Strengthening Character Education in Facing the Industrial Revolution 4.0 (Implementation Study at SMK Negeri 1 Batipuh)

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Abstract. The industrial revolution 4.0 had a major impact on the world of education in Indonesia. The negative impact can be seen from the lack of strengthening character education for our young generation, in this case, school-age children who are starting to abandon the noble values of the Indonesian people. This paper aims to analyze the method used by Batipuh 1 Public Vocational School in dealing with the industrial revolution 4.0 by using qualitative methods, the results of the research show that PPK activities are carried out by integrating class activities, outside the classroom at school, and outside the school (community/community); integration of intra-curricular, co-curricular and extra-curricular activities according to the needs of the Character Education Strengthening Movement.

Keywords: Industrial Revolution 4.0, Strengthening Character Education.

1. Introduction

Globalization has entered a new era called the 4.0 industrial revolution. The initial concept of the industrial revolution 4.0 was first introduced by Professor Klaus Schwab who is an economist through his book entitled "The Fourth Industrial Revolution". In his book Professor Klaus explains that the industrial revolution 4.0 has changed human life, mindset and way of working (Silfia, 2018). Furthermore, Schwab says the Fourth Industrial Revolution (IR 4.0) is a stage in scientific development where the lines between the physical, digital and biological fields blur (Shahroom and Hussin, 2018).

In Indonesia, the development of the industrial revolution 4.0 provides challenges as well as impacts for the younger generation. In the world of education, the existence of the industrial revolution 4.0 has a positive impact by advancing and developing our learning system, but it also has a negative impact on our education world if it is unable to respond to the challenges that arise in the current era(Warmanto and Arif, 2023). The negative impact is the lack of reinforcement regarding character education for our younger generation, in this case, school-age children. Therefore, at present, all stakeholders in the education sector must pay close attention to the urgency of the industrial revolution 4.0 in their institutions. (Albantani and Madkur, 2019)

This lack of understanding of character education also has an impact on the fading of the Indonesian nation's national identity, the noble values of the Indonesian people are starting to be abandoned by our younger generation(Maya Nuraini Faiza, 2021). This creates various problems in the world of education which results in delays in the development of the quality of education itself, as a result there is a degradation of the moral values and character of Indonesian youth, a real globalization, and requires

attention from various parties such as the emergence of radicalism directly or through social media, brawls between schools, criminal acts committed by school-age children, the fading of the nation's cultural values in the younger generation, and intolerance between peers and discrimination in the world of education (Paramestri and Pandin, 2021).

1.1 Strengthening Character Education

The term character comes from the Greek "charassein", means to engrave (carve, paint, draw) (Iswantir, 2019).

Character is a characteristic, or characteristic of a person that originates from formations received from the environment, such as family from childhood and innate (Widodo, 2018). Character is synonymous with personality or morals (Trisiana, 2021). In line with the opinion above, the Director General of Islamic Religious Education, Ministry of Religion of the Republic of Indonesia, stated that character can be interpreted as the totality of personal characteristics that are inherent and can be identified in individual behavior that is unique in nature which distinguishes the characteristics of one individual from another (Boko, 2021).

Meanwhile, character education is a deliberate effort to help a person understand all psychological, moral, and character traits that can make a person a human being with character (Stephens, 2022). For all of this, it is necessary to strengthen the character within and the character of the nation is maintained in this modern era of revolution.

Strengthening Character Education (hereinafter abbreviated as PPK) is a continuation and continuation of the 2010 National Character Education Movement as outlined further in Presidential Regulation Number 87 of 2017 concerning Strengthening Character Education it is said that PPK is an educational movement under the responsibility of the education unit to strengthen the character of the participants. students through harmonization of heart exercise, taste exercise, thought exercise, and sports with involvement and cooperation between educational units, families, and communities as part of the National Mental Revolution Movement (Lasia, 2020).

