

# The Use of Integrated Science Learning Media in Maritime Context during the New Normal Era in Tanjungpinang City, Riau Archipelagos, Indonesia

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**Abstract.** This research aims to describe the use of learning media for science in junior high schools in an integrated maritime context during the new normal era in Tanjungpinang City, Riau Archipelagos Province, Indonesia. The research was conducted by using a survey method involving 24 junior high school science teachers, and the questionnaire used was distributed through the google form platform. The results showed that 55% of teachers had not integrated the maritime context into science learning media because they are still not used to linking materials with the contexts, and not all materials is integrated with maritime contexts. However, some have already integrated it into the learning media such as the material for biotic and abiotic components of marine ecosystems, marine pollution and its prevention efforts, coral reef biodiversity, the application of Archimedes' law on ships.

**Keywords:** Science learning media, integrated maritime context, new normal.

## 1 Introduction

The Covid-19 virus has spread recently to various countries in the world, including Indonesia, and created a new normal in various fields of education, such as a change in the learning process from face-to-face to online [1], [2]. Hence, the learning process carried out during the new normal requires educators to be more creative and innovative, including the use of media that is oriented towards technology application [2]–[4].

The use of media is one of the main keys for an educator to achieve learning goals in the classroom because it has an impact on quality learning [5]–[7]. Therefore, educators need to use this media to make learning active and easy for students to understand [8], [9]. Furthermore, freedom must be given to students to use facilities in school in order to actualize the behavior and to improve the quality of learning in science at the junior high school level, specifically in the current new normal era.

Science learning that is integrated with the maritime context is needed, specifically in coastal areas to support the realization of Indonesia as the world's maritime axis [13] and the learning process contextually [12]. However, research revealed that the context has not been widely practiced by teachers [10], [11]. Therefore, this research aims to describe and evaluate the use of integrated learning media in maritime contexts used by junior high school science teachers during the new normal period in Tanjungpinang City, Riau Archipelago.

## 2 Research Method

This research is a descriptive survey that involved 24 junior high school science teachers in Tanjungpinang City. In addition, open and closed online questionnaires were used and distributed through the google form platform which was filled out by respondents within 5 days (10-15 August 2021). In the introductory part of the questionnaire, a brief explanation of the purpose and procedure of the survey and voluntary participation in filling out the questionnaire was given. The instrument was developed to explore information on aspects of using science learning media that are integrated in the maritime context during the new normal. This consist of the suitability of the use of learning media with the objectives and subject matter, its relevance to the interests of students' needs, contextuality of learning media as well as its effectiveness and efficiency, the use of learning media for learning evaluation, and the use of integrated science learning media with maritime concepts. The data obtained through the questionnaire were analyzed using the following formula.

$$S = \frac{R}{N} \times 100$$

Information:

S = Percentage of learning media usage

R = Respondent's answer score

N = Total maximum score

The percentage of use of integrated science learning media in maritime contexts is grouped into the following categories:

**Table 1.** The percentage of the use of science learning media is grouped into the categories [14]

No.	Category	Interval
1	Very Good	86 – 100 %
2	Good	76 – 85 %
3	Sufficient	60 – 75 %
4	Less	55 – 59 %
5	Very Less	54 %

## 3 Result and Discussion

The results of data analysis on the use of integrated science learning media in maritime contexts used by teachers in Tanjungpinang City, Riau Archipelagos during the new normal period is seen in Table 2.

**Table 2.** The use of integrated science learning media in the maritime context used by teachers during the new normal

No	Aspect	Percentage (%)	Category
1	The suitability of the use of science learning media with learning objectives	87.5	Very Good
2	The suitability of the concept of the subject matter with the learning media used	87.5	Very Good

No	Aspect	Percentage (%)	Category
3	The relevance of learning media to the interests of students' needs	78.82	Good
4	The science learning media used in the new normal is helpful in linking concepts with student reality (contextual)	81.25	Good
5	The effectiveness of science learning media used in the new normal	76.74	Good
6	Efficiency of science learning media used in the new normal	84.72	Very Good
7	The science learning media used has an impact on the evaluation of learning	71.18	Sufficient
8	The use of integrated science learning media in maritime context	55	Less

According to Table 2, the science learning media used by junior high school teachers in Tanjungpinang City, Riau Archipelagos, during the new normal period is currently in accordance with the learning objectives and the concept of the material taught to students are in a very good category. Science teachers carry out online learning by utilizing the media that are designed to the learning objectives. These learning media used include videos, PowerPoint slides, figures, and sound recordings made according to the material being taught, which makes it easier for students to understand the material in order to achieve the learning objectives [5], [6], [15].

Furthermore, the online learning media is considered more efficient, because it resulted in very good results when used during the new normal. It is in accordance with the lesson plans and time allocations listed in the Learning Implementation Plan (RPP) to simplify the learning process [7], [16]. In the aspects of science learning media usage as related to the evaluation of learning, a sufficient category was obtained. In this case, teachers use learning media at the time of remedial and enrichment which makes student learning outcomes reach the Minimum Completeness Criteria (KKM) that have been set by the school. This remedial learning is used for students who have not reached the KKM, while enrichment learning for the ones who have achieved the KKM score, in order to make students to be more interested in participating in the learning process [5], [9], [17].

In the aspects of using integrated science learning media in maritime contexts, a less result with category of 55% is obtained. This explains that in the New Normal Era, some teachers are still lacking in relating science material to the maritime context. Based on the open questionnaires that have been distributed, teachers have not integrated the maritime context into science learning media because of the following reasons, they are still not used to linking material with the maritime context, do not really understand the concept, and not all materials could be integrated with the maritime context. However, some science teachers (45%) have integrated the maritime context into their learning such as by presenting a discussion of the biotic and abiotic components of marine ecosystems, marine pollution and its prevention efforts, biodiversity in coastal areas and coral reefs, the application of Archimedes' law on ships, and tsunami disaster mitigation. The materials in science learning are combined with maritime context to ensure that teachers and students have knowledge and competence in protecting the marine environment [10]–[12], [18]. In addition, the understanding of maritime context needs to be given to science teachers for it to be integrated in the learning process, specifically in learning media [18], [19]. Similarly, teachers need to be trained on how to integrate subject matter with maritime contexts, specifically for the ones in archipelagos areas, to make the learning process becomes more contextual [11], [18], [20].

## 4 Conclusion

This research shows that in this new normal era, there is a lack of science learning media usage that is integrated in the maritime context. Basically, teachers have not integrated the maritime context into science learning media because of the following reasons, they are still not used to linking the material with the maritime context, do not understand the maritime concept, teachers assume that not all materials could be integrated with the maritime context. However, few science teachers have integrated the maritime context in learning by presenting a discussion of the biotic and abiotic components of marine ecosystems and pollution as well as its prevention efforts, biodiversity in coastal areas and coral reefs, application of Archimedes law on ships, and tsunami disaster mitigation.

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