

Embracing Multiliteracies Challenges: Navigating Multimodal Literacy in Maritime Vocational Education with the New London Group Framework

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ABSTRACT

In the context of rapidly evolving digital technology and diverse communication modalities, English for Specific Purposes (ESP) instructors must adapt their pedagogical strategies to meet the literacy needs of ESP students. This study, grounded in the multiliteracies framework by the New London Group (1996), examines the challenges faced by a teacher in integrating various communication modes—verbal, visual, gestural, spatial, and multimodal digital texts—within the curriculum of a maritime vocational high school in Indonesia. Utilizing a qualitative case study approach, data were collected through classroom observations and interviews, analyzed via thematic analysis. Findings reveal four significant challenges in implementing multiliteracies pedagogy, contributing to discussions on literacy education and the impact of digital technology in educational settings

INTRODUCTION

The rapid global dissemination of information has led to the so-called "digital information explosion" (Halpern, 2003), profoundly affecting socio-cultural dynamics. This shift is evident in two primary areas: increased globalization, which embraces cultural diversity, and the transformation of textual forms into multimodal representations driven by digital technologies. As a result, effective communication across cultural boundaries and proficiency in various forms of English have become essential (Cope & Kalantzis, 2009; Mills, 2010b; New London Group, 1996).

In this evolving landscape, literacy extends beyond traditional reading and writing skills to encompass digital, visual, and multimodal literacy (Kress, 2001). Traditional literacy teaching methods are inadequate to cope with the overwhelming volume of texts found in mainstream media and online. Therefore, the focus of second and foreign language education must shift from solely grammatical proficiency to integrating multiliteracies that prepare students for real-world communication, including English for Specific Purposes (ESP) (Suherdi, 2012; Taylor, 2009).

Within the ESP framework, students must not only comprehend and create culturally appropriate texts but also communicate effectively across diverse social contexts (Daffurn, 2019; Stenglin & Iedema, 2001). Prior (2013) emphasizes the necessity for ESP education to incorporate multimodal features alongside traditional approaches to enhance student communication skills. Beltrán-Palanques (2023) affirms that as multimodal texts become more prevalent, ESP instruction should prioritize the development of multimodal literacy.

Multiliteracies pedagogy (MP), introduced by the New London Group (1996), offers a promising framework for teaching ESP students essential multimodal literacy skills. This pedagogy broadens learning avenues beyond traditional literacy methods, fostering critical engagement and equipping students to navigate the evolving landscape of labor, power, and society (Cope & Kalantzis, 2009). By integrating four knowledge processes—experiencing, conceptualizing, analyzing, and applying—MP combines language learning with authentic texts (Anderson & Krathwohl, 2001).

Despite evidence supporting the effectiveness of MP in various ESP programs, challenges persist in its implementation. Lim (2022) identified that many ESP teachers lack a deep understanding of multiliteracies, facing uncertainties related to teaching methods, assessment practices, and curriculum constraints. There is often insufficient critical engagement with different modes of communication and their emotional impact on learners. Furthermore, intercultural differences in modality interpretation necessitate attention to improve communication in diverse learning environments.

In the context of Vocational High Schools (VHS) in Indonesia, the application of multiliteracies pedagogy remains limited (Fadilla, 2018). These institutions, which follow the National Education System Act number 20 of 2003, aim to provide students with specific vocational language skills. For instance, at Vocational High School X in Brebes Regency, the Nautical Fishing Vessel program uniquely collaborates with foreign entities, such as Japan, to prepare students for careers in the international maritime industry.

As part of this global orientation, the Nautical Fishing Vessel program underscores the necessity of multimodal literacy. Given the diverse tasks involved—ranging from navigation to safety procedures—students must interpret and create meaning across various modes of communication, including text, images, and audio-visual materials. Mastery of multimodal literacy not only enhances comprehension but also equips students with essential skills to navigate digital platforms and communicate effectively within the maritime sector.

However, limited research exists regarding the teaching methodologies employed in maritime contexts and their effectiveness in developing students' multimodal literacy. This study aims to address several gaps in the literature: first, the limited exploration of multiliteracies pedagogy within VHS settings, particularly in Maritime English. Second, the challenges faced by maritime ESP educators, which require more attention to enrich the body of ESP teaching literature. Lastly, the role of multimodal teaching aids in facilitating or obstructing the implementation of MP warrants further investigation.