The PPK movement places character values as the deepest dimension of education that civilizes and civilizes educational actors. There are five main character values that are interrelated to form a value network that needs to be developed as a priority for the PPK Movement, namely (Hendarman, 2017):

1.1.1 Religious

Religious character describes faith in God Almighty which is reflected in the behavior of carrying out religious teachings and beliefs, respecting religious differences, adopting an attitude of tolerance towards other religious practices and beliefs, living in harmony with adherents of other religions. Some aspects of religious character include love for peace, tolerance, respect for differences in religions and beliefs, firm belief, self-confidence, cooperation between adherents of religions and beliefs, rejection of intimidation and violence, friendship, sincerity, respect for the will of others, love for the environment, and protect the weak and marginalized.(Fiandi, Warmanto and Iswantir, 2023)

1.1.2 Nasionalist

The nationalist character describes a way of thinking, behaving, and acting that shows loyalty, concern, and high respect for the language, physical, social, cultural, economic, and political environment of the nation, by placing the interests of the nation and state above personal and group interests. Some aspects of nationalist character include respect

for one's own national culture, efforts to maintain national cultural wealth, readiness to sacrifice, spirit of excellence and achievement, love for the motherland, protecting the environment, obeying the law, discipline, respect for cultural, ethnic and religious diversity.

1.1.3 Independent

Independent character is an attitude and behavior that does not depend on other people, and allocates all energy, thoughts and time to realize hopes, dreams and aspirations. Some aspects of independent character include work ethic (hard work), persistence in facing challenges, fighting spirit, professionalism, creativity, courage, and the desire to continue learning throughout life.

1.1.4 mutual cooperation

The character of mutual cooperation reflects the act of appreciating the spirit of cooperation and working together to solve problems, establish communication and friendship, and provide assistance to those in need. Several aspects of the character of gotong royong include respect, cooperation, inclusivity, commitment to joint decisions, deliberation for consensus, mutual assistance, solidarity, empathy, rejection of discrimination and violence, and the attitude of volunteers.

1.1.5 Integrity

The character of integrity is a value that forms the basis of a person's behavior who seeks to make himself trustworthy in words, actions and work, and has commitment and loyalty to human and moral values (moral integrity). The character of integrity includes an attitude of responsibility as a citizen, being actively involved in social life, and showing consistency in actions and words that are based on the truth. Some aspects of the character of integrity include honesty, love of truth, loyalty, moral commitment, rejection of corruption, fairness, responsibility, example and respect for individual dignity, especially those with disabilities.(Fiandi, Warmanto and Iswantir, 2023)

The five main character values do not stand alone separately, but interact with each other, develop dynamically, and form personal wholeness. Religious values reflect faith and piety to God Almighty, which are expressed through worship in accordance with individual religions and beliefs, as well as in social interactions as members of groups, communities and nations. In life as a society and as a nation, religious values form the basis of and are integrated with the main values of nationalism, independence, mutual cooperation and integrity.

1.2 Industrial Revolution 4.0

According to Prof. Schwab (Shahroom and Hussin, 2018), the industrial revolution 4.0 is the fourth phase of the historical journey of the industrial revolution which began in the 18th century. The industrial revolution is experiencing its peak at this time with the birth of digital technology which has a massive impact on human life throughout the world. The latest industrial revolution or fourth generation encourages automation systems in all activity processes. Increasingly massive internet technology not only connects millions of people around the world but has also become the basis for online trade and transportation transactions. The emergence of online transportation businesses such as Gojek, Uber and Grab shows that the integration of human activities with information technology and the economy is increasing. The development of autonomous vehicle technology (cars without drivers), drones, social media applications, biotechnology and

nanotechnology increasingly emphasizes that the world and human life have fundamentally changed.

Dutton said that Industry 4.0 is related to so-called "smart factories". then Buhr said that In the smart factory, a virtual copy of the physical world and decentralized decision making can be developed. In addition, physical systems can cooperate and communicate with each other and with humans in real time, all enabled by IoT and related services.

SMK Negeri 1 Batipuh is one of the schools that has implemented the Character Education Strengthening Program since 2013 in order to shape the character of superior graduates, especially in following up on changing times. The inculcation of character values through PPK is expected to improve the quality of graduates both academic and non-academic as well as internalize character values in everyday life so that the vision of SMK Negeri 1 Batipuh is realized as part of the national education goals stipulated in the National Education System Law No. 20 of 2003 and the opening of the 1945 Constitution of the Republic of Indonesia. This study aims to analyze the implementation of Strengthening Character Education carried out at SMK Negeri 1 Batipuh in order to produce students with character in the industrial revolution 4.0 era.

