

## THE IMPLANTATION OF CHARACTER VALUES TOWARD STUDENTS THROUGH CONGKAK GAME FOR MATHEMATICS INSTRUCTIONAL MEDIA

Fardatil Aini Agusti<sup>1</sup>, Afifah Zafirah<sup>2</sup>, Engkizar<sup>3\*</sup>, Fuady Anwar<sup>4</sup>, Zainul Arifin<sup>5</sup>, Syafrimen Syafril<sup>6</sup>

<sup>1,2,3,4</sup>Universitas Negeri Padang, Indonesia

<sup>5</sup>Universitas Islam Negeri Imam Bonjol Padang, Indonesia

<sup>6</sup>Universitas Islam Negeri Raden Intan Lampung, Indonesia

\*Email: engkizar@fip.unp.ac.id

**Abstract.** *This research aims to investigate character values that can be applied on students through congkak game as it is used as a media of mathematics learning. This study used qualitative and quantitative combination or (exploratory mixed methods designs). The first phase of qualitative data was taken through in-depth interviews to 5 selected informants using purposive sampling technique. All data interviews were analyzed thematically using NVivo qualitative analysis tool 10. Then, the second phase of the data was taken using a questionnaire to 46 students who were studying in grade V and VI in an elementary school (SD). The entire data of the second phase analyzed descriptively using quantitative analysis tools SPSS Windows 18.0. Overall, the results of the two phases indicated that there were nine character values contained in the game congkak once it was used as a medium of mathematics learning. The nine-character values were honesty, discipline, hard working, creativity, curiosity, independent, communicativeness, responsibility and appreciation for achievements. The results also proved that the use of instructional media such as traditional game congkak can be used as an intermediary that can be used by teachers in mathematics learning process.*

**Keywords :** *character values; congkak, game; students of mathematics learning.*

### INTRODUCTION

Basically, the implantation of character values in the learning process is not a new thing in the education concept of Indonesia. As a matter of fact, the founders of this country has clearly stated about that character values into the entire principles of Pancasila as the country foundation, as it is known that all principles of Pancasila is the foundation, the philosophy and the purpose of state edu-

cation. Megawangi (2004: 35), Wolfgang, et.al. (2006), and Rawana, et.al. (2011: 129) revealed that the implantation of character values are very important for creating the personality of a learner, therefore, teachers have to be creative in finding strategies and specific methods so that the character values can be transferred to learners through learning materials.

In principle, there are no guidelines is-

sued about how to make such strategies and specific methods in implanting the character values on students while learning. However, the most important one is how the character values can be transferred, understood, implemented, and is expected to become a permanent behavior in any self-learners. Hence, according to the author in learning context, this is the opportunity for a teacher of being creative through variety of learning tools and media in explaining the lesson.

In presenting a subject matter, the use of learning media is a necessity that cannot be circumvented by a teacher. According to Polloway, Patton & Serna (2008: 321) derived from the Latin *medius*, which literally means the middle, intermediary, or introduction. Moreover, Fry, Ketteridge, and Marshall (2003) explained that media have very important role for conveying a message, so in the learning context, media function as a mediator between students and learning contents. In other words, instructional media is a tool for delivering the materials and messages of a lesson.

Until now, the math is one of the subjects disliked the most by students at school. The problems is caused by teachers who are too textual, theoretical and rigid in delivering course material (Noer,2014: 39; Pahrudin, & Syafril, 2018). Furthermore, Abbas (2004: 111) and Sundayana (2013: 43) remarked that the mathematics teacher should be creative and expert at using tools and instructional media of mathematics, due to the use of the proper tools in learning will affect learning outcomes, in addition, the use of media in learning mathematics will facilitate learners to understand the material and learning message that will be delivered. It means that the use of learning media has the important role to determine the students' success in mathematics learning process.

