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Implementation of Teqnique Fitting Concept for Pre-Design E-Book Edupark Physics Tourism Object Sasak Beach Pasaman Barat Indonesia

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Abstract: The implementation of the Edupark physics e-book uses a scientific approach to improve environmental literacy skills in accordance with the learning that is expected to be developed to face the industrial revolution 4.0. This research aims to see and analyze eduparks at beach tourist After analysis, this Edupark e attractions and the relationship between physical materials and these tourist attractions. -book can be developed. The results of this study are printed books are still dominantly used in schools, and there is still a lack of use of non-printed books; The average results of students' knowledge and skills are still low, Teaching materials integrated with Edupark at tourist attractions are still rarely used, the effectiveness of using a scientific approach. The conclusion from the results of this research is that there is a need to develop an integrated physics education e-book in tourist destinations.

Keywords: E-book; Edupark; Literacy environment; Scientific

Introduction

Era of revolution industry 4.0 has challenge at a time opportunity for institution education. Condition progress and develop institution education must own Power innovation, and can collaborate. If No capable innovate and collaborate, then will left behind Far to back (Aprima & Sari, 2021). Educational institutions must capable balancing Education system with developments over time (Barlian et al., 2022). In realize matter the so need did it renewal curriculum in accordance with progress of time and technology. Curriculum is planning structured education supported by schools and institutions education, which is not focused on the learning process teaching, but rather for form personality and improve level life participant educate in the environment society (Elvisa & Rifai, 2020). The Independent Curriculum is breakthrough for help teachers and heads school change the learning process become Far more relevant, in-depth, and fun.

Studies about development curriculum independent has Lots carried out by researchers previously. At least there is a number of study development curriculum. From existing research once done can classified to four perspective. Perspective First see from in terms of innovation models development curriculum independent to use increase learning so no left behind and old school (Lestari, 2013; Hidayati et al., 2023). Perspective second see from facet development device learning with curriculum independence (Kartika et al., 2023). Perspective third from facet analysis curriculum independent and mentoring educator through training curriculum independence (Manalu et al., 2022).

Moment This Lots very method for organize education Good That through formal, informal and non-formal education. Delivery knowledge in the learning process is lacking appropriate will impact on activities learning undertaken by participants learn in class (Prastowo, 2011). Many of those who are bored with just

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activities are inside something room nor class that has provided by the government nor party manager education. Based on the problem above so can applied activity learning outside class to be add experience new and add knowledge participant educate. Through different activities will add creativity participant educate in develop pattern he thought. Through activity Study outside class expected participant educate capable develop Power his creativity optimally and obtain experience new (Angriani et al., 2015).

Activity outside learning class. This can one of them did ie with method go to place object tour. There is destination tour based education, participants educate can Study about history, culture and beauty nature in the environment around place stay (Garnida, 2015). Besides that's the destination tour based education is also possible increase awareness participant educate about importance conserve inheritance culture and environment nature (Cynthia et al., 2023). Tourist educative or also commonly called with edupark is form journey combining tours activity tourist with aspect education (Triyanto, 2014). Activity tours undertaken own mark educative with objective deepen understanding gained within room class (Mery et al., 2022; Marisda et al., 2023). Therefore, that's the destination tour based education very important For developed in the learning process.

Based on the reality on the ground, then one possible efforts done is develop appropriate teaching materials with needs and characteristics student as generation millennial as well as integrate teaching materials on potential the area around life student (Febriya et al., 2023). Teaching materials that will be developed form packed book follow development technology and information provided in something source learning called edupark e -books. Edupark e-book is available non-printed teaching materials combine all Media elements include: elements related text, images, sounds, animations and videos material and integrated into the park tourist attractions around life participant educate (Hamalik, 2011).

Existence edupark as source Study will make learning physics become fun (Rifai et al., 2019) and easy understood. A number of edupark which has made source Study physics such as Geopark Harau (Yulia & Rifai, 2019), Hot Water Semurup (Anggara & Rifai, 2019), Mifan Padang Panjang (Sari & Rifai, 2019), garden school (Afrinaldi & Rifai, 2019), Janjang Seribu (Gusweri & Rifai, 2019), Gorge Sianok (Emafri & Rifai, 2019; Emafri et al., 2020), Plants Hydroponics (Sari & Rifai, 2020), Padang Beach (Elvisa & Rifai, 2020), Carocok Beach (Rahmadhani & Rifai, 2020), Rumah Gadang (Sadraini & Rifai, 2020), Anai Resort (Delvi & Rifai, 2020), Bukik Chinangkiek (Lestari & Rifai, 2020), and waterfalls Sarah Kajai (Yunita & Rifai, 2020), Edupark in Destinations Tour Gua (Anwar et al., 2023; Lisa et al., 2023).