2. Methods

This research is a qualitative research with a descriptive method. According to Saryono (Nasution, 2023), qualitative research is research that is used to investigate, find, describe, and explain the qualities or features of social influence that cannot be explained, measured or described through a quantitative approach. The method used: (l) The presence of researchers in the field, (2) The place of research is at the Bukittinggi Development Vocational School, (3) Sources of research data; people (people), place (place), paper (paper/documents), (4) To collect data, researchers use participatory observation, in-depth interviews, and documentation studies, (5) Researchers analyze data which includes data collection, data reduction, presenting data, and drawing conclusions, (6) To check the validity of the data, the researcher extended the research time, triangulated, collected many references, reviewed the data to be proven, and made clarifications to the informants.

3. Results and Discussion

Law Number 20 of 2003 concerning the National Education System has confirmed that "National education functions to develop capabilities and shape the character and civilization of the nation dignified in order to educate the life of the nation, aims to develop the potential of students so that become a human being who believes and fears God Almighty, has noble character, is healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens".

The PPK movement has objectives, namely: (1) To develop a national education platform that puts the meaning and value of character as the soul or the main generator of education. (2) Build and equip The 2045 Indonesian Golden Generation faces the dynamics of change in the future with 21st century skills. (3) Restore character education as the spirit and foundation of education through harmonization of heart (ethical and spiritual) exercise of taste (aesthetic), exercise of thought (literacy and numeracy), and exercise (kinesthetic). (4) Revitalize and strengthen capacity educational ecosystem (principals, teachers, students, supervisors, and school committees) to support the

expansion of the implementation of character education. (5) Building community (public) engagement networks as learning resources in inside and outside school. (6) Preserving the culture and identity of the Indonesian nation in supporting the National Movement Mental Revolution (GNRM).

Below the researcher describes the implementation of PPK at SMK Negeri 1 Batipuh. The research results were obtained from interviews, documentation, and observation. The implementation of the PPK movement is carried out as follows:

3.1 Class-Based PPK

The strategy for strengthening class-based character education is carried out through the process of Teaching and Learning Activities (KBM) in the classroom. Strengthening character education in learning activities in the classroom in the form of selecting thematic learning models (there is a special time allocation for teaching certain values), non-thematic (integrated with learning materials in the curriculum), and non-instructional (class management and physical organization of the classroom environment). The implementation of class-based character strengthening carried out at SMK Negeri 1 Batipuhis to teach directly the values of spiritual attitudes (KI-1) and social (KI-2) in subjects

Class-based PPK is implemented based on the guidelines on PPK Concepts and Guidelines, namely:

3.11   Integrating PPK into the curriculum, the steps are: 1) conducting a KD analysis through identifying the values contained in learning materials, 2) designing lesson plans that contain a focus on strengthening character by selecting relevant learning and class management (management) methods, 3) carrying out learning according to scenarios in the lesson plan, 4) carrying out an authentic assessment of the lessons learned.

3.12   PPK Through Class Management

Classroom management is an educational moment that places teachers as individuals who are authorized and have autonomy in the learning process to direct, build a learning culture, evaluate and invite the entire class community to make a joint commitment so that the learning process becomes more effective and successful.

3.13   PPK Through the Choice and Use of Learning Methods

Strengthening Character Education integrated into the curriculum is carried out through classroom learning using appropriate learning methods. Teachers must be good at choosing so that the learning methods used indirectly instill the formation of the character of students.. Through the chosen method, students are expected to have the skills needed in the 21st century, such as critical thinking skills, creative thinking, communication skills, including mastery of international languages, and collaborative learning. .

3.14   PPK Through the Literacy Movement

The literacy movement is an activity to hone the ability to access, understand, process and use information critically and intelligently based on reading, writing, listening and speaking activities to develop one's character to be strong, strong and good. These various activities are carried out in a planned and programmed manner, both in class-based activities and activities based on school culture and the community.

