



## Vocational Education Program Implementation and Its Impact on Improving Graduate Quality

Anggun Kurnia Dewi\*, Ralintang Pebuari Kustiko Aji, Muhamad Yasin Yusuf Al Asyuro, Muhammad Ulil Abror, Muhamad Mahfudh Mubarak

Institut Agama Islam Ngawi, Indonesia

Email : [anggun@iaingawi.ac.id](mailto:anggun@iaingawi.ac.id)

DOI: <https://doi.org/10.61987/jemr.v5i1.1675>

### ABSTRACT

#### Keywords:

vocational education,  
school–industry  
partnership, skill  
development

#### \*Corresponding Author

This study aims to examine the implementation of the vocational program at SMK Al-Amnaniyah Karangjati. A descriptive qualitative research method was employed to obtain an in-depth understanding of the program's implementation process. Data were collected through interviews, observations, and document analysis involving school leaders, teachers, and relevant stakeholders. The findings indicate that the vocational program is implemented as an effort to support government policies in improving students' skills and work readiness. Although the program faces challenges, particularly related to inadequate facilities and infrastructure, its implementation can still be sustained by optimizing the available resources. The school continuously strives to improve program quality by strengthening collaboration and partnerships with various industry and workplace partners. The study implies that effective vocational program implementation requires not only adequate infrastructure but also strong institutional commitment and strategic partnerships. These findings can serve as a reference for vocational schools in developing adaptive strategies to enhance graduate quality despite resource limitations.

#### Article History:

Received: October 2025; Revised: November 2025; Accepted: December 2025

#### Please cite this article in APA style as:

Dewi, A. K., Aji, R. P. K., Al Asyuro, M. Y. Y., Abror, M. U., & Mubarak, M. M. (2026). Vocational Education Program Implementation and Its Impact on Improving Graduate Quality. *Journal of Educational Management Research*, 5(1), 437-447.

## INTRODUCTION

Vocational education has become a strategic instrument in preparing students to face the rapidly changing demands of the industrial world. Governments across countries, including Indonesia, emphasize vocational programs as a solution to reduce skill mismatch between graduates and labor market needs (Arifin, 2024; Fauzi et al., 2025; Maulidy, 2025; Rohmatillah & Jannah, 2024; Safitri & Lateh, 2024). The importance of this issue lies in the growing expectation that schools, particularly vocational high schools (SMK), are able to produce graduates who are not only academically competent but also

equipped with practical skills relevant to industry requirements. Evidence shows that vocational programs are designed to strengthen students' employability through structured training, practical learning, and collaboration with industry partners (Kusumawati, 2025; Najiburohman et al., 2025; Syafiih, 2025). The implementation of vocational education is therefore crucial for society, as it directly contributes to workforce readiness, economic productivity, and social mobility. Consequently, examining how vocational programs are implemented at the school level is essential to ensure that these programs truly function as intended and generate meaningful outcomes for students and the wider community.

Despite the strong policy support for vocational education, many vocational schools still face persistent challenges in implementing vocational programs effectively (Hasanah, Munawwaroh, et al., 2024; Khoiroh, 2025; Setiawan & Rizal, 2024; Windiasari et al., 2025). One of the most prominent problems is the gap between policy expectations and practical implementation at the institutional level. While the government promotes link and match programs to align vocational education with industry needs, schools often struggle with limited resources, insufficient infrastructure, and uneven industry engagement. These constraints affect the quality of training provided to students and hinder the achievement of expected competency standards. As noted by Husein (2019), vocational programs are considered effective only when graduate competencies align with industry expectations. However, this alignment remains difficult to achieve in many contexts. As a result, graduates may still lack the integrated hard skills and soft skills required by the world of work, leading to reduced employability and continued concerns over unemployment among vocational school alumni (Khotijah, 2020; Wahid et al., 2021).