This study focuses on the implementation of multiliteracies pedagogy in the Nautical Fishing Vessel program at Vocational High School X, specifically examining the four dimensions of MP: situated practice, overt instruction, critical framing, and transformative practice. It will also explore media usage and practical constraints that educators encounter, offering valuable insights for enhancing teaching practices in response to the increasing diversity of multimodal texts in today's digital landscape.

LITERATURE REVIEW

Multiliteracies Pedagogy

Multiliteracies pedagogy involves teaching strategies designed to enhance intercultural communication, recognizing the significance of multiculturalism and multilingualism in the 21st century (New London Group, 1996). This approach acknowledges that individuals construct meaning through various modes of expression influenced by their identities, experiences, and sociocultural contexts. The aim is to create learning environments where traditional tools, such as blackboards and textbooks, are supplemented or even replaced by digital technologies (Cope & Kalantzis, 2009). Multiliteracies pedagogy promotes a multimodal framework that enables students to engage with diverse linguistic, visual, auditory, and spatial modes of meaning-making (Kalantzis & Cope, 2005).

According to Tan and McWilliam (2009), integrating a multiliteracies approach in the classroom serves essential purposes: facilitating individual development and interest in technology, providing flexible learning environments, fostering the acquisition of relevant skills for the digital era, and promoting autonomous, self-directed learning.

Multiliteracies pedagogy is structured around four interconnected principles (New London Group, 1996):

1. **Situated Practice:** This phase emphasizes the importance of connecting teaching to students' sociocultural realities. Teachers immerse their instruction in students' lived experiences, making learning more meaningful.
2. **Overt Instruction:** This stage involves providing appropriate scaffolding to help students grasp meaning patterns and design processes (Cope & Kalantzis, 2015).
3. **Critical Framing:** This element encourages students to critically analyze their learning in relation to historical, social, cultural, and ideological contexts, facilitating deeper understanding (New London Group, 1996).
4. **Transformed Practice:** Students apply their learning in new contexts, creating multimodal texts that blend various communication modalities (Mills, 2009). Anstey and Bull (2006) define these multimodal texts as those combining different modes, such as print and images, to enhance or alter meaning.

Kalantzis and Cope (2005) also describe these principles as the "Four Knowledge Processes":

1. **Experiencing:** Learning through immersion in real-life situations and hands-on experiences.
2. **Conceptualizing:** Developing general ideas and theories, enhancing students' understanding.
3. **Analyzing:** Critically engaging with texts to uncover underlying meanings and biases.
4. **Applying:** Implementing learned concepts in real-world contexts.

This framework emphasizes the interconnectedness of multiliteracies pedagogy and knowledge processes, enhancing the effectiveness of literacy education.

The benefits of multiliteracies pedagogy are significant (Zapata, Kalantzis, & Cope, 2023):

- It encourages proficiency in various communication modalities, allowing students to express themselves effectively.
- The approach fosters engagement with diverse cultures and global issues, promoting empathy and global citizenship.
- It enhances critical thinking skills by encouraging students to analyze and evaluate information from multiple sources.
- The integration of digital literacy prepares students for active participation in a technology-driven society.
- By allowing multiple modalities for self-expression, students can discover their unique voices and creative capabilities.

- Multiliteracies pedagogy nurtures interdisciplinary learning, enhancing understanding of complex topics and facilitating knowledge application across subjects.
- It equips students with lifelong learning skills, fostering adaptability in a rapidly changing information landscape.

In summary, multiliteracies pedagogy enriches literacy education by integrating diverse communication methods and cultural contexts, preparing students for success in an increasingly digital and interconnected world.

Indonesian Vocational High Schools

Vocational schools, known as Sekolah Menengah Kejuruan (SMK), are specialized educational institutions in Indonesia designed to equip students with the skills and knowledge necessary for specific employment roles in various industries. These schools play a vital role in the educational landscape, aiming to foster competencies that enable individuals to work effectively in group settings or within particular occupational fields. The latest educational framework, the Merdeka Curriculum, integrates English language learning into the curriculum, focusing on enhancing both oral and written communication skills to achieve a B1 level on the Common European Framework of Reference for Languages (CEFR). This level signifies the ability to interact clearly in diverse contexts and convey main points comprehensively while maintaining communication, even when faced with interruptions.

