

How Spiritualization of Maritime Science Learning in Vocational Higher Education is Carried Out?

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Abstrak: Revitalisasi pendidikan vokasi disinyalir hanya menyorot aspek kognitif dan psikomotorik dalam menyiapkan sumber daya manusia di dunia kerja. Padahal, aspek afektif termasuk aspek krusial dalam tujuan pendidikan nasional yang perlu mendapat perhatian. Penelitian ini bertujuan mengkaji implementasi pembelajaran vokasional dalam kerangka revitalisasi pendidikan vokasi dengan perspektif spiritualisasi. Penelitian ini memaparkan proses pembelajaran ilmu pelayaran di Pendidikan Tinggi Vokasi (PTV) dan menganalisa proses spiritualisasi di dalamnya sebagai rujukan model revitalisasi pembelajaran vokasional berbasis spiritual. Sebagai penelitian lapangan, pendekatan kualitatif dan spiritualisasi ilmu vokasi digunakan dalam penelitian ini. Teknik pengumpulan datanya menggunakan observasi partisipan, wawancara, dan dokumentasi, sedangkan teknik analisisnya menggunakan analisis kualitatif. Hasil penelitian ini menunjukkan bahwa mata kuliah olah gerak dan pengendalian kapal di Polimarin telah terjadi proses spiritualisasi di level perencanaan, pelaksanaan, dan evaluasi pembelajaran. Aspek spiritual, khususnya nilai tauhid dan kemaslahatan, diintegrasikan secara mendalam agar mahasiswa memahami tanggung jawab spiritual dalam pengambilan keputusan profesional, serta pentingnya menjaga keselamatan dan lingkungan. Implementasi pembelajaran vokasional di Polimarin dapat dijadikan referensi awal model spiritualisasi pembelajaran vokasional.

Kata Kunci: Ilmu vokasi, kesatuan ilmu, pendidikan vokasi, spiritual

Abstract: The revitalization of vocational education is suspected of only highlighting the cognitive and psychomotor aspects in preparing human resources in the world of work. In fact, the affective aspect is a crucial aspect in the goals of national education that needs attention. This study aims to examine the implementation of vocational learning within the framework of revitalizing vocational education with a spiritualization perspective. This study describes the process of learning maritime

science in Vocational Higher Education (PTV) and analyzes the spiritualization process in it as a reference for a spiritual-based vocational learning revitalization model. As a field research, a qualitative approach and spiritualization of vocational science were used in this study. The data collection techniques used participant observation, interviews, and documentation, while the analysis technique used qualitative analysis. The results of this study indicate that the ship maneuvering and control course at Polimarin has undergone a spiritualization process at the planning, implementation, and evaluation levels of learning. Spiritual aspects, especially the values of monotheism and welfare, are integrated in depth so that students understand spiritual responsibility in making professional decisions, as well as the importance of maintaining safety and the environment. The implementation of vocational learning at Polimarin can be used as an initial reference for the spiritualization model of vocational learning.

Keywords: Vocational science, unity of science, vocational education, spiritual



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Introduction

The purpose of Presidential Regulation (Perpres) Number 68 of 2022 concerning the Revitalization of Vocational Education and Vocational Training (Indonesia, 2022) leaves one crucial problem, namely the neglect of the affective domain in the process of implementing vocational education. In the Perpres, the purpose of revitalizing vocational education only targets the cognitive and psychomotor domains of students because they concern the knowledge and skills that must be possessed in the world of work. In fact, the Indonesian National Work Competency Standards (SKKNI) set by the Government as a formulation of work ability or competency includes aspects of knowledge (knowledge/cognitive), skills (skills/psychomotor), and work attitudes (attitude/affective) (Nafiati, 2021). Work attitude (attitude/affective) in the process of organizing education, including vocational education, is often ignored. (Sutiyono, 2015; Pabbajah *et al.*, 2020). In addition, the goals of national education mandate the formation of values such as faith, piety, noble morals and creating a religious society (*UU Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional*, 2003).