Based on preliminary observations conducted by the researcher, SMK Al-Amnaniyah Karangjati has implemented vocational programs for students from grade X to XII as part of its effort to improve students' skills and work readiness. The school actively supports government initiatives aimed at strengthening vocational education (Adhinugraha et al., 2024; Andira, 2023; Bulqis & Fachri, 2025; Qodriyah & Asfiah, 2025; Rozi, 2024). However, the implementation process is not without challenges. One of the main obstacles encountered is the limited availability of supporting facilities and infrastructure required for effective vocational practice. As a vocational school operating under the Al-Amnaniyah Islamic Boarding School Foundation, SMK Al-Amnaniyah Karangjati integrates vocational programs with industries developed within the boarding school environment. This integration presents both opportunities and constraints (Andira, 2023; Hayati, 2023; Junaedi & Rumiyantri, 2023; Wahid & Faiqe, 2024). While internal industrial units provide practical learning spaces,

limitations in equipment and resources remain evident. This field phenomenon highlights the need for a deeper examination of how vocational programs are implemented in such institutional contexts and how schools adapt to structural limitations.

Previous studies have extensively discussed the role of vocational education in improving graduate quality and employability. Research by Disas (2018) emphasizes that link and match programs encourage intensive collaboration between vocational education institutions and industry partners. Similarly, Muhtadin and Suryaman (2025) argue that the primary objective of vocational programs is to equip SMK graduates with practical skills to compete in the labor market. Nugroho (2022) further highlights the importance of integrating hard skills and soft skills to meet industry expectations. Government policies, such as Presidential Regulation Number 68 of 2022, also reinforce the strategic importance of vocational education revitalization. Although these studies provide valuable insights, most of them focus on policy frameworks, competency outcomes, or macro-level collaboration models, leaving limited discussion on the practical implementation process at the school level.

While existing literature acknowledges the importance of vocational programs and industry collaboration, there is a noticeable research gap regarding how vocational programs are operationalized within schools that face infrastructural constraints. Studies such as Rafidiyah and Kailani (2020) emphasize stakeholder involvement in the era of Industry 4.0 but do not sufficiently explore how schools adapt when ideal conditions are not fully met (Aini & Wahid, 2024; Hasanah, Fauzi, et al., 2024; Jannah & Rizquha, 2025; Sain et al., 2024). Furthermore, Avana et al. (2024) highlight increasing industry participation in vocational programs, yet the effectiveness of such participation at individual school levels remains underexplored. This study positions itself to fill this gap by focusing on the implementation function of vocational programs within a specific institutional context. By examining SMK Al-Amnaniyah Karangjati, this research contributes empirical evidence on how vocational programs are sustained despite limited facilities and how schools optimize available resources through partnerships.

The novelty of this study lies in its focus on vocational program implementation within a vocational school integrated with an Islamic boarding school foundation. Unlike previous studies that mainly examine vocational education in general SMK settings, this research explores a unique institutional model where vocational education is combined with pesantren-based industrial initiatives. This integrated approach offers a new perspective on how vocational programs can be adapted to local institutional characteristics while still aligning with national policies such as link and match and vocational revitalization.

Addressing this issue is important because it provides alternative implementation strategies for vocational schools operating under resource limitations. The findings are expected to enrich the discourse on vocational education management by presenting a context-sensitive model that supports skill development and graduate quality improvement.

Based on the background and identified gaps, this study addresses the research problem of how vocational programs are implemented in improving graduate quality at SMK Al-Amnaniyah Karangjati. The main argument of this research is that effective vocational program implementation does not solely depend on ideal infrastructure but also on institutional commitment, resource optimization, and strategic collaboration with industry partners. By examining the implementation function of vocational programs, this study provides a contextual understanding of how vocational education policies are translated into practice at the school level. The research is expected to contribute theoretically to vocational education management studies and practically to vocational schools seeking adaptive strategies to enhance graduate competencies amid structural constraints.

## RESEACH METHOD

This study employs a qualitative research design, which focuses on gaining an in-depth and interpretative understanding of social phenomena within their natural context (Huda et al., 2024; Khotimah & Sanjani, M Aqil FahmiSuhermanto, 2024; Solehah, 2025; Wahyudi, 2025). Qualitative research is particularly appropriate for exploring processes, meanings, and experiences related to the implementation of vocational programs in schools. The selection of this design is based on the need to capture detailed insights into how vocational programs are planned and implemented, as well as how stakeholders perceive their effectiveness. Data in qualitative research are presented in the form of words or narratives that reflect contextual understanding and embedded meanings (Wijayati et al., 2024). Therefore, this approach allows the researcher to comprehensively examine the dynamics of vocational program implementation beyond measurable outcomes.

