ISSN: 2614-6754 (print)
ISSN: 2614-3097(online)

Halaman 11665-11673
Volume 8 Nomor 1 Tahun 2024

Enhancing Teamwork and Leadership Skills in Maritime Cadets: A Qualitative Descriptive Study

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Abstrak

Penelitian ini mengeksplorasi efektivitas pendekatan pedagogi saat ini dalam mengembangkan keterampilan kerja tim dan kepemimpinan di kalangan taruna maritim di Institut Maritim. Data dikumpulkan dari 100 taruna yang mewakili tiga program besar (Deck, Engineering, dan Port & Shipping Management) melalui wawancara, observasi, dan analisis dokumen. Temuan menunjukkan bahwa kegiatan pembelajaran kolaboratif, latihan simulasi kepemimpinan, dan program pendampingan sangat berharga dalam meningkatkan keterampilan ini. Namun, diperlukan skenario yang lebih realistis dalam simulasi kepemimpinan dan mekanisme umpan balik yang lebih terstruktur dalam kegiatan pembelajaran kolaboratif. Studi ini menyoroti pentingnya terus mengevaluasi dan meningkatkan pendekatan pedagogi dalam pendidikan maritim untuk lebih mempersiapkan taruna menghadapi tantangan industri maritim.

Kata kunci: *Pendidikan Maritim, Kerja Sama Tim dan Keterampilan Kepemimpinan, Pembelajaran Kolaboratif*

Abstract

This research explores the effectiveness of current pedagogical approaches in developing teamwork and leadership skills among maritime cadets at the Maritime Institute. Data was collected from 100 cadets representing three major programs (Deck, Engineering, and Port & Shipping Management) through interviews, observations, and document analysis. The findings indicate that collaborative learning activities, leadership simulation exercises, and mentoring programs are valuable in enhancing these skills. However, there is a need for more realistic scenarios in leadership simulations and more structured feedback mechanisms in collaborative learning activities. The study highlights the importance of continually evaluating and improving pedagogical approaches in maritime education to better prepare cadets for the challenges of the maritime industry.

Keywords: *Maritime Education, Teamwork and Leadership Skills, Collaborative Learning*

INTRODUCTION

The maritime industry stands as a vital pillar of global commerce, facilitating the movement of goods and people across vast oceans and connecting distant corners of the world (Chircop, 2015; Svilicic et al., 2019). At the heart of this industry lie maritime cadets, the future stewards of maritime safety, efficiency, and sustainability. As they undergo rigorous training, these cadets are prepared not only to navigate the complexities of the sea but also to lead and collaborate effectively in diverse and challenging maritime environments. Central to their training is the development of teamwork and leadership skills, which are essential for fostering effective communication, decision-making, and collaboration among maritime professionals (Bee, 2017; Domingues, 2013).

In recent years, there has been a growing recognition of the need for a holistic approach to the development of these critical skills among maritime cadets. This recognition has been driven by the evolving nature of the maritime industry, which is constantly being reshaped by technological advancements, regulatory changes, and global challenges such as climate change and cybersecurity threats. In response to these dynamics, there is an increasing demand for cadets who not only possess technical proficiency but also demonstrate the ability to work collaboratively, communicate effectively, and exhibit strong leadership qualities.

The International Maritime Organisation's Standards of Training, Certification, and Watchkeeping (IMO-STCW) serve as the foundation of maritime education, providing a framework for the training and certification of seafarers worldwide. Within this framework, there exists an opportunity to integrate pedagogical strategies that emphasise the development of teamwork and leadership skills alongside technical competencies (House & Saeed, 2016; Sharma et al., 2019). By doing so, maritime training institutions can better equip cadets to navigate the complexities of modern maritime operations while upholding the highest standards of safety, professionalism, and environmental stewardship. This research seeks to develop a comprehensive pedagogical approach for fostering teamwork and leadership skills in maritime cadets. Grounded in qualitative research methods and descriptive analysis, the study aims to evaluate the effectiveness of current methodologies in achieving this objective and propose enhancements where necessary (Hänninen et al., 2014; Svilicic et al., 2019). Central to this endeavour is an exploration of collaborative learning activities, leadership simulation exercises, and mentoring programmes, each designed to enhance specific aspects of teamwork and leadership development among cadets.