So far, there has been no research on the spiritualization of vocational science learning that specifically examines the implementation of maritime science learning in vocational education from the perspective of unity of sciences. Existing studies map three things, the development of vocational education curriculum, the concept of religion on vocational education, and the implementation of Islamic religious learning in vocational education institutions. The development of vocational education curriculum is directed at aligning with industry needs (Arianty and Purwanto, 2018; Wardina, Jalinus and Asnur, 2019; Rosina *et al.*, 2021a; Widiatmaka *et al.*, 2022). Religious studies on the development of vocational education are derived from the Al-Quran, maqashid al-syariah and the thoughts of scholars (Basri, Zulkarnain, Dina Hermina, 2022; Saiban *et al.*, 2022; Aufi *et al.*, 2023a). Meanwhile, studies on the implementation of Islamic religious education in vocational higher education and Islamic boarding school-based vocational education institutions have produced different models according to the uniqueness of their environment (Rochayati and Sudira, 2017; Hambali and Asyafah, 2020).

Of the three existing study tendencies, vocational learning from the perspective of the unity of sciences has not received careful attention. Studies of the unity of sciences, especially the spiritualization of modern sciences, have not yet explored the realm of vocational science as their subject (Izzuddin, Budiwati and Zubaidah, 2021; Mas'ud, Munawar Said and Chusna, 2022). The purpose of this study is to examine the implementation of vocational science learning in the form of maritime sciences with the perspective of spiritualization of science within the framework of revitalizing vocational education. The urgency of spiritualization of vocational science is closely related to the goals of national education in forming human resources who are faithful, pious, and have noble character (*UU Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional*, 2003) while having competitiveness in the global industry (Indonesia, 2022). Therefore, this paper will explain the process of learning maritime science in Vocational Higher Education and analyze the spiritualization process in it. The results of the presentation and analysis of spirituality in maritime science learning can be useful as a reference for a spiritual-based vocational learning revitalization model.

This study is based on the argument that vocational education is a subsystem of national education that aims to create people who are faithful, pious, and have noble character and to form a religious society. In the framework of revitalizing vocational education, spiritualization in the vocational learning process in the shipping sector is important to realize the goal of competitive national education in the business world and shipping industry. The spiritual character that is internalized in learning will have a significant impact on the formation of human resources in the shipping sector. Thus, the spiritualization of learning maritime science becomes the starting point for the spiritualization model of vocational learning in the future.

Method

This research is a field research. The approach used is a qualitative approach. (Agarwal *et al.*, 2020) dan pendekatan spiritualisasi ilmu vokasi (Aufi *et al.*, 2023b) which is an elaboration of the concept of unity of sciences UIN Walisongo (Ilyas Supena, 2014; Muhyar Fanani, 2015). A qualitative approach is used to explore the spiritual aspect comprehensively in learning the ship maneuver and control course, while the spiritualization approach of vocational science is used to sharpen the perspective of spiritual analysis in the implementation of learning the ship maneuver and control course. This study focuses on learning the ship maneuver and control course at the Indonesian State Maritime Polytechnic (Polimarin) from August to November 2024. The data collection technique uses participant observation techniques (Takyi, 2015), interviews (Bearman, 2019), and documentation (Grant, 2020). Researchers use qualitative data analysis techniques which include data reduction, data presentation and drawing conclusions (Thompson, 2022).

Result and Discussion

In this study, the spiritual aspect is analyzed through the planning, implementation and evaluation of learning the ship's maneuvering and control course at Polimarin. The spiritual aspect referred to as the perspective in this study is the values of monotheism and the welfare of life (Aufi *et al.*, 2023a). These two values are a perspective for analyzing the implementation of revitalization of vocational education through learning ship maneuvering and control courses at Polimarin.

Vocational education, especially in Polimarin, has a primary focus on developing technical competencies that can be applied in the world of work. However, along with the development of industrial needs, not only technical skills are required by graduates, but also non-technical skills, including integrity, ethics, and spirituality (Rosina *et al.*, 2021b). The application of spiritual aspects in learning courses at Polimarin aims to shape the character of students who are not only technically competent, but also have strong moral values, integrity, and commitment to the principles of professional ethics.