The importance of English education in VHS has become increasingly apparent, especially as Indonesia anticipates a demographic bonus from 2020 to 2035, when approximately 64% of the population is projected to be of working age. This demographic shift underscores the need for a workforce proficient in English to engage effectively on a global scale.

English for Specific Purposes (ESP) is a focused approach to English language teaching that centers on the specific needs of learners. According to Hutchinson and Waters (1987), ESP instruction is defined by methods and content tailored to the goals of students, equipping them with the language skills necessary for their respective fields (Basturkmen, 2010). ESP addresses the unique demands of learners through a needs analysis, making it particularly suitable for vocational education, where students require language proficiency relevant to their domains.

In ESP classrooms, teachers take on various roles, including those of instructor, curriculum designer, and assessor (Dudley Evans & St John, 1998). Nunan (2004) emphasizes the significance of ESP within language education, highlighting its distinct methodologies for curriculum development and assessment.

The Fishing Vessel of Nautica Study Program exemplifies the application of ESP, focusing on Nautical English or English for Maritime, which features specialized terminology pertinent to the maritime industry (Faultfinding & Nicolas, 2019; Ahmed, 2013). Proficiency in this specialized language is critical for maritime safety, as effective communication can significantly reduce the risk of accidents at sea (Ziarati, 2006). Following the STCW 2010 regulations, maritime

education programs require graduates to demonstrate English proficiency to ensure comprehension of essential maritime information (IMO, 1995).

Nautical English emphasizes the precise use of language structures relevant to maritime contexts. For instance, understanding terminology that can have dual meanings, such as "port," is essential for clear communication (Pettersen, 2010). A basic command of English, combined with standard maritime terms, is crucial for effective communication in maritime scenarios.

This study investigates the application of multiliteracies pedagogy in ESP instruction, emphasizing the role of literacy and multimodal communication. This approach allows students to develop skills in analyzing various information sources through different meaning-making techniques. In academic writing instruction, multiliteracies pedagogy recognizes students' diverse resources and empowers them to create meaning actively.

METHODOLOGY

Research Design

This article utilized qualitative single case research. A case study approach was selected to investigate maritime English class that transformed the maritime environmental issues into a poster using multiliteracies pedagogy (Cresswell, 2014).

Participants

A purposive sample of one teacher and sixty-two tenth grade students from Nautika Kapal Penangkap Ikan (NKPI) program was chosen for this study. Since the focus is on the teacher, this teacher holds an undergraduate degree in English Language Education and a postgraduate degree in Linguistics from prestigious Indonesian universities. Additionally, he has completed the Teacher Professional Education (PPG) program, indicating a high level of professionalism and expertise in teaching and designing English language curricula, including for students with specific needs in the digital era. This research aims to examine his implementation of multiliteracies pedagogy in his ESP course, specifically for NKPI students.

Data Collection

Data was collected through observation and teacher in-depth interview. Interviews were conducted to explore the teacher's challenges during the digital poster creation process. The interview data were transcribed and organized into four themes: the type and theme of MP implementation and challenges faced. The pedagogy was applied through four stages: situated practice, overt instruction, critical framing, and transformed practice. Students were tasked with different multimodal text (video, image, and printed text) related to climate change in maritime then creating a digital poster based on text.

Data Analysis

The interview data were analyzed using thematic analysis as described by Braun and Clarke (2006). This process included becoming acquainted with the data, creating initial codes, identifying themes, and reviewing those themes to confirm they accurately reflect the data.