Based on the reality in the field, one of the efforts that can be made is to develop teaching materials that are in accordance with the needs and characteristics of students as the millennial generation and integrate the teaching materials into the potential of the areas around the students' lives (Rifai et al., 2019). The teaching materials that will be developed are in the form of books that are packaged according to the development of technology and information which are poured into a learning resource called an edupark e-book (Rifai et al., 2019).

The edupark e-book is a non-printed teaching material that can combine all media elements including: elements of text, images, sound, animation and video related to the material and integrated into the tourist parks around the students' lives (Riyasni et al., 2015). To achieve maximum results from the use of this edupark e-book, it must be integrated into a scientific approach to improve environmental literacy skills in students (Septiana et al., 2023). Environmental literacy is the ability of an individual or person to understand and interpret conditions in the environment. From the results of this understanding and interpretation, students are expected to be able to decide on the right actions in maintaining, preserving and improving environmental conditions. In addition, environmental literacy is also a conscious attitude of students to maintain the environment so that its balance is maintained. This conscious attitude is also interpreted as an environmentally sensitive attitude, where not only having knowledge of the environment but also having a responsive attitude and being able to provide solutions to problems in the environment.

Environmental literacy is a person's conscious attitude to maintain the environment so that its balance is maintained. This conscious attitude is also interpreted as an environmentally sensitive attitude, where not only having knowledge of the environment but also having a responsive attitude and being able to provide solutions to problems in the environment. The positive impact of the environmental approach is that students can be motivated to be curious about something in their environment. This approach is more challenging for students because they are dealing directly with real objects (Triyanto, 2014).

The implementation of the physics edupark e-book uses a scientific approach to improve environmental literacy skills in accordance with the learning that is expected to be developed to face the industrial revolution 4.0 (Anwar et al., 2023). Students are required to develop their reasoning and analytical, inductive and deductive thinking skills by using physics concepts and principles to explain various natural events and have the

skills to develop science and technology. All of this is also closely related to the needs or objectives of the independent curriculum (Aprima & Sari, 2021). Based on this, a physics edupark e-book with a scientific approach integrated with the Sasak Beach tourist attraction will be developed to improve students' environmental literacy.

Method

Study This using the EDUPARK development model, where development teaching materials begin with research introduction. EDUPARK incl to type R&D research. Where stages research is EDU and stage its development is PARK. So, there are 7 syntax/stages EDUPARK development, ie Edupark finding, Direct observation, Understanding of students, teachers, and curriculum characteristics, Preliminary Design by Concepts Fitting Technique, Auto Assessment, Recommendation from Expert, and Kick Off Publish.

In this research stages used until EDU stage only, where at stage This There are 4 phases used in study. Phase 1: 'E' (Edupark finding) select object tour or potency area to be made edupar k , Phase 2: 'D' (Direct observation) observation direct to location object tourism, Phase 3: 'U' (Understanding of students, teachers, and curriculum characteristics) do analysis to characteristics of teachers, participants education, and curriculum, and Phase 4: integrating EDU for do stages pre-design edupark e-book Sasak Beach Physics.