Spiritualization of Maritime Science Learning Planning

Planning the learning of the course on ship maneuvering and control at Polimarin involves several stages, including curriculum preparation, determining learning objectives, and preparing teaching materials. At this stage, the spiritual aspect is integrated through several strategies, namely:

1. Integration of spiritual values into the curriculum

The Polimarin curriculum is designed with the main objective of ensuring that students have the skills and knowledge required by the maritime industry. These competency standards include technical skills such as navigation, ship engines, shipping management, safety, and international regulations. All of this is tailored to the needs of the growing industry, so that graduates are ready to work professionally in the maritime sector both nationally and globally (Marsudi, 2023).

Polimarin also includes aspects of spirituality in the curriculum, which aims to shape students to have deeper awareness and responsibility, both towards themselves, others, and nature. This spiritual education can be in the form of an understanding that every job that is done must be accompanied by good intentions and be of service, as well as a sense of gratitude and respect for the environment, especially in the context of maintaining the marine ecosystem (Rifai, Manshur and Sayuri, 2023). This is in line with the value of welfare as an inseparable part of spirituality (Aufi *et al.*, 2023a). In the ship maneuvering and control course, the lecturer includes learning elements that direct students to understand their moral responsibility in maintaining human safety at sea, as well as awareness of the importance of ethics in using technology (Rahindra Bayu Kumara, 2024).

2. Preparation of Learning Implementation Plan (RPP) with Spirituality Component

In the Learning Implementation Plan (RPP) document, lecturers prepare teaching strategies that not only prioritize mastery of skills, but also the formation of attitudes and behavior that reflect spirituality (Rahindra Bayu Kumara, 2024). RPP is prepared with a holistic approach, and learning does not only focus on cognitive or skill aspects, but also on character and spiritual development

(Safira, 2020). Lecturers target that students not only master technical knowledge and skills, but also be able to demonstrate good attitudes and behavior, which are based on spiritual values.

Before starting the practical class, students are encouraged to pray or reflect for a moment. This is not just a ritual, but a reminder that every action they take on the ship or in other practical activities has great consequences (Altmeyer, 2021). By praying, students are expected to be aware of the responsibilities they carry, both towards themselves, fellow human beings, and the environment, and understand spiritual values such as awareness of human limitations and the need to rely on God in carrying out tasks as well as possible (Rahindra Bayu Kumara, 2024).

In the ship maneuvering course, students are taught to control the ship with full responsibility, not only from a technical perspective, but also with the awareness that the sea is God's creation that must be protected. Lecturers instill that their actions at sea have deep spiritual implications, including the obligation to protect the marine environment and minimize damage to the ecosystem (Rahindra Bayu Kumara, 2024). In the spiritualization of vocational science, placing God as the center of consciousness and knowledge is a characteristic of the unity of science paradigm (Ilyas Supena, 2014; Muhyar Fanani, 2015).

Spiritualization of the Implementation of Maritime Science Learning

The implementation of learning at Polimarin emphasizes a holistic approach that includes the development of technical competencies as well as strengthening spiritual character. In its implementation, there are various methods and strategies used to ensure that students can internalize aspects of spirituality. Here are some of the approaches applied:

1. Project Based Learning

Polimarin's project-based learning method emphasizes solving real problems faced by the maritime industry. Students are given projects involving real-world scenarios relevant to their field of study. Through this approach, students not only learn theory, but also develop practical skills in the context of real work (Fitriani *et al.*, 2023). This project requires students to develop solutions based on data analysis, cutting-edge technologies, and best practices in the industry (Simanjuntak, Rafli and Utami, 2024).

In projects such as ship maneuvering, students are asked to consider the environmental impact of their proposed solutions (Rahindra Bayu Kumara, 2024). They are taught that preserving the sea and the environment is part of a spiritual mandate that must be maintained (Kurniati and Mursalin, 2023). Any solution they offer must be in line with efforts to reduce negative impacts on the maritime environment. The project related to ship maneuvering involves simulating ship maneuvers in various sea conditions (Mickey, 2020; Chigangaidze, 2022). Students are not only required to complete technical challenges, but also understand the spiritual responsibility in maintaining the safety of the ship's crew and avoiding damage to the marine ecosystem (Khuzaini *et al.*, 2023). The emphasis that their actions in operating ships must reflect an awareness of the importance of safety and protection of the marine environment is very much indicative of the ongoing spiritualization process.