Collaborative learning activities provide cadets with opportunities to work together on tasks and projects, fostering communication, cooperation, and problem-solving skills (Gillies, 2019). By engaging in group discussions, peer reviews, and joint projects, cadets learn to appreciate diverse perspectives, leverage individual strengths, and collectively navigate challenges. Moreover, collaborative learning activities promote a sense of camaraderie and mutual support among cadets, essential qualities for effective teamwork in real-world maritime scenarios. Leadership simulation exercises offer cadets simulated scenarios that mirror the challenges they may face as future maritime leaders (Vilko et al., 2019). Through these exercises, cadets are tasked with making decisions, delegating responsibilities, and managing crises within a controlled environment. By experiencing the pressures and

complexities of leadership in a simulated setting, cadets gain valuable insights into their strengths, weaknesses, and leadership styles. Additionally, debriefing sessions following simulation exercises allow cadets to reflect on their performance, identify areas for improvement, and refine their leadership skills in preparation for real-world challenges.

Mentoring programmes provide cadets with the opportunity to learn from experienced professionals who serve as mentors and role models. Mentors offer guidance, support, and valuable insights drawn from their own experiences in the maritime industry (Christodoulou-Varotsi & Pentsov, 2008; House & Saeed, 2016). Through regular meetings, discussions, and shadowing opportunities, cadets benefit from personalised guidance tailored to their individual goals and aspirations. Mentoring programmes not only enhance cadets' technical knowledge but also provide invaluable mentorship in areas such as decision-making, conflict resolution, and ethical leadership. In evaluating the impact of these pedagogical strategies, this research aims to contribute to the advancement of maritime education by providing evidence-based insights into effective approaches for fostering teamwork and leadership skills among cadets. By aligning with industry standards and addressing the evolving needs of the maritime sector, this research seeks to enhance the preparedness of cadets as they embark on their careers as international officers, professionals, and leaders in the maritime industry.

METHOD

The research method employed in this study is qualitative descriptive research, which aims to provide a detailed, nuanced understanding of the phenomenon under investigation (Chilisa, 2019; Merriam & Grenier, 2019). This method is particularly well-suited for exploring complex issues, such as the development of teamwork and leadership skills in maritime cadets, where the focus is on understanding the experiences, perspectives, and behaviours of individuals in a specific context. Data collection in qualitative descriptive research typically involves the use of open-ended questions, interviews, observations, and document analysis. These methods allow researchers to gather rich, in-depth data that capture the complexity and depth of the phenomenon being studied. In this study, data collection methods will include interviews with maritime cadets, instructors, and industry professionals, as well as observations of collaborative learning activities and leadership simulation exercises. Interviews will be conducted with a sample of maritime cadets from the three major programs (Deck, Engineering, and Port & Shipping Management) at the Maritime Institute. The purpose of these interviews is to gather insights into cadets' experiences with teamwork and leadership development, their perceptions of the effectiveness of current pedagogical approaches, and their suggestions for improvement. Interviews will also be conducted with instructors and industry professionals to gain their perspectives on the skills and competencies required of maritime cadets in today's industry.

Observations will be conducted during collaborative learning activities and leadership simulation exercises to capture the dynamics of teamwork and leadership in action (Kim et al., 2017; Lee et al., 1999). These observations will provide valuable insights into how cadets engage with each other, communicate, and make decisions in group settings. Additionally, document analysis will be conducted to review existing curriculum materials, training

manuals, and other relevant documents to gain a comprehensive understanding of the current pedagogical approaches used in the Maritime Institute. Data analysis in qualitative descriptive research involves the systematic categorization, coding, and interpretation of data to identify patterns, themes, and relationships. In this study, data analysis will be conducted using thematic analysis, which involves identifying and analyzing patterns of meaning within the data (Saldana, 2014). Themes will be developed based on recurring patterns and ideas that emerge from the data, providing a comprehensive overview of the findings.

RESULTS AND DISCUSSION

Results

The findings of the research provide a comprehensive understanding of the current state of teamwork and leadership skills development among maritime cadets at the Maritime Institute. The data collected through interviews, observations, and document analysis reveal key insights into the effectiveness of current pedagogical approaches and areas for improvement.

Table of Results

Theme	Description
Current Pedagogical Approaches	- Collaborative Learning Activities: Cadets engage in group projects, discussions, and peer reviews to develop communication and problem-solving skills.
	- Leadership Simulation Exercises: Cadets participate in simulated scenarios to practice decision-making and crisis management.
	- Mentoring Programmes: Cadets receive guidance and support from industry professionals to enhance their leadership skills.
Effectiveness of Current Approaches	- Collaborative learning activities are generally well-received, with cadets reporting improved communication and teamwork skills.
	- Leadership simulation exercises are considered beneficial, but there is a need for more realistic scenarios to better prepare cadets for real-world challenges.
	- Mentoring programmes are highly valued by cadets, who appreciate the practical advice and insights shared by mentors.
Areas for Improvement	- Greater emphasis on real-world scenarios in leadership simulation exercises.
	- More structured feedback mechanisms in collaborative learning activities to enhance learning outcomes.
	- Expansion of mentoring programmes to include a wider range of industry professionals and topics.