The research was conducted at SMK Al-Amnaniyah Karangjati. This school was selected because it actively implements vocational programs for students in grades X to XII as part of its effort to improve students' skills and work readiness. The operates under the Al-Amnaniyah Islamic Boarding School Foundation, which integrates vocational education with internal industrial activities. This unique institutional context provides a relevant and meaningful setting for examining vocational program implementation, particularly in relation to resource limitations and adaptive strategies at the school level.

Data were collected through several techniques, including observation, interviews, and documentation. Observations were conducted to examine the implementation of vocational program activities within the school environment. In-depth interviews were carried out with key informants, including the vice principal for curriculum affairs, student representatives, and alumni, to obtain diverse perspectives on the vocational program. Documentation in the form of activity photographs and relevant institutional documents was also collected to support and validate the findings (Qomar, 2022).

The data analysis process involved organizing, categorizing, and interpreting the collected data to identify meaningful patterns related to vocational program implementation. Primary data were obtained from interviews, observations, and documentation conducted by the researcher at the school. Secondary data consisted of supporting information gathered during the data collection process. The analysis was carried out continuously throughout the research process, allowing the researcher to develop an in-depth understanding of the findings and draw conclusions based on contextual interpretation.

## RESULT AND DISCUSSION

SMK Al-Amnaniyah Karangjati, as an educational institution implementing vocational programs, aims to improve students' skills and competencies in preparation for the world of work. This objective was clearly conveyed by the Vice Principal for Curriculum Affairs during an interview with the researcher. According to the informant, the vocational program is implemented as part of a government initiative intended to enhance the skills and practical abilities of vocational high school students from grades X to XII (Yuda Agus, 2025). This finding indicates that the school's vocational program is aligned with national vocational education policies, emphasizing skill development as a core educational outcome. The implementation of the program reflects the school's commitment to translating government policy into concrete educational practices that support student competence development.

The primary objective of the vocational program at SMK Al-Amnaniyah Karangjati is to increase students' skills and competencies across various vocational fields. Competence is defined as a combination of knowledge, skills, and fundamental values that are reflected in consistent patterns of thinking and behavior. Continuous development of these elements enables individuals to become competent in performing specific tasks. In the context of vocational education, graduate competence is assessed based on students' mastery of skills within their chosen field of study. This approach is expected to produce graduates who are not only technically capable but also possess entrepreneurial

attitudes and readiness to engage in society and the labor market (Wakiah & Usman, 2020). Thus, the vocational program serves as a structured mechanism for strengthening both technical and character-based competencies.

The vocational program at SMK Al-Amnaniyah Karangjati is implemented across three departments: Computer and Network Engineering, Fashion Design, and Light Vehicle Engineering. The program is facilitated by subject teachers from each respective department, ensuring that instruction is delivered by educators with relevant expertise. The school establishes clear indicators of program success, which are primarily measured through the competencies acquired by students. In grade XII, students are required to undertake basic competency tests, including practical examinations related to their chosen specialization. Students who successfully complete these practical assessments are considered to have achieved the expected vocational competencies. This evaluation mechanism demonstrates the school's emphasis on practical skill mastery as a key outcome of vocational education.

In terms of implementation, the vocational program is conducted for one week every month. The scheduling of the program is adjusted to align with the activities of the Islamic boarding school, which operates alongside the vocational school. For instance, if pesantren activities occupy the first week of the month, the vocational program is rescheduled for the following week. This flexible arrangement was directly explained by the Vice Principal for Curriculum Affairs (Yuda Agus, 2025). The adaptive scheduling reflects the school's effort to balance academic, vocational, and religious activities while maintaining the continuity of vocational training. Such flexibility is crucial in ensuring that vocational programs remain feasible within complex institutional settings.

The successful implementation of the vocational program is supported by the collective involvement of various school stakeholders (Barokah, 2025; Hasani, 2025; Maisuroh & Jamil, 2024; Makiyah, 2024; Mukarromah, 2025). Teachers, school administrators, school committees, and parents actively support the program, recognizing its value in preparing students for the workforce. Stakeholders perceive the vocational program as a beneficial initiative that equips students with practical skills relevant to employment. However, the implementation process is not without challenges. One significant obstacle is the limited availability of facilities and infrastructure required to support vocational practice. This limitation affects the smooth execution of the program. Nevertheless, the school continues to address these challenges by strengthening partnerships with industry partners (DUDI), who can assist in providing supporting facilities. Additionally, the school optimizes the use of available equipment by implementing a rotational system among students.