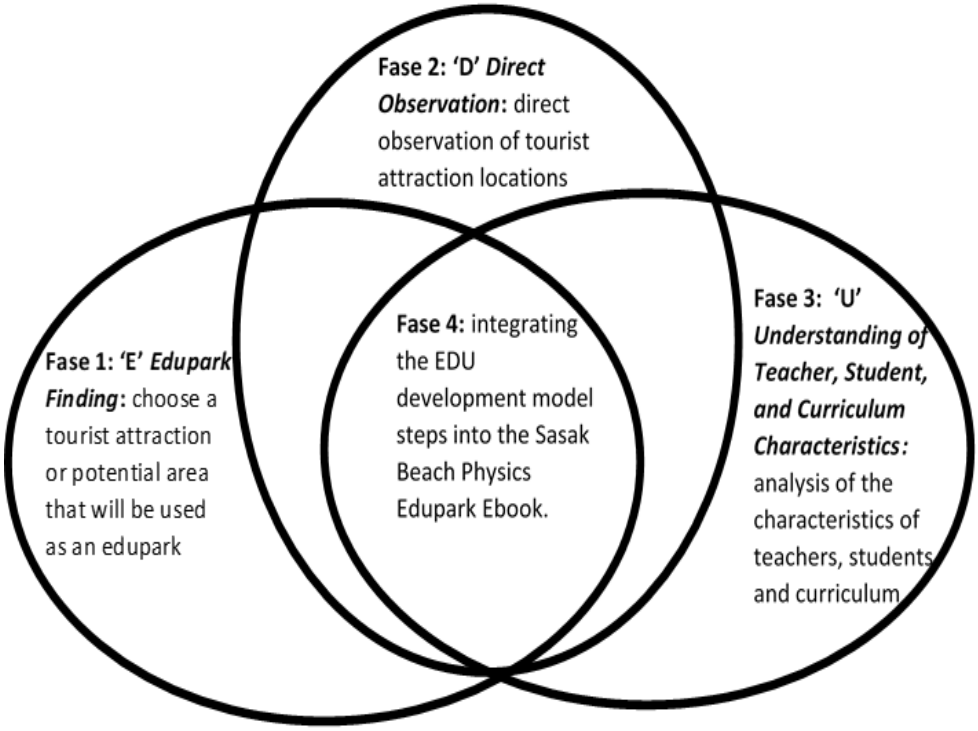

Figure 1. Stages of the EDU Development Model at Edupark Object Sasak Beach Tourism

If EDU stages have been resolved so can next to stages furthermore develop material contained in the object Sasak Beach tourism with use Concepts Fitting Technique. Concepts Fitting Technique is developed technique for possible every relevant element such as physical materials, destinations tourism (edupark) and needs participant teaching materials educate each other connected One each other so created A product based teaching materials edupark. Instruments used for collected data is shown in Table 1.

Data analysis techniques used for questionnaire analysis introduction is Likert scale. The Likert scale is used is no never, sometimes, often and always. Every aspect in questionnaire translated in a number of indicators. Calculation mark each indicator use equality following:

$$P = \frac{f}{N} \times 100\% \quad (1)$$

Information:
P = Final value
f = gain score
N = score maximum

Table 1. Instruments data collection

Stage	Instrument
Analysis Educator	Questionnaire
Analysis participant educate	Questionnaire
Analysis material	Format analysis material

Result and Discussion

Analysis Educator

On Analysis educator There are five aspects analyzed that is, create appropriate teaching materials with need participant students and materials, using steps scientific in learning, utilizing non-printed teaching materials, making non-printed teaching materials, applying learning internal digital based learning. Average results of each analysis educator can be seen in Figure 2.

Based on results analysis educator, On identity educator seen that educator Not yet prepare appropriate teaching materials with need participant educate with Good. Educators haven't either utilize and create non-printed teaching materials so that learning Still dominant use teaching materials from publisher form book print and LKPD. In implementation learning, educators Still Not yet apply learning digitally based maximum.