RESULT

The ESP Teacher Challenges on Multiliteracies Pedagogy Implementation

Implementing multiliteracies pedagogy in vocational high schools poses several significant challenges for teachers in this study. The findings were derived from teachers interview and observation. The challenges that perceived by ESP teachers are described in the following table:

Table 1. ESP Teachers Challenges

No	ESP Teachers Challenges in MP Implementation
1.	Teacher Preparedness and Professional Development
2.	Diverse Students Needs and Motivations
3.	Technological Integration
4.	Curriculum and Assessment Alignment

From Table 2, the primary challenge pertains to teacher preparation and professional development. Multiliteracies pedagogy, with its emphasis on multimodality, requires teachers to incorporate more diverse elements of teaching literacy compared to traditional methods, thus increasing the preparation workload before classes commence. Additionally, tailoring the material to suit ESP students, specifically those studying Nautical Science in this context, further complicates the design of the teaching materials. Making his intended meaning was not easy to be delivered to the students, as he claim

"I experienced difficulties teaching about global warming. There is a video case story about a polar bear because the ice is melting in the video, the bear has to move. The children don't think it's about global warming; they think it's just about the polar bear wanting to leave because it's being chased away or something. What I want is for the children to understand why global warming occurs and its impact on the environment" (Teacher Interview, T26)

Moreover, the varying levels of basic understanding among students add to the challenge by increasing the range of preconceptions that need to be addressed. The teacher encountered challenges due to varying levels of background knowledge among his students. Those with lower levels found it difficult to comprehend and interpret the complex topics included in his MP teaching materials. Additionally, these students frequently relied on translation tools due to their limited language proficiency. This was evident from the researcher's observations, where the teacher struggled to adapt the "climate change" topic to accommodate students of all proficiency levels.

".. ESP teachers must prepare extensively in advance, as there are numerous aspects that need to be arranged." Extensive Preparation by Teachers: (T.29)

"...the students sometimes know more about the marine world than I do." Extensive Preparation by Teachers: (T.29)

Additionally, Mr. Zi acknowledged that maintaining his professionalism posed further challenges, as demonstrated by the issues of "Balancing Vocabulary Levels" and "Developing Speaking Skills," which both fall under the theme of Teacher Preparedness and Professional Development. These points highlight the teacher's proactive and reflective efforts to improve teaching effectiveness. To tackle the challenge of varying vocabulary levels among students, the teacher provided vocabulary lists derived from the texts discussed during the joint construction stage (T.24). This action showcases the teacher's preparedness in developing instructional strategies that address diverse student needs, ensuring all students grasp the material thoroughly. This proactive approach not only aids in balancing vocabulary levels but also reflects the teacher's commitment to ongoing professional development and refining teaching practices.

Similarly, the difficulty in enhancing students' speaking skills is tackled through the teacher's observations and interventions (T.27). The teacher observed that students read English in a way that closely mirrors their native language, indicating a need for more focused instruction in speaking English. By identifying this issue and working to address it, the teacher demonstrates a commitment to professional growth. This process involves continually evaluating student performance, pinpointing challenges, and applying strategies to enhance student outcomes. These efforts underscore the teacher's dedication to refining their teaching methods to better support student learning, aligning with the theme of Teacher Preparedness and Professional Development.

Secondly, the theme of diverse student needs and motivation arises from the observation that students' lack of motivation and understanding of their study program negatively impacts their engagement and learning effectiveness. The students' motivation might be influenced by its program's physical activity that takes into account their concentration.

"Coincidentally, the children get bored easily. So, this is a challenge because NKPI students at school are very physical." (Teacher Interview, T 20)

"Yesterday, the students clearly had difficulties with vocabulary. Because they are not accustomed to the vocabulary (so when we give them a text that should only take 10 minutes to understand, we have to explain what the text is about. When we show them a video, they can't grasp anything)." (Teacher Interview, T 20)

"So far, the problem here is that the students' basic skills are not well developed." (Teacher Interview, T 20)

Moreover, varying levels of comprehension and English proficiency among students present additional challenges for teachers in delivering content. Students with lower English proficiency frequently rely on translation tools, leading to inaccuracies that require additional teacher support. Misinterpretations and literal translations underscore a superficial understanding, necessitating further teacher intervention. This dependence on translation tools also affects the authenticity of students' work, demanding extra corrective efforts from teachers.