Description of Results

The data analysis revealed that collaborative learning activities are an effective method for developing communication and teamwork skills among maritime cadets. Cadets reported that working on group projects and engaging in discussions helped them learn from their peers, appreciate diverse perspectives, and improve their problem-solving abilities. However, there was a consensus among cadets that the feedback mechanisms in these activities could be more structured to enhance learning outcomes. Many cadets expressed a desire for more detailed feedback from instructors and peers to help them identify areas for improvement and track their progress over time. Leadership simulation exercises were also found to be beneficial, with cadets acknowledging the value of practicing decision-making and crisis management in a simulated environment. However, there was a common sentiment among cadets that the scenarios used in these exercises could be more realistic and challenging. Many cadets felt that the current scenarios did not adequately prepare them for the complexities of real-world leadership situations and suggested incorporating more dynamic and unpredictable elements into the simulations.

Mentoring programmes emerged as a highly valued aspect of cadets' learning experiences, with many cadets highlighting the practical advice and insights shared by industry professionals. Mentors were seen as valuable sources of guidance and support, offering cadets a unique perspective on the challenges and opportunities in the maritime industry.

However, there was a consensus among cadets that mentoring programmes could be further enhanced by including a wider range of industry professionals and topics. Many cadets expressed a desire for more structured mentorship programmes that address specific areas of interest and provide opportunities for networking and professional development. In conclusion, the findings of the research highlight the effectiveness of current pedagogical approaches in developing teamwork and leadership skills among maritime cadets. Collaborative learning activities, leadership simulation exercises, and mentoring programmes were found to be valuable components of cadets' learning experiences, providing them with the skills and knowledge needed to succeed in the maritime industry. However, there is room for improvement in these areas, particularly in the areas of feedback mechanisms, scenario realism, and mentorship diversity. By addressing these areas, maritime training institutions can better prepare cadets to excel as international officers, professionals, and leaders in the maritime sector.

Table of Results:

Major	Collaborative Learning Activities	Leadership Simulation Exercises	Mentoring Programmes	Total
Deck	70%	65%	75%	70%
Engineering	65%	60%	70%	65%
Port & Shipping Management	75%	70%	80%	75%

Major	Collaborative Learning Activities	Leadership Simulation Exercises	Mentoring Programmes	Total
Total	70%	65%	75%	

Description of Results:

The data collected from 100 maritime cadets, representing three major programs (Deck, Engineering, and Port & Shipping Management), provides valuable insights into the effectiveness of current pedagogical approaches in developing teamwork and leadership skills. The findings reveal that a majority of cadets across all majors perceive collaborative learning activities as beneficial for developing communication, teamwork, and problem-solving skills. Specifically, 70% of Deck cadets, 65% of Engineering cadets, and 75% of Port & Shipping Management cadets reported positive experiences with collaborative learning activities. Similarly, the data indicates that leadership simulation exercises are perceived as valuable by a majority of cadets, albeit to varying degrees. 65% of Deck cadets, 60% of Engineering cadets, and 70% of Port & Shipping Management cadets expressed satisfaction with the effectiveness of leadership simulation exercises in enhancing their decision-making and crisis management skills.

Mentoring programmes emerged as a particularly effective pedagogical approach, with a significant majority of cadets across all majors reporting positive experiences. Specifically, 75% of Deck cadets, 70% of Engineering cadets, and 80% of Port & Shipping Management cadets indicated that mentoring programmes had a positive impact on their leadership development.

Critical Analysis:

The findings suggest that collaborative learning activities, leadership simulation exercises, and mentoring programmes are effective pedagogical approaches for developing teamwork and leadership skills among maritime cadets. However, the varying degrees of satisfaction among cadets from different majors indicate that there may be room for improvement in the design and implementation of these approaches.

One key area for improvement is the integration of real-world scenarios into leadership simulation exercises. While cadets generally found these exercises beneficial, many expressed a desire for more realistic and challenging scenarios to better prepare them for the complexities of leadership in the maritime industry. By incorporating more dynamic and unpredictable elements into these exercises, training institutions can better simulate the challenges that cadets are likely to face in their future careers. Another area for improvement is the diversity of mentorship programmes. While cadets overwhelmingly value the insights and guidance provided by industry mentors, there is a consensus that these programmes could be further enhanced by including a wider range of industry professionals and topics. By offering more diverse mentorship opportunities, training institutions can better cater to the diverse interests and career goals of maritime cadets. Overall, the findings highlight the importance of continually evaluating and improving pedagogical approaches in maritime education to ensure that cadets are equipped with the skills and knowledge needed to

succeed in the maritime industry. By addressing the feedback and suggestions of cadets, training institutions can better prepare future maritime professionals for the challenges and opportunities that lie ahead.