Referring to the background described above, the authors want to explore a learn-

ing media that can be used by teachers as a media for instilling the character values for mathematics learning. The media used in this research is a game, called Congkak. As we already known that Congkak is a folk game that has already developed for such a long time in the Malay region and Asia shoreline (FAD, 2014). However, the term of *congkak* are variants in several areas of Indonesia, such as in Riau this game known as *Congklak*, in Sulawesi called *Mokaotan*, *Maggaleceng*, *Aggalacang* and *Nogarata*. But, in several areas in Sumatra like West Sumatra, this game is called *Congkak* (Ibrahim,1982: 112). Meanwhile, in several Asian countries like Philippine, *Congkak* game is called *Sungka*, in Sri Lanka called *Cangka*, in Thailand called *Tungkayon* (Ibrahim,1982: 112).

Indonesia is one of countries with the most of the ethnic groups, traditional customs, languages and culture in the world. Remarkably, each society has different kinds of culture and folk games. *Congkak* is one of the most popular game delighted by Malay community in Riau Province, even today the game is often played by the community of Riau Malay particularly for students at school (Cahyani,2014: 29-30). According to Siregar, Solfitri, & Roza, (2014: 119) *congkak* is a game that has been popular among the community of Riau Malay and has already existed since years ago from the first generation to the next generation, and this game usually played in spare time.

Although *congkak* game is just a game for the people in Malay, but in fact, this game has the values and lessons that can actually create the character values on children as it examined scientifically. According to Prayitno (2018) the way to implant the character values toward students in mathematics learning is through playing *Congklak* game since in mathematics learning they must be honest, conscientious, patient, creative and responsible.

According to the authors, there are sev-

eral character values that can be conveyed to students as a teacher uses congkak game as an instructional media in mathematics, such as honesty, perseverance, appreciation, hard working and other values. As it is associated with mathematics learning context, the value of the character is a basic element that must exist in mathematics learning, known by the term mathematics learning characteristics. So, congkak game can be used as a media in mathematics learning characteristics for the game will drill one's way in counting, precision, patience, honesty, game strategy setting, so it can make someone wins the game. In order to be proved scientifically, the writer interested to examine this issue in a scientific paper discussed about the content of the character values in congkak game as medium of mathematics learning characteristics. The topic is presented as the way to preserve congkak game not only for folk game, but also for an instructional media. According to the research authors related to the media of mathematics learning through the game of the people as the issues raised in this article are reproduced more. Because at this time the mathematics teacher was only focused on developing a learning media based on electronic technology. Even if creative teachers design learning media, whatever media they use will be effective and enjoyable. Moreover, arrogant game is a traditional game that is very well known by students and to get the media also does not require cost and difficult and expensive ways. In addition, this study shows that even though congkak game belongs to a traditional game among middle societies, in fact, there were characters values as it was investigated scientifically.

## METHODS

The study used two methods or the combination of qualitative and quantitative, or known as (*Exploratory mixed methods designs*). According to Creswell & Clark (2005)

combination of the two methods in a study can give space to the researchers to get more comprehensive data. Furthermore, Creswell (2017) suggested that combining the two methods in a study may also provide a more detailed picture of considered problem. They also stated that the use of two methods has its own advantages in collecting and analyzing data for obtaining more precise and qualified result.

The first phase of qualitative data was taken from five people as informants through in-depth interviews. The first phase of the data is intended for finding information related to the content of character values contained in the *congkak* game. The first informant was taken via *purposive sampling* technique. The entire interview data were analyzed thematically using NVivo 8. The thematic analysis is a flexible way of identifying, analyzing, and reporting qualitative research data. Before the whole data entered into an analysis tool NVivo 8, throughout the interview from the informants must be transcribed first, then reduced, grouped into a theme to be reported in form of dialogue or verbatim (Braun & Clarke, 2012:23-31; Engkizar et.al, 2018:103). Furthermore, the second phase of the data taken using a questionnaire to 46 learners in an elementary school (SD) who were studying in grade V and VI, then the data was analyzed descriptively using quantitative analysis tools SPSS Windows 18.0.