2. Collaborative Learning that Fosters Spiritual Values

This learning is an approach that combines technical, spiritual, and social aspects in the teaching and learning process. In this context, the main objective is to instill the values of monotheism, which refers to the belief in the oneness of God and the welfare of life, namely the effort to create welfare for individuals and society at large. This approach combines collaborative learning with moral and ethical values that are sourced from spirituality, thus forming students who are not only competent in their profession, but also have a strong spiritual awareness (Komalasari *et al.*, no date).

Tawhid as the core of belief in the oneness of God, becomes the spiritual foundation in collaborative learning. Students are invited to realize that every knowledge and ability they gain is part of their responsibility as servants of God who must carry out His mandate in the world (Fontaine and Nuhu, 2022). In every assignment or project that is done collaboratively, students are reminded that their ability to work together and achieve goals is not only the result of their individual efforts, but also because of the grace and permission of God (Okuda, 2020). This fosters a sense of gratitude and surrender to God, while still carrying out our responsibilities as human beings who must work hard and honestly (van der Walt, 2022).

Collaborative learning can create life practices that are based on spiritual values as a way of life (Ataie and Shah, 2018). Through collaborative learning, students are trained to interpret work as worship to Allah. For example, when they work together to solve technical problems on the ship,

they understand that every action they take has a spiritual impact, which must be based on good intentions and sincerity because of Allah. In addition, they are also invited to think about the positive impact of their work on society and the environment (Rahindra Bayu Kumara, 2024).

The social benefit gained when students work in teams is that they learn to pay attention to the social impact of the decisions they make (Ataie and Shah, 2018). Every action taken in a project or task must be considered within the framework of broader benefits to others, whether in the form of increased safety at sea, wise management of natural resources, or increased efficiency in the maritime industry that contributes to the well-being of society (Rahindra Bayu Kumara, 2024).

Concern for the environment as part of the welfare of life encourages students to consider environmental sustainability in each of their projects. Tawhid teaches that humans are given the mandate to protect God's creation, so in collaborative learning, students are invited to design sustainable and ethical solutions (Rahman, Zabidi and Halim, 2020; Masturin, Ritonga and Amaroh, 2022). Collaborative learning requires students to work in teams, which allows them to internalize spiritual values in social interactions. This includes not only the ability to collaborate technically, but also developing a spiritual attitude that reflects the values of tawhid and maslahah.

Tawhid teaches that all humans are equal before God, so students are encouraged to respect each other and be humble in their interactions. Each individual on the team has a valuable contribution, and there is no place for arrogance or feeling superior to others (Fontaine and Nuhu, 2022; Taufik and Taufik, 2023). In working together, students also learn the importance of honesty and sincerity. They must be honest in expressing opinions, in dividing tasks, and in completing their respective responsibilities. Sincerity in working is part of the spirituality that is taught, where every job that is done is intended as worship and not merely for worldly interests (Syarifuddin and N'aini, 2018; Aufr *et al.*, 2023a).

In collaborative learning, lecturers play a role not only as technical teachers, but also as spiritual guides who direct students to always adhere to the values of monotheism and welfare. Lecturers ensure that students do not only work for worldly goals, but also understand that the ultimate goal of every effort is the greater good in the eyes of God (Aufr *et al.*, 2023a). Lecturers provide guidance on how students should practice spirituality in their work, both with their colleagues in a team and in making decisions that impact society and the environment (Altmeyer, 2021). Through this process, students learn to be responsible not only to their team, but also to God and society.