"... the local environment is socio-culturally shaped by the fact that many of the children come from lower-middle-class families." Students' Motivation for Study Program (NKPI): (T.21)

"The kids don't even recognize it as global warming; they think the polar bear is leaving due to some other reason, like confusion or something else." Different Levels of Basic Understanding: (T.22)

"Students initially create their work in Indonesian, then use Google Translate to convert it." Socio-Economic Background Affecting Learning: (T.27)

"If I start discussing global warming right away, only one or two students will understand, so it's important to establish a baseline understanding from the start." Students' Incorrect Interpretation of Global Warming: (T.22)

Thirdly, technological integration, a crucial aspect of implementing Multiliteracies Pedagogy (MP), also increased the challenges faced by ESP teachers. This is due to the necessity of preparing and utilizing various applications, which brings about technical difficulties and demands extra time and resources. Teachers must not only be skilled in using these technologies but also proficient in incorporating them effectively into their lessons.

"Since the students initially created their work in Indonesian and then translated it using Google Translate." Use of Google Translate for Assignments: (T.27)

"Teachers need to do considerable preparation beforehand, as there are numerous elements that need to be arranged." Preparation and Use of Various Applications: (T.29)

Ultimately, incorporating Multiliteracies Pedagogy (MP) into existing curriculum standards and assessment frameworks can present difficulties. Traditional evaluation techniques might not adequately measure the skills and competencies developed through multiliteracies approaches. This necessitates a shift towards more holistic and continuous assessment methods.

"If I start by discussing global warming right away, only about one or two children will be familiar with it. Therefore, it's important to establish a common understanding from the outset." Equalizing Understanding: (T.22)

T.22 highlights the difficulty teachers encounter in guaranteeing that every student has a basic grasp of the subject matter. In this instance, the teacher notes that just a few students are familiar with global warming. To remedy this, the teacher implements measures to level the playing field at the start of the lesson. This strategy is in line with the curriculum's aim to ensure that all students meet the desired learning objectives. By bridging these gaps in knowledge, the teacher ensures that all students start from a similar point, which is crucial for effective assessment and precise evaluation of student progress.

Furthermore, teacher preparedness and professional development are significant hurdles, as many educators lack the necessary training and resources to integrate multimodal teaching effectively. This shortfall limits their ability to design and deliver lessons that fully leverage multimodal resources, leading to suboptimal learning outcomes (Lam, 2024; Cope & Kalantzis, 2015). Additionally, the diverse backgrounds and learning motivations of students make it difficult to create engaging and relevant multiliteracies activities. While intrinsic motivation is crucial for student engagement, it must be complemented

by external rewards and differentiated instruction to cater to varied needs (Ryan & Deci, 2000; Laadem & Mallahi, 2019).

Technological integration poses another challenge, as inadequate infrastructure, limited access to digital tools, and varying levels of technological fluency among teachers hinder the effective implementation of MP (Ertmer & Ottenbreit-Leftwich, 2010; Mouza, 2011). Finally, aligning curricula and assessments with the dynamic nature of multimodal learning remains difficult. Traditional curricula are often too rigid, and assessments fail to capture the full spectrum of students' multimodal competencies, necessitating innovative and flexible approaches (Lam, 2024; Lotherington & Jenson, 2011). Overcoming these challenges requires comprehensive teacher training, robust technological support, and curriculum reform to ensure the successful integration of MP in vocational education.

DISCUSSION

This study identified four major challenges in implementing multiliteracies pedagogy (MP) in maritime English. The first challenge is teacher preparedness and professional development, where teachers often lack sufficient training and resources to integrate multiliteracies into their practices effectively. Several studies, including those by Lam (2024) and Cope & Kalantzis (2015), emphasize the need for comprehensive professional development, while others like Jewitt (2006) argue that teacher creativity can sometimes compensate for these gaps. Teachers in this study also faced difficulties accessing and using digital tools essential for multimodal teaching, highlighting disparities in technological proficiency and access. Scholars like Kustini et al. (2020) and Walsh (2010) suggest that ongoing support and infrastructure development can address these technological challenges.

Another significant challenge is student diversity and motivation, where varying backgrounds and learning goals make it difficult for teachers to design multiliteracies activities that engage all students effectively. Maintaining motivation is crucial, as Ryan and Deci (2000) emphasize the role of intrinsic motivation in fostering student engagement. Some researchers, like Laadem and Mallahi (2019), see this diversity as an opportunity for personalized and differentiated learning approaches, while collaborative digital projects, as suggested by Hafner and Miller (2011), can further engage students by catering to their individual needs and motivations.