3.15   PPK Through Guidance and Counseling Services

Strengthening Character Education can be done in an integrated manner through assisting students through guidance and counseling. The role of the BK teacher is not only focused on helping students with problems, but on assisting all students in developing a variety of potentials, including the development of learning/academic, career, personal, and social aspects. Guidance and counseling in schools is carried out collaboratively with subject teachers, education staff, as well as parents and other stakeholders. The integrity of guidance and counseling services is realized in the philosophical basis of guidance and counseling with program components that include (1) basic services, (2) responsive services, (3) individual planning and specialization, and (4) support system according to the guidelines in Permendikbud Number 111 of 2014.

3.2 PPK Based on School Culture

Strategies to strengthen character education based on school culture are carried out through co-curricular, extra-curricular activities, and the development of management of educational institutions (school governance, school regulations, norms, educational regulations) that support the formation of students' character as learners.

To implement this, SMK Negeri 1 Batipuh compiles academic and non-academic regulations as well as extra-curricular programs and activities. The character strengthening values applied in these activities are cooperation. Below are some school culture-based PPK activities that can be carried out at SMK Negeri 1 Batipuh:

Table 1 PPK based on school culture

No	Other Types of Extracurricular Activities/School Culture	Integrated Character Values
1	Flag ceremony	Nasionalist
2	Scout	Mutual cooperation, Integrity
3	Adolescent Health Cadres	Mutual cooperation, Integrity
4	Art extracurricular	Mutual cooperation, Integrity, Nasionalist, Independent
5	Sport extracurricular	Mutual cooperation, Integrity, Independent
6	Religious extracurricular	Religious, Integrity, Independent
7	Seven minute lecture	Religious, Integrity
8	Minangkabau Art Performance	Mutual cooperation, Integrity
9	Pray every morning at the first hour according to each religion and belief	Religious
10	Read the Koran every morning for 15 minutes	Religious
11	Competition activities held by OSIS after semester exams in class meetings	Independent
12	Optional extracurricular activities carried out outside of learning hours	Independent, Integrity
13	Singing the Indonesian national anthem for each activity	Nasionalist
14	sticking to the slogan of love for the country in class	Nasionalist
15	displaying photos/paintings of national heroes in class	Nasionalist

No		Activity	Character Values
16		display the logo of the eagle, president, vice president, governor and deputy governor in the classroom and every workspace	Nasionalist
17	a. display a map of Indonesia in class b. Putting up pamphlets, slogans and banners of nationalist values around the school c. Celebration of national holidays with d. Competitions that foster a nationalist spirit at the commemoration of national holidays		Nasionalist, Integrity
18	a. Organizing junior high school volleyball competitions throughout Tanah Datar Regency and Padang Panjang City b. Carrying out competitions at the junior high school level in Tanah Datar regency and Padang Panjang city		Independent, Integrity, Mutual cooperation
19	a. Doing the August 17th parade b. Participating in competitions to celebrate the Indonesian Independence Day every August 17		Nasionalist, Integrity

3.3 Community-Based PPK

Strategies to strengthen community-based character education are carried out by collaborating with communities outside educational institutions as learning resources, a place to share experiences and skills that strengthen the character development of students. In this case, SMK Negeri 1 Batipuh has collaborated with student parents' organizations (school committees) in terms of fostering children's personalities. In detail the implementation of community-based PPK activities at SMK Negeri 1 Batipuh is as follows:

Table 2 Community based PPK

No	Involved Agencies	Activity	Character Values
1	TNI	Marching Row Exercise (PBB)	Discipline, love for the motherland, a sense of nationality, courage, mutual cooperation
2	Public health center	MPLS resource person with material: Socialization on Adolescent Health	Discipline, responsibility, religious, communicative, creative
3	Industry	Field practice	Discipline, Honest, responsible, conscientious
4	BNN	Socialization about the Dangers of Drugs	Discipline, responsibility, religious,

4. Conclusions

In order to face the era of industrial revolution 4.0, SMK Negeri 1 Batipuh implements a program to strengthen true character education. Through this program, it is hoped that Indonesia's young generation who are the successors of the nation will be able to answer various educational challenges in the industrial revolution era 4.0. The main objective of this program is to form a young generation that is creative, innovative, has character, has integrity and upholds tolerance in accordance with the

values of national identity as the Indonesian nation with all its cultural diversity. The implementation strategy consists of 3 types, namely 1) class-based, 2) school culture-based and 3) community-based

Acknowledgements

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