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**THE EFFECTIVENESS OF WEB-BASED PHYSICS LEARNING MEDIA
ASSISTED BY THE WIX PLATFORMS**

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INTRODUCTION

The development of science and technology in the Industrial Revolution Era 4.0 progressed very rapidly so that it was able to create new innovations. This progress cannot be separated from the achievement of the goals of the education system, every learning requires strategies, methods and learning media. The use of innovative learning media in supporting the teaching and learning process itself (Astuti& Bhakti, 2018). Students need new learning media so that the learning process is not monotonous, especially in learning physics (Irwandani&Juariah, 2016)

Media as a means of connecting the two parties. Learning media is used to convey learning messages, focus students on concentration in learning activities (Astuti et al., 2017). Learning media greatly influences the conditions and learning environment in the form of how teachers and students establish communication and learning in order to create effective learning (Purnama et al., 2017). The media itself includes graphic media, maps, globes including books, videos, slide shows. In other words, the media includes software (software) and hardware (hardware) as learning aids (Mudlofir&Rusydiyah, 2016).

The use of technology-based media according to the development of knowledge and technology facilitates communication and interaction between educators and students so that teachers must master in carrying out their professional functions so as to create effective learning (Hamid, 2020). This can be done by distance learning.

The distance learning process can be interpreted as learning that is conveyed through the internet or other computer network media in providing teaching materials that can be accessed anytime and anywhere by students. Learning media that can be used

is E-learning. E-learning is user-centered, interactive and as an open, flexible and distributive learning environment so that it can be seen as an innovative approach to be used as a good delivery media design (Wahyudi, 2017). Learning media that can be used to accelerate student learning with better results is e-learning (Kristiyani&Budiningasih, 2019). In addition, through e-learning students are able to access information in documents that have been provided at any time and repeatedly according to student needs so that they can provide experience in constructing and understanding material concepts (Rhamandica et al., 2016). The e-learning that will be used is in the form of web-based learning.

The presence of this web-based interactive media will assist students in understanding learning equipped with video support features, animations and practical simulations. This web-based learning media will allow students to access the material and strengthen the material provided by the teacher. Student responses regarding web-based learning media are 100% fun and can help understand the subject matter (Haloho et al., 2019). The purpose of this study was to determine the effectiveness of web-based physics learning media assisted by the Wix platform on wave material for vocational high school students.

METHOD

This research was carried out at SMKN 1 Pakong, as the object of research was students of class X TKJ for the academic year 2021/2022. The instrument used in this research is in the form of a test consisting of multiple choice questions. The increase in the effectiveness of the web-based physics learning media assisted by the Wix platform is seen from the results of the students' pre-post test. Effectiveness can be found using the Normalized Gain (g) equation as follows:

$$(g) = \frac{(\bar{x}_{post}) - (\bar{x}_{pre})}{S_{max} - (\bar{x}_{awal})} \dots\dots\dots (3.3)$$

(Sugiyono, 2017)

Furthermore, the value of Normalized Gain) obtained is translated according to the criteria for obtaining Normalized Gaid (g) as presented in table 1 below:

Table 1: Effectiveness Criteria

<g> gain %	Criteria
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium
$g < 0,3$	Low

(Sugiyono, 2017)

FINDING AND DISCUSSIONS

The effectiveness in this study can be seen in the results of the pre-test and post-test of students before and after using web-based learning media on wave material. The following can be seen the results of the normalized gain (g) test.

$$(g) = \frac{(\bar{x} \text{ post}) - (\bar{x} \text{ pre})}{S_{\text{max}} - (\bar{x} \text{ awal})}$$

$$(g) = \frac{(76.84) - (42.63)}{100 - (42.63)}$$

$$(g) = 0.6$$

Based on the calculation of Normalized Gain (g), obtained (g) = 0.6. Based on table 1, the results show that the web-based physics learning media assisted by the Wix platform is in the medium category. Web learning media can be used as a tool for learning at school and used to increase students' understanding of the material presented and be able to add independent learning activities (Hanum, 2013). Web-based learning media can take advantage of smartphones owned for learning at school and distance learning.

This web-based Learning Media assisted by the Wix Platform is also equipped with the PhEt feature so that students can do virtual laboratories even though learning is online. This virtual laboratory also helps students to better understand the concept of waves because it can be accessed anytime and anywhere according to student needs. The use of a PhEt-based virtual laboratory can improve students' higher-order thinking skills and soft skills (Rahem & Suprianto, 2018). The laboratory-based

learning process helps students in solving problems directly so that students are able to take the initiative themselves in building their knowledge of physics concepts (Umamah, Azkiyah, Andi & Suprianto, 2021).

CONCLUSION

The conclusion in this study is that the web-based physics learning media assisted by the Wix platform on the wave material developed can be said to be effective for class X TKJ SMKN 1 Pakong students.

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