefore, critical thinking competency becomes an important component in human resource development because it supports productivity, creativity, collaboration, and organizational effectiveness.

In the digital era, the importance of critical thinking has increased significantly due to the rapid growth of information and technology, including the use of Artificial Intelligence (AI). Students are required not only to access information quickly but also to critically evaluate the accuracy, relevance, and credibility of the information they receive. Without critical thinking skills, students may become overly dependent on instant information and unable to analyze problems independently. Therefore, educational institutions need to create learning strategies that encourage students to think analytically, reflectively, and independently. Critical thinking is also closely related to adaptability and lifelong learning competencies. Individuals with critical thinking abilities tend to be more open to new perspectives, more flexible in responding to changes, and more capable of learning continuously in rapidly changing environments (Trisliatanto et al., 2021). These characteristics are highly relevant to the concept of human resource competency development, which emphasizes the importance of preparing adaptive, innovative, and competitive individuals in the workforce.

3) Development of Human Resource Competencies Through Learning Innovation
The findings of this study indicate that the implementation of the SMILE learning strategy contributed to the development of several important human resource competencies in the educational sector. These competencies included critical thinking skills, communication abilities, ethical digital literacy, problem-solving skills, collaboration, and academic integrity. The integration of AI into the learning process also helped students develop adaptive competencies required in the digital era. Students learned how to utilize technology productively and ethically while maintaining independent analytical thinking. This approach aligns with the concept of human resource development, which emphasizes continuous competency improvement to meet organizational and workforce demands. In addition, the implementation of reflective and discussion-based learning activities encouraged students to become more confident in expressing opinions and communicating ideas (Khemraj et al., 2023). Communication competency is considered one of the essential soft skills required in professional environments because it supports collaboration, teamwork, and effective decision-making. The findings also demonstrate that innovative learning strategies can support the development of qualified human capital in higher education. Universities play a strategic role in preparing students not only as academically competent graduates but also as individuals who possess ethical values, adaptive capabilities, and technological literacy.

C. Before and After the Implementation of the SMILE Learning Strategy

1) Before the Implementation
Before the implementation of the SMILE learning strategy, students demonstrated several problems related to academic integrity and critical thinking skills. Many students relied heavily on AI applications to complete assignments and answer classroom questions without conducting independent analysis. During discussions, students often experienced difficulties explaining answers using their own understanding and tended to depend on information generated by AI. The evaluation of students' assignments also revealed relatively high similarity scores in several papers and reports. Students showed limited understanding regarding paraphrasing techniques, citation methods, and ethical academic writing practices. Classroom discussions were generally less interactive because students were hesitant to express opinions and lacked confidence in presenting arguments independently. From a human resource competency perspective, these conditions indicated weaknesses in analytical thinking, communication

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skills, ethical technology utilization, and independent problem-solving competencies that are essential for workforce readiness in the digital era.

2) After the Implementation
After the implementation of the SMILE learning strategy, several positive changes were identified in students' learning behavior and competencies. Students became more active during classroom discussions and demonstrated better confidence in expressing opinions and presenting arguments independently. Students also showed improved critical thinking abilities through their capacity to analyze case studies, compare AI-generated information with their own perspectives, and evaluate the accuracy and relevance of information critically. AI was no longer used merely as a tool for obtaining instant answers but rather as a learning partner that supported reflection and analytical thinking. In terms of academic integrity, students demonstrated greater awareness regarding originality in academic writing. Similarity scores in assignments gradually decreased after students received guidance regarding paraphrasing and citation techniques. Students also became more responsible in utilizing references and preparing assignments ethically. From the perspective of human resource competency development, the implementation of the SMILE learning strategy contributed to strengthening students' competencies in critical thinking, communication, ethical digital literacy, problem-solving, and professional responsibility. These competencies are considered important components in preparing students as adaptive, innovative, and ethically responsible human resources capable of facing technological changes and workforce demands in the digital era.

4. Conclusion

The implementation of the SMART–Integrity Learning (SMILE) strategy through the Classroom Action Research approach demonstrated positive contributions to the development of human resource competencies in higher education. The learning strategy not only improved students' academic performance but also strengthened essential competencies required in the digital era, including critical thinking, communication skills, problem-solving abilities, ethical digital literacy, collaboration, and professional responsibility. From the perspective of human resource competency development, the SMILE learning strategy successfully supported the improvement of both hard skills and soft skills among students. The integration of reflective learning, case-based discussions, and ethical AI utilization encouraged students to become more adaptive, innovative, and capable of making rational decisions independently. These competencies are highly relevant to current workforce demands, where organizations require individuals who are not only technologically literate but also possess integrity, critical thinking abilities, and effective communication skills. The findings of this study also indicate that Classroom Action Research can function as an effective approach in developing innovative learning strategies that continuously improve students' competencies through planning, action, observation, and reflection. Through this process, lecturers are able to create more participatory, reflective, and competency-based learning environments that support sustainable human resource development. Therefore, the implementation of the SMART–Integrity Learning (SMILE) strategy can be considered an adaptive and innovative learning model that contributes to the development of competent, ethical, and professional human resources in higher education. The integration of academic integrity, critical thinking, and ethical technology utilization into the learning process is expected to support the preparation of qualified graduates who are capable of responding to technological transformation and future workforce challenges.

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