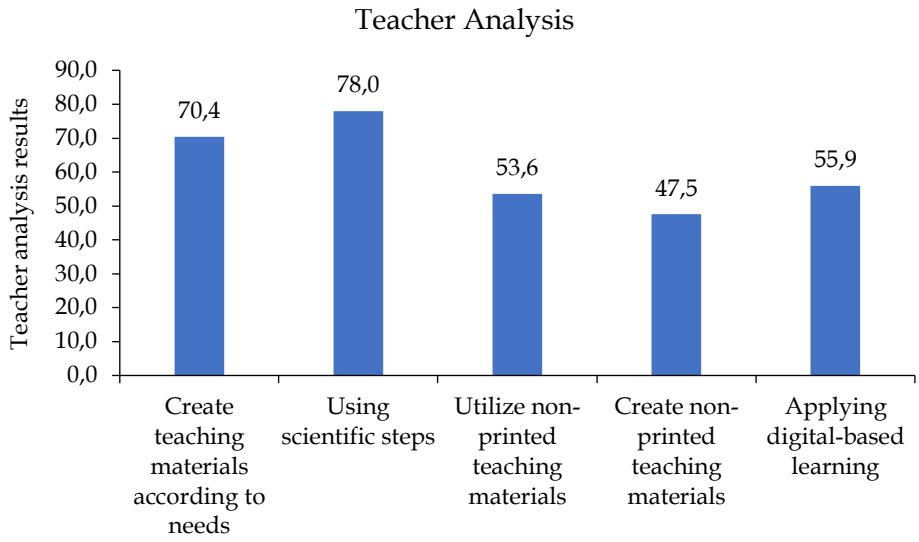

Figure 2. Analysis results educator

Analysis Participant Educate

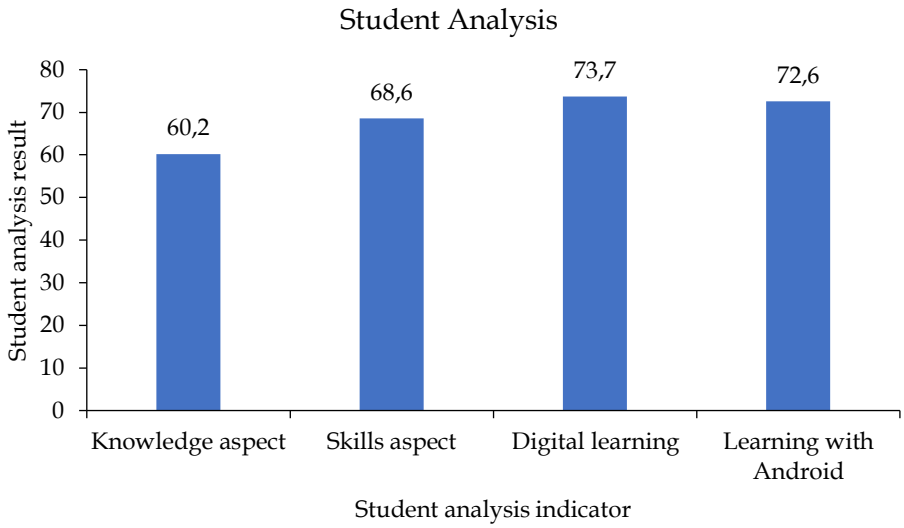

Figure 3. Analysis results participant educate

On Analysis participant educate, there is four the aspect being analyzed, first aspect knowledge, aspect skills, aspects digital learning, and aspect use of Android in the learning process. Respective results analysis participant educate can be seen in Figure 3.

Based on Figure 3. It is known that results analysis of total questionnaires aspect restraint participant learns

which results obtained amounting to 60.2%. Aspect skills are also low, this Because participant educate like learning with practice amounting to 68.6% temporarily based on analysis questionnaire from participant education, the learning process in school Still seldom do practicum. Participant educate do learning with digital-based at 73.7% and learning with utilizing Android by 72.6% as well all student has an android.

Analysis Material Physics of Objects Beach Tourism

Analysis material done with guided by the Independent Curriculum. Analyze materials physics can integrated direct with objects and activities found in Edupark with use Concept Fitting Technique (Rifai et al., 2014). Analyzed material based on objects and activities contained in the concept edupark object tour suitable beach with competence base learning physics. Analysis material physics contained in objects tour beach can be seen in Table 2.

Table 2. Analysis material physics of objects beach tourism

Objects/Rides	Material Physics
Wave Sea	Waves, Dynamics Motion, Fluid Static, Impulse, Collision, Work, Power
Sunset	Wave Optics, Reflection, Gravitational Force, Radiation, Wavelength, Temperature
Boat Fisherman Leaning on the Beach	Friction, Pressure, Equilibrium of Rigid Bodies, Thrust Force
Boat Fisherman Sink	Law, Pressure Hydrostatics, Fluids Static, Gravity, Buoyant Force
Fisherman Look for Fish in the Sea	Waves, Air Pressure, Archimedes' Law, Fluids Static, Equilibrium of Rigid Bodies, GLBB, Rotational Force
Fisherman Trawl Fish	Voltage Rope, Tensile Force, Measurement, Work, Pressure, Power, Newton's Law
Dry in the sun Salted fish	Heat, Temperature, Measurement, Work
Tree Coconut	Energy Potential, Energy Kinetics, Gravitational Force, Collision, Work, Power
Swing	Voltage Rope, Insulation, Point Weight, Gravity, Moment of Force,
ATV motorbike	Energy Kinetics, Energy Potential, Friction, Pressure, GLBB, Work, Moment of Force, Power

Based on Table 2, visible that in the garden object There are lots of beach tourism there is concepts physics. The rides that have draft the same physics combined in a number of fruit achievements existing learning in Independent Curriculum means in one CP exists a number of objects that has draft the same physics. From some of these CPs, then chosen some of the most CP integrated into existing objects in the object Beach tourism.

Conclusion

The results of this study are printed books are still dominantly used in schools, and there is still a lack of use of non-printed books; The average results of students' knowledge and skills are still low, Teaching materials integrated with Edupark at tourist attractions are still rarely used, the effectiveness of using a scientific approach. The conclusion from the results of this research is that there is a need to develop an integrated physics education e-book in tourist destinations.

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Conflicts of Interest

The author declares no conflict of interest.

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