However, the successful implementation of MP, including digital poster projects, faces significant hurdles, such as the need for comprehensive teacher training, robust technological infrastructure, and flexible curricula that accommodate the dynamic nature of multimodal learning. Addressing these challenges is crucial to fully realize the potential of MP in preparing students for the complex demands of the maritime industry. By adapting teaching strategies to the specific needs of maritime education and providing the necessary support, educators can ensure that students are well-equipped for their professional futures.

CONCLUSION AND RECOMMENDATION

Conclusions

The study identifies four key challenges in implementing multiliteracies pedagogy (MP) in maritime English. First, teacher preparedness and professional development are critical issues, as educators often lack the necessary training and resources to effectively integrate multiliteracies into their teaching. This inadequacy can lead to superficial learning outcomes. Second, diverse student needs and motivations complicate the design of engaging multiliteracies activities. Maintaining student motivation is a constant challenge, requiring educators to balance intrinsic motivators with external rewards, recognizing that motivations vary widely among students. Third, technological integration poses significant difficulties, as teachers struggle to access and utilize the digital tools essential for multimodal instruction. Incremental technology integration, supported by ongoing training and institutional support, can help mitigate these challenges. Finally, aligning curricula and assessment methods with multiliteracies pedagogy is problematic due to rigid structures that do not accommodate the dynamic nature of multimodal learning. Designing flexible assessments that reflect the diverse ways students demonstrate their learning is crucial. Overall, the study highlights the importance of multiliteracies pedagogy in enhancing English for Specific Purposes (ESP) instruction in vocational schools, particularly in Nautica and maritime English. Despite the challenges, effective incorporation of multimodality in teaching methods can significantly enrich the educational experiences and outcomes for students in vocational settings.

Recommendations

1. Implement comprehensive training programs focused on multiliteracies pedagogy to equip educators with the skills and resources needed for effective instruction.
2. Encourage ongoing professional development workshops that emphasize innovative teaching strategies and the integration of multimodal resources.
3. Develop curricula that address diverse student needs and motivations by incorporating a variety of engaging and relevant multiliteracies activities.
4. Utilize differentiated instruction strategies to cater to various learning styles and preferences.
5. Provide access to essential digital tools and resources for teachers to facilitate multimodal instruction effectively.
6. Support incremental technology integration through regular training and institutional backing, ensuring teachers feel confident using digital resources in their teaching.
7. Design adaptable curricula that align with multiliteracies pedagogy, accommodating the dynamic nature of multimodal learning.
8. Develop flexible assessment methods that allow students to demonstrate their learning in diverse ways, reflecting their engagement with multimodal practices.

9. Encourage collaboration among educators to share best practices and resources related to multiliteracies pedagogy.
10. Create opportunities for peer observations and feedback to enhance instructional practices and student engagement.
11. Raise awareness among stakeholders about the significance of multiliteracies pedagogy in enhancing ESP instruction, particularly in vocational education.
12. Advocate for institutional support and resources dedicated to the successful implementation of multiliteracies in maritime English programs.

FURTHER STUDY

To enhance the rigor of future research in multimodal education, several recommendations are proposed. First, incorporating collaborative data analysis involving multiple researchers can reduce subjectivity and improve the validity of findings. Second, investigations into the effectiveness of professional development programs for English for Specific Purposes (ESP) teachers should explore both challenges and successes in implementing multimodal literacies across educational contexts, refining training approaches. Additionally, researching the impact of contextualized and differentiated learning activities on student motivation in multimodal vocational classes is essential, as understanding intrinsic and extrinsic motivators can enhance engagement. The role of digital infrastructure must also be explored, as access to technology and support systems significantly influences multimodal instruction effectiveness. Conducting longitudinal studies will provide insights into the long-term effects of multimodal instruction on student learning and motivation. Finally, fostering interdisciplinary collaboration among educators can lead to innovative teaching strategies and a comprehensive understanding of effective multimodal instruction. Addressing these areas will significantly contribute to improving ESP and vocational education quality.

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