Findings from interviews with grade XI students reveal that the vocational program is perceived as an engaging and enjoyable learning experience. Students reported that hands-on practice allows them to directly apply theoretical knowledge gained in the classroom. This experiential learning approach enhances their understanding and skill acquisition. In November 2025, grade XII students participated in an industrial visit to Kupu-Kupu Malam, a custom and handmade car modification workshop located in Sleman. During this visit, students learned various practical skills, including vehicle frame modification, painting techniques, frame assembly, and body selection. Such industrial exposure provides students with real-world learning experiences that strengthen the relevance of vocational education.

Testimonies from alumni further support the positive impact of the vocational program. One interviewed alumnus stated that after participating in the vocational program at SMK Al-Amnaniyah Karangjati, they acquired the ability to repair damaged laptops and other electronic devices. The alumnus emphasized that the vocational program was highly beneficial in improving practical skills and expressed hope that the program would continue to be developed and implemented at the school. These findings suggest that the vocational program contributes meaningfully to students' post-graduation skill utilization. Overall, the results indicate that despite infrastructural limitations, the vocational program at SMK Al-Amnaniyah Karangjati plays a significant role in enhancing student competencies and supporting graduate readiness for the workforce.

## CONCLUSION

The most important finding of this study is that the vocational program at SMK Al-Amnaniyah Karangjati demonstrates that effective skill development can still be achieved despite limited infrastructure, provided there is strong institutional commitment and collective stakeholder support. The program serves as a practical realization of government vocational education policies aimed at improving student competencies across grades X to XII. The implementation model, which integrates vocational training with the institutional context of an Islamic boarding school, highlights the importance of adaptability, resource optimization, and collaboration with industry partners. This study contributes academically by enriching the discourse on vocational education management, particularly in understanding how vocational programs function at the school level under structural constraints.

Despite its contributions, this study has several limitations. The research focuses on a single vocational school, which may limit the generalizability of the findings to other institutional contexts. In addition, the qualitative approach

emphasizes depth of understanding rather than measurable outcomes of graduate performance. Future research is therefore encouraged to involve multiple vocational schools, apply mixed-methods approaches, and examine the long-term impact of vocational programs on graduate employability and career trajectories. Such studies would provide a more comprehensive understanding of vocational education effectiveness and sustainability.

## REFERENCES

- Adhinugraha, R. B. A., Hardhienata, S., & Sunaryo, W. (2024). Transformative Strategies to Enhance Teacher Innovativeness: Addressing Challenges through Strengthening Organizational Culture, Transformational Leadership, Self-Efficacy, and Achievement Motivation. *Managere: Indonesian Journal of Educational Management*, 6(2), 219–232. <https://doi.org/10.52627/managere.v6i2.520>
- Aini, T. N., & Wahid, A. H. (2024). Psychological Strategies for Building Quality Human Resources in Madrasah. *Proceeding of International Conference on Education, Society and Humanity*, 2(1), 154–160.
- Andira, S. F. (2023). Manajemen Pembelajaran dalam Meningkatkan Perkembangan Bahasa Anak Usia Dini melalui Media Flashcard 3D. *Jurnal Warna: Pendidikan dan Pembelajaran Anak Usia Dini*, 8(1), 69–81. <https://doi.org/10.24903/jw.v8i1.1207>
- Arifin, S. (2024). Management of Ahlussunnah Wal Jama'ah-Based Curriculum Development in Islamic Education Best Practice. *Educazione: Journal of Education and Learning*, 1(2), 102–115. <https://doi.org/10.61987/educazione.v1i2.499>
- Avana, N., Nerita, S., Rurisman, R., Gistituati, N., & Rusdinal, R. (2024). Analisis Kebijakan Pendidikan Terkait Pendidikan Vokasi. *Rausyan Fikr: Jurnal Pemikiran dan Pencerahan*, 15(2). <https://doi.org/10.31000/rf.v15i2.2037>
- Barokah, M. (2025). Management of Learning Outcomes through SIJAGU PAI Design and Implementation of a Digital Reporting System for Islamic Religious Education. *Journal of Educational Management Research*, 4(2), 845–860.
- Bulqis, V. A., & Fachri, M. (2025). Integration of Religious Values to Reduce the Decline of Adolescent Ethics in High School. *Indonesian Journal of Research and Educational Review*, 4(4), 1090–1102. <https://doi.org/10.51574/ijrer.v4i4.3672>