3. Use of Case Studies Containing Spiritual Values

During the Ship Manoeuvring course at Polimarin, students are often given real case studies from the industrial world which not only require technical solutions, but also require consideration of the values of monotheism and public welfare (Rahindra Bayu Kumara, 2024). For example, students are asked to face a simulation where the ship they are operating is in the middle of the sea during a major storm. As the ship's officers in charge, they must make important decisions regarding the navigation and safety of the ship and its crew. The conditions that must be faced are that the main engine is experiencing a decrease in power, causing the ship's speed to decrease. The storm is getting more intense, with large waves that can endanger the ship and pose a risk of shipwreck. The amount of remaining fuel is limited, and the nearest port takes longer to reach. The real world of industry not only demands technical solutions, but also requires consideration of the values of monotheism and welfare.

In this case, students are not only expected to find the most efficient technical solution, but also must consider the aspects of the values of monotheism and welfare. Students are invited to reflect that human safety and life are a mandate from God that must be guarded (Izzuddin, Budiwati and Zubaidah, 2021). They must realize that every decision taken must be based on the principle of monotheism, namely believing that every effort must be accompanied by submission to God, but still with full responsibility (Taufik and Taufik, 2023).

Spiritualization of Maritime Science Learning Evaluation

The aspects of monotheism and welfare in the evaluation of learning the course of ship maneuvering and control at Polimarin are important elements in forming the character of students who are not only technically competent, but also adhere to spiritual values. The following is an explanation of how these two aspects are integrated in the learning evaluation:

1. Aspect of Tawhid in Learning Evaluation

In learning evaluation, the aspect of monotheism plays a role in fostering students' awareness that everything they do in the world of maritime professions is a form of devotion to God (Aufr *et al.*, 2023a). Lecturers evaluate how students apply these monotheistic values in their professional

decisions. When students are given decision-making tasks in ship management, they are assessed on the extent to which the decisions reflect their sense of responsibility as actors connected to the principle of the oneness of God (Shuhari *et al.*, 2019). For example, the decisions they make must not only be technically efficient, but also reflect a responsible attitude towards God in maintaining the safety of humans and the environment (Rahindra Bayu Kumara, 2024).

Students are evaluated based on honesty and responsibility (*amanah*) in carrying out their duties, because monotheism teaches that all human actions will be accounted for before God (Taufik and Taufik, 2023). Lecturers assess students in terms of discipline, honesty in completing assignments, and how they maintain integrity, for example in completing assignments (Rahindra Bayu Kumara, 2024).

2. Aspects of Benefit in Learning Evaluation

Beneficence in the maritime context means ensuring that every decision students make in a simulated or real-world situation brings greater benefits, not only to themselves, but also to the entire crew, ship and environment (Baldauf, Dalaklis and Kataria, 2016). Lecturers evaluate how students consider the impact of their decisions on the public good, such as maintaining crew safety, preventing accidents, and reducing environmental damage. For example, in a case study of crisis management on a ship, students are asked to make decisions that prioritize the safety of life and the welfare of all crew members, even if it means sacrificing short-term profits.

Lecturers also evaluate the extent to which students apply the principle of public good by protecting the marine environment and the natural resources they manage. This principle is closely related to the teachings of monotheism, where humans are given the task of preserving nature as part of their responsibility to God (Baharudin and Tanjung, 2020). Lecturers assess whether students' decisions reflect an awareness of the public interest above individual interests.

3. Reflection

The lecturer asks students to do a written or oral reflection on how the values of monotheism and welfare are integrated into their learning experience. This reflection is in the form of giving students the opportunity to think critically and reflect on the extent to which they have applied the principles of monotheism and welfare in professional decision-making. After completing the simulation, students are asked to reflect on whether their decisions have reflected spiritual and moral responsibility, both in terms of human safety and environmental protection (Rahindra Bayu Kumara, 2024).

Students are invited to reflect on how the professional decisions they make during the simulation reflect their responsibility to God. This refers to the principle of monotheism where humans are expected to carry out each of their duties with the awareness that every action is accountable to God and environmental protection (Taufik and Taufik, 2023). Student reflection also includes awareness of the importance of protecting the environment as part of the common good (Lestar and Böhm, 2020; Aufi *et al.*, 2023a). Students are asked to evaluate whether during simulations or tasks related to ship management, they have considered environmental sustainability in resource management and ship operations (Rahindra Bayu Kumara, 2024).

