

## THE DEVELOPMENT OF *BENTHIK* TRADITIONAL GAMES AS LEARNING MEDIA FOR REHEARSE TEAM WORK CHARACTER ON PERIODIC TABLE MATTER

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### Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui kelayakan media permainan tradisional *Benthik* yang dikembangkan sebagai media pembelajaran materi pokok sistem periodik unsur melatih karakter kerja sama. Metode penelitian yang digunakan adalah *Research and Development* (R&D). Terdapat 10 langkah pengembangan yaitu potensi dan masalah, pengumpulan data, desain produk, validasi desain, revisi desain, ujicoba produk, revisi produk, ujicoba pemakaian, revisi produk, dan produksi masal. Namun, penelitian ini hanya terbatas sampai enam langkah saja yaitu uji coba produk. Rancangan media permainan ditelaah dan divalidasi oleh 2 orang dosen kimia Universitas Negeri Surabaya, 1 guru kimia SMA Negeri I Tuban. Hasil penelitian menunjukkan bahwa media yang dikembangkan layak digunakan sebagai media pembelajaran. Penilaian dosen dan guru kimia terhadap media permainan sangat layak dengan presentase kriteria penyajian sebesar 82,23%, kriteria tampilan 83,99%, kriteria bahasa sebesar 80%, dan kesesuaian materi sebesar 78,33%. Dari lembar observasi perilaku berkarakter terdapat peningkatan karakter kerja sama dari 74,30% menjadi 87,49%. Sehingga dapat disimpulkan bahwa keterlaksanaan karakter kerja sama sudah terlatih dengan sangat baik.

**Kata kunci :** Permainan *Benthik*, Sistem Periodik Unsur, Karakter Kerja Sama

### Abstract

The aims of this study to know the feasibility of *Benthik* traditional game that has been developed as a learning media for rehearse team work on periodic table matter. The research method that used research and development (R&D). There are 10 steps include potention and problem, collecting data, design of product, revision of product, revision of design, test of product, revision of product, test of product and production. But in this research just until test of product. The product of media was analyzed and validation by 2 chemistry lecturers of Surabaya State University and 1 chemistry teacher of SMA Negeri I Tuban. Validation result form lectures and teacher for media is very good with percentage of presenting criteria is 82,23%, view criteria is 83,99%, language criteria is 80%, and suitable of matter is 78,83%. The result of observation character show that there is increasing work team character from 74,30% to 87,49%. It can be concluded that the feasibility of cooperation character has been trained well.

**Keywords:** "*Benthik*" Game, Periodic Table, Team Work Character

### INTRODUCTION

Curriculum 2013 was developed based on variety Indonesian culture, geared to build contemporary life, and build of foundation for a better life in

future. Education process give the opportunity to learners for develop their own potential become rational thinking skills and academic excellence by giving what they seen, heard, read, learned from

heritage cultural based on cultural lens and depend on level of physiological maturity learner. Curriculum 2013 has a position for create of pride, applied and manifested in personal life, in social interaction and in national living.

In this live, technology has been developed rapidly, while traditional game from Sabang until Merauke being abandoned. As a student so familiar with mobile phone, game online or internet [1]. The influence of advanced technologies also influence the children character today. There are many character becoming obsolete are honest, team work, sincerity, responsibility, discipline, fair and care [2]. One of the character disappear is team work from the child.

Character education is one of the effort to educate the children to make decisions wisely and practice in daily life, so they can give positive contribution to their environment [3]. Education character is an integrating education all of subjects in school. In the learning process at least raised one of the character values.

The effort to establish character based on nation culture not merely to do in the learning process activity and not only declare in the school when learning activity, but also through in our life, like team work character. Team work is mutual aid attitude with another person. In general, team work is a group that the member give support and rely each other to achieve consensus outcomes. This value must be developed in student and the final result will be reflection of Indonesian people.

Learning process is a communicate process, it delivering a message from source to the receiver by media [4]. Supporting of learning process should be available "the quality of an instructional program is comprised of three elements, materials (and equipment), activities, and people" [5]. Chemistry is a science that there are many concepts which can be proven by facts also principal and resulting of law from research and discovery. The media used in learning study for helping a process of learning

study and make the student not bored, so learning process can be held with playing.

Based on the questionnaires that given to 33 students in 10<sup>th</sup> grade SMA Negeri I Tuban, 50,9% students choose nomenclature of compound and 32% choose periodic table. It cause they are very difficult to give nomenclature compound and difficult to memorize chemical elements. Based on interview with 10<sup>th</sup> grade in SMA Negeri I Tuban, nomenclature compound topic is difficult matter because it has not mastered by student. So the learning outcomes not full fill the minimum criteria thoroughness as a number 80.

One way to overcome by using a media that suitable with learning objectives. Media that used has a role for student to easy mastery learning, and not bored, the media is game. It can be prove from survey result in SMA Negeri I Tuban, 100% want the learning process is done with game. Learning process that is done by game will make student not bored and can practice character with well.

Science education is the activity that carried out to reveal phenomena of nature by implementing scientific as well as form the behaviour of students, so the students can understand the scientific process. Game in science can develop the specific skills such as problem solving, critical thinking, and decision making.

The role of traditional game as a media for built a character can run as expected, if in the developing, interest development and habituation attended by stake holders from education practitioners, psychologist, until parent. Beside that, the related parties always supervise and guide the children while doing traditional games, so the essence of it can interpreted with well [6].

One way to make the traditional game as a media is given exercise to the students. It supported by fact as a number 97% student interest with *Benthik* traditional games. *Benthik* traditional games is a game that played by many people in a group. It played in the large yard, and there is answer question activity. This game, there are 2 group, first group

as stick thrower and second group as stick catcher.