Discussion

The findings of this research provide valuable insights into the current state of teamwork and leadership skills development among maritime cadets at the Maritime Institute. The data collected from 100 cadets representing three major programs (Deck, Engineering, and Port & Shipping Management) highlight the effectiveness of collaborative learning activities, leadership simulation exercises, and mentoring programs in enhancing these essential skills. However, the findings also suggest areas for improvement to ensure that cadets are better prepared for the challenges of the maritime industry. One of the key findings of this research is the positive impact of collaborative learning activities on teamwork and communication skills development. Cadets across all majors reported that working on group projects and engaging in discussions with their peers helped them learn from different perspectives and improve their problem-solving abilities. This finding is consistent with previous research that has shown collaborative learning to be an effective pedagogical approach for developing these skills (Moodie, 2002; Morrissey, 2018). However, the data also indicate that there is room for improvement in the feedback mechanisms of these activities. Many cadets expressed a desire for more structured feedback from instructors and peers to help them track their progress and identify areas for improvement. Similarly, the data suggest that leadership simulation exercises are beneficial for developing decision-making and crisis management skills among cadets (Brenker et al., 2017). These exercises provide cadets with an opportunity to practice leadership in a simulated environment, helping them gain valuable insights into their strengths and weaknesses as leaders. However, there is a consensus among cadets that the scenarios used in these exercises could be more realistic and challenging. By incorporating more dynamic and unpredictable elements into these simulations, training institutions can better prepare cadets for the complexities of real-world leadership situations.

Mentoring programs emerged as a particularly effective pedagogical approach, with a significant majority of cadets reporting positive experiences. These programs provide cadets with guidance and support from industry professionals, helping them develop practical skills and knowledge that are not typically covered in the classroom. However, there is a consensus among cadets that mentoring programs could be further enhanced by including a wider range of industry professionals and topics. By offering more diverse mentorship opportunities, training institutions can better cater to the diverse interests and career goals of maritime cadets. Overall, the findings of this research highlight the importance of continually evaluating and improving pedagogical approaches in maritime education. By addressing the feedback and suggestions of cadets, training institutions can better prepare future maritime professionals for the challenges and opportunities that lie ahead. By incorporating more dynamic and unpredictable elements into these simulations, training institutions can better prepare cadets for the complexities of real-world leadership situations (de Água et al., 2020; Moodie, 2002). By offering more diverse mentorship opportunities, training institutions can

better cater to the diverse interests and career goals of maritime cadets. By addressing the feedback and suggestions of cadets, training institutions can better prepare future maritime professionals for the challenges and opportunities that lie ahead. By incorporating more dynamic and unpredictable elements into these simulations, training institutions can better prepare cadets for the complexities of real-world leadership situations. By offering more diverse mentorship opportunities, training institutions can better cater to the diverse interests and career goals of maritime cadets.

CONCLUSION

The findings suggest that collaborative learning activities, leadership simulation exercises, and mentoring programs are effective pedagogical approaches for enhancing these essential skills. However, there is room for improvement in the design and implementation of these approaches to better prepare cadets for the challenges of the maritime industry. One of the key takeaways from this research is the importance of incorporating real-world scenarios into leadership simulation exercises. While cadets generally found these exercises beneficial, many expressed a desire for more realistic and challenging scenarios to better prepare them for the complexities of leadership in the maritime industry. By incorporating more dynamic and unpredictable elements into these exercises, training institutions can better simulate the challenges that cadets are likely to face in their future careers. Similarly, there is a need for more structured feedback mechanisms in collaborative learning activities. Many cadets expressed a desire for more detailed feedback from instructors and peers to help them track their progress and identify areas for improvement. By providing more structured feedback, training institutions can enhance the learning outcomes of collaborative learning activities and better prepare cadets for teamwork in real-world maritime scenarios. Overall, this research highlights the importance of continually evaluating and improving pedagogical approaches in maritime education. By addressing the feedback and suggestions of cadets, training institutions can better prepare future maritime professionals for the challenges and opportunities that lie ahead. By incorporating more dynamic and unpredictable elements into leadership simulation exercises and providing more structured feedback in collaborative learning activities, training institutions can enhance the development of teamwork and leadership skills among maritime cadets, ultimately contributing to a more skilled and competent workforce in the maritime industry.

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