In addition to reflecting on the decisions they make in the simulation, students are also invited to think about how these principles of *tawhid* and *kemaslahah* will be applied in the workplace. This reflection aims to connect their learning experiences with the ethical and moral challenges they may face in the maritime industry (Fontaine and Ibrahim Nuhu Tahir, 2022). Students can reflect on how, as future maritime professionals, they will ensure that every decision they make not only prioritizes economic profit, but also takes into account the welfare of the crew and the preservation of the marine environment, in accordance with the principles of welfare they have learned (Rahindra Bayu Kumara, 2024). Work or profession in the context of spirituality is a mandate from God as a servant who spreads goodness in worldly life (Rahman, Zabidi and Halim, 2020; Aufi *et al.*, 2023a).

Advantages and Disadvantages of Spiritualization of Sailing Science Learning as Vocational Learning Model

Learning the ship's manoeuvre and control course with the perspective of spiritualization of vocational science at Polimarin has advantages and disadvantages that need to be studied as a vocational learning model. The following are the advantages found in the spiritualization of vocational science in learning competency courses at Polimarin:

1. Improvement of Character and Professional Ethics

Integration of spiritual aspects in learning helps students develop strong character and professional ethics. Students not only learn technical skills, but also gain a deep understanding of

moral and ethical responsibilities in their profession. This prepares them to become professionals who are not only competent but also have high integrity.

2. Developing a Positive Attitude in the Work Environment

Spirituality-based learning helps students develop positive attitudes such as cooperation, empathy, and responsibility. These attitudes are important in a work environment that often involves interaction with various parties and requires the ability to work in a team and resolve conflict in a constructive manner.

3. Preparation for Ethical Challenges in the Workplace

Students who have been trained to consider spiritual aspects in decision-making will be better prepared to face ethical challenges in the workplace. They are trained to make decisions that consider not only technical results but also their impact on others and the environment.

The weaknesses found in the spiritualization of vocational science in learning the ship's maneuvering and control course at Polimarin are as follows:

1. Difficulty in Measuring Spiritual Aspects Quantitatively

One of the main challenges is the difficulty in measuring spiritual aspects objectively and quantitatively. Assessment of spiritual aspects is often subjective and difficult to measure with consistent standards, which can affect the accuracy of assessment of student character development.

2. Potential Conflict between Spiritual Aspects and Technical Skills

In some cases, the emphasis on the spiritual aspect can divert focus from the development of technical skills that are essential in the vocational field. There is a risk that students may feel they are not getting adequate technical training if attention is too focused on the spiritual aspect.

3. Resistance to Change in Learning Approaches

The implementation of a spiritual perspective in learning may face resistance from some parties, including lecturers and students, who may be more accustomed to learning approaches that focus solely on technical skills. This change will take time and effort to be widely accepted and effectively integrated into the curriculum.

4. Resource and Training Needs for Lecturers

To implement a spiritual approach effectively, lecturers need to be trained and given adequate resources. This training takes time and money, and not all educational institutions may have the capacity to do it comprehensively.

Conclusion

This study shows that spiritual aspects are integrated holistically in the learning planning of the ship maneuvering and control course at Polimarin which includes the preparation of the curriculum and the preparation of the Learning Implementation Plan (RPP). In the implementation of the learning, several methods are applied, including project-based learning, collaborative learning, and the use of case studies that internalize moral and spiritual values in their professional practice. Spiritual aspects, especially the values of monotheism and welfare, are also deeply integrated in the learning evaluation. Students are asked to reflect on the application of these values in order to understand spiritual responsibility in professional decision-making, as well as the importance of maintaining safety and the environment.

Learning competency courses at Polimarin with the perspective of spiritualization of vocational science has significant advantages, including improving students' character and professional ethics, developing positive attitudes in the work environment, and better preparation to face ethical challenges in the world of work. However, there are also some disadvantages, such as the difficulty in measuring spiritual aspects quantitatively, the potential for conflict between focusing on technical and spiritual skills, resistance to changes in learning approaches, and the need for resources and training for lecturers. Both, the advantages and disadvantages, need to be studied further as a reference for the spiritualization model of vocational learning.

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