Based on description above, it is required to be developed *Benthik* traditional games that can rehearse team work character. This media was tested limitedly to know feasibility the traditional games with presentation criteria, view criteria, language criteria and suitable with matter. Beside that, it was be done to know rehearse tema work character.

## METHOD

The study was used research and development. Development *Benthik* traditional game used research and development (R&D).

There are 10 include potention and problem, collecting data, design of product, revision of product, revision of design, test of product, revision of product, test of product and production. But in this research just until test of product [7]. But, in this research just until test of product.

The target this research is *Benthik* traditional game for rehearse team work character. Source of this research from 2 chemistry lecturers adn 1 chemistry teacher in SMA Negeri I Tuban adn 12 X grade students in SMA Negeri I Tuban.

The research instrumet that used were reviewer sheet, validation sheet and observation character sheet. Reviewer sheet and validation sheet was given to 2 chemistry lecturers Surabaya State University and 1 chemistry teacher SMA Negeri I Tuban. Observation character sheet was given to observer.

Media that used was carpet 8x4m, stick, card, regulation for student and teacher.

Here is a picture of *Benthik*media:



Gambar 1. Carpet Media of *Benthik* Game

Data analyzed technique used were quantitative and qualitative. Qualitative descriptioin for analyze review result of media, and quantitavtive description for analyzed validation result and observation of behaviour character.

Validation result from chemistry lecturers and chemistry teacher presented in Likert scale shiwn in Table 1.

Table1. Scale of Likert Score

Assessment	Score
Very good	5
Good	4
Medium	3
Bad	2
Very bad	1

[8]

The formule used for validation calculation to obtain the percentage is :

$$P(\%) = \frac{\text{sum of collected data score}}{\text{criteria score}} \times 100\%$$

$$\text{criteria score} = \text{highest score} \times \sum \text{aspect in criteria} \times \sum \text{validator}$$

Result of analyzed validation used to know feasibility *Benthik* traditional game that developed by using score interpretation at Table 2.

Table 2. Score Interpretation

Percentage	Category
0% - 20%	Very bad
21%-40%	Bad
41%-65%	Medium
66%-80%	Good
81% - 100%	Very good

[8]

Based on criteria, *Benthik* triditonal game was stated feasibility if the percentage  $\geq$  61%.

Observation character behaviour assessment was analyzed with this criteria:

Table 3. Character Behaviour

Assessment	Criteria
Score	Criteria
0	Not done
1	Medium
2	Good

[8]

Obtained data was analyzed in percentage (%) by using formula :

$$P(\%) = \frac{\text{sum all of student assessment}}{\text{criteria score}} \times 100\%$$



Criteria score = highest score xsum of aspect x sum of student

Obtain percentage was interpreted into criteria at Table 2. The result is stated good if the percentage  $\geq 61\%$ .

#### OBSERVATION RESULT

No.	Feasibility criteria	Percentage (%)	Category
1.	Presentation	82,23%	Very good
2.	View	83,99%	Very good
3.	Language	80%	Good
4.	Suitable of matter	78,33%	Good

[8]

#### 1. Presentation criteria

Obtain percentage for presentation criteria is 82,23% which was it  $\geq 61\%$ . The present that show in game based on children characteristic like play a game, have fun, like doing something, and want to do something if motivated [9].

#### 2. View criteria

Percentage for this criteria is 83,99% which was it  $\geq 61\%$ . It show that the *Benthik* traditional game that developed has a good view and said feasible.

#### 3. Language criteria

Based on validation percentage is 80% which was it  $\geq 61\%$ . Choose of language in media must suitable with definition of media. Media that developed is good from language criteria and easy to understand.

#### 4. Suitable of matter

Percentage of suitable media is 78,83%, which was it  $\geq 61\%$ . It show that *Benthik* traditional media has a good suitable of matter.

Besaide validation result, another data is observation team work character behaviour when doing the games. Limited test was done in two times.

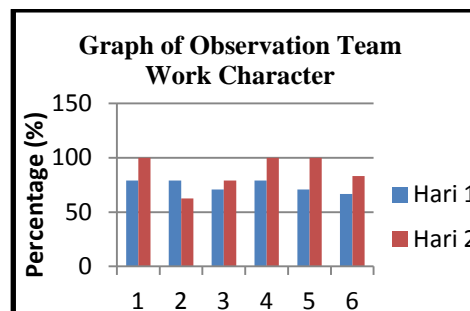


Figure 1. Percentage of Team Work Character

Explanation:

1. Student divide the role when the games.
2. Student have a good behaviour to their friend during playing the games.
3. Student sensitive when their friend get difficulties.
4. Student can communicate well in their group.
5. Student with their group can help answer the question during playing the games.
6. Student helping each other when another student difficulties of learning.

Observation is conducted two times of games for observe team work character. There are increasing score in each of aspect from 74,30% to 87,49%, but in the have a good behaviour to their friend during playing the games aspect, there is decreasing percentage of character (2) from 79,17% to 62,5%. It caused the games to do when the learning process in the school was finish, so the condition of student when doing this games was tired, and not in the mood.

One of the therapeutic values that contain on traditional games is social value, children study social skill that will be use in the real world [10]. Team work character include of important part from our live, so it must be exercised to student from childhood.

## CLOSURE

### Conclusion

Based on result and discussion can concluded that *Benthik* traditional game is feasible for learning media and full fill feasible include (1) presentation criteria 82,23%, (2) view criteria 83,99%, (3) language criteria 80% ,(4) suitable of matter 78,33%. From observation team work character was done with 12 student, there was increasing percentage from 74,30% to 87,49%. So it can concluded the feasibility of team work character has been trained well.

### Suggestion

1. It was needed using media in the real class.
2. In the game need more time, so it can be done in the end of class or can be done when class meeting

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