- Fauzi, A., Zaini, A. W., & Lateh, M. (2025). The Influence of Social Media on Public Relations as a Reinforcement of Higher Education Reputation. *Managere: Indonesian Journal of Educational Management*, 7(1), 91–101. <https://doi.org/10.52627/managere.v7i1.650>
- Hasanah, R., Fauzi, A., & Munir, Z. (2024). Integrating Situational Leadership and Traditional Values: Enhancing Student Discipline in Islamic Boarding Schools through Holistic Training Programs. *Communautaire: Journal of Community Service*, 3(2), 138–151. <https://doi.org/10.61987/communautaire.v3i2.463>
- Hasanah, R., Munawwaroh, I., & Qushwa, F. G. (2024). Pengembangan Career Adaptability melalui Inovasi Sumber Daya Manusia. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran*, 5(1), 169–178. <https://doi.org/10.62775/edukasia.v5i1.734>
- Hasani, N. (2025). Metode Eklektik dalam Pembelajaran Bahasa Arab: Mengintegrasikan Qawaid Wa Tarjamah dan Sam'iyah Basariyah untuk Meningkatkan Kemahiran Berbicara dan Menulis. *As-Sabiqun*, 7(2), 336–352. <https://doi.org/10.36088/assabiqun.v7i2.5651>
- Hayati, N. (2023). Program Klinik Jurnal: Upaya Menstimulasi Minat Tulis Mahasiswa di Perguruan Tinggi. *Manazhim: Jurnal Manajemen dan Ilmu Pendidikan*, 5(1), 140–153. <https://doi.org/10.36088/manazhim.v5i1.2799>
- Huda, S., Khaer, A., & Sain, Z. H. (2024). Development of IT-Based PAI Learning Media. *Proceeding of International Conference on Education, Society and Humanity*, 2(2), 1208–1215.
- Jannah, F., & Rizquha, A. (2025). Deconstructing Dogmatic Narratives: An Effort to Recontextualize Islamic Education Material for the Critical Generation. *Jurnal Islam Nusantara*, 9(1), 43–56.
- Junaedi, A., & Rumiyaniti. (2023). SAVIO Learning Style: Shaping Multitalented Learners in Arabic Language Learning. *Mitra PGMI: Jurnal Kependidikan MI*, 9(2), 90–105. <https://doi.org/10.46963/mpgmi.v9i2.918>
- Khoiroh, U. (2025). Emotional Management in Local Wisdom: Strategies for Enhancing Teachers' Work Resilience in Pesantren-Based Madrasah. *Journal of Educational Management Research*, 4(5), 2296–2309.
- Khotijah, K. (2020). Personal Branding of Political Kiai Based on Circle-C. *Managere: Indonesian Journal of Educational Management*, 2(2), 182–195. <https://doi.org/10.52627/ijeam.v2i2.40>
- Khotimah, H., & Sanjani, M. A. F., & Suhermanto, S. (2024). Increasing the Competence of Islamic Religious Education Teachers from a Madrasah-Based Management Perspective. *Managere: Indonesian Journal of Educational Management*, 6(1), 13–26. <https://doi.org/10.52627/managere.v6i1.388>

- Kusumawati, I. (2025). AI-Based Human Capital as a Catalyst for Increasing the Strategic Agility of Educational Organizations. *International Journal of Multidisciplinary Research*, 1(5), 239–245.
- Maisuroh, S., & Jamil, M. (2024). The Role of Social Media in Enhancing Digital Literacy among Generation Z: A Social and Psychological Perspective. *Journal of Social Studies and Education*, 1(2), 113–125. <https://doi.org/10.61987/jsse.v1i2.457>
- Makiyah, N. (2024). Enhancing Educational Excellence: Elevating Learning Quality through Podcast-Based Arts Performances in Pesantren. *Journal of Islamic Education Research*, 5(1), 1–12. <https://doi.org/10.35719/jier.v5i1.371>
- Maulidy, A. (2025). Social Media Influence on Consumerism Trends among College Students. *Indonesian Journal of Education and Social Studies*, 4(1), 16–28. <https://doi.org/10.33650/ijess.v5i1.11682>
- Mukarromah, A. (2025). Digital Transformation in Islamic Religious Education: Trend or Necessity in the Post-Pandemic Era. *Indonesian Journal of Education and Social Studies*, 4(1), 85–99. <https://doi.org/10.33650/ijess.v4i1.7084>
- Najiburohman, N., Hefniy, H., R., A. H. A., & Alwahedi, M. A. A. (2025). Virtual School Tours: Boosting Community Interest and Attracting Prospective Students. *Evaluasi: Jurnal Manajemen Pendidikan Islam*, 9(2), 340–353. <https://doi.org/10.32478/3gtzvf72>
- Qodriyah, K., & Asfiyah, H. (2025). Learning to Live Together: How Does Multicultural Education Build Religious Tolerance in Fakfak, West Papua? *Manazhim: Jurnal Manajemen dan Ilmu Pendidikan*, 7(2), 178–198. <https://doi.org/10.36088/manazhim.v7i2.5847>
- Rohmatillah, L., & Jannah, U. Q. (2024). Challenges for Future Teachers in Inclusive Schools. *Proceeding of International Conference on Education, Society and Humanity*, 2(2), 1153–1166.
- Rozi, F. (2024). Gerakan Kepanduan Pramuka dan Pesantren: Pendekatan Moderasi dan Deradikalisasi. *Tafaqquh: Jurnal Penelitian dan Kajian Keislaman*, 12(1), 17–34. <https://doi.org/10.52431/tafaqquh.v12i1.2687>
- Safitri, S. D., & Lateh, M. (2024). Authentic Leadership in the Perspective of Islamic Education. *Educare: Jurnal Ilmu Pendidikan*, 3(2), 100–114. <https://doi.org/10.71392/ejip.v3i2.81>
- Sain, Z. H., Huda, S., & Habibu, M. L. (2024). Enhancing Islamic Religious Education through IT-Based Learning: A Qualitative Study.
- Setiawan, M. B. A., & Rizal, M. S. (2024). The Role of Leaders in Teachers' Continuing Professional Development to Improve Educational Quality. *Tarbiyatuna: Jurnal Pendidikan Islam*, 17(2), 139–150. <https://doi.org/10.54471/tarbiyatuna.v17i2.3437>

- Solehah, I. (2025). Educational Management Strategies for Internalizing Islamic Education Values in Shaping Students' Disciplinary Character. *Journal of Educational Management Research*, 4(5), 2391–2401.
- Syafiih, M. (2025). The Future of Education in the Digital Era: Between Technological Innovation and Equitable Access. *Proceeding of International Conference on Education, Society and Humanity*, 3(1), 737–741.
- Wahid, A. H., & Faiqe, S. A. (2024). Media Torso in Strengthening Arabic Vocabulary Visualization among Madrasah Students. *Autentik: Jurnal Pengembangan Pendidikan Dasar*, 8(1), 53–63.
- Wahid, A. H., Zamroni, Ramadhani, K., Imamah, L., & Zakiyah, U. (2021). Digital Branding in Increasing Civic Engagement: A Public Relation Strategy in the Battle of Perceptions. *Proceedings of the First International Conference on Science, Technology, Engineering and Industrial Revolution (ICSTEIR 2020)*. <https://doi.org/10.2991/assehr.k.210312.010>
- Wahyudi, D. (2025). From Vision to Impact: A Strategic Model to Improve Student Quality and Competence through Adaptive Educational Practices. *Journal of Research in Educational Management*, 4(1), 22–37. <https://doi.org/10.71392/jrem.v4i1.93>
- Windiasari, K., Rahmatillah, A. N., Rusdiah, N., Agus, R. A. H., Ani, E. D., & Maryanto, M. (2025). Implementation of Human Resources through the Sekolah Penggerak Program in Teacher Development and Community Engagement. *Al-Mikraj: Jurnal Studi Islam dan Humaniora*, 5(2), 1–11. <https://doi.org/10.37680/almikraj.v5i2.6729>
- Wijayati, H., Widhiyoga, G., & Rachmawati, I. (2024). *Metode Penelitian Kualitatif dan Kuantitatif: Bagaimana Mengidentifikasi Masalah, Merumuskan Hipotesis, dan Memulai Tahapan Riset*. Anak Hebat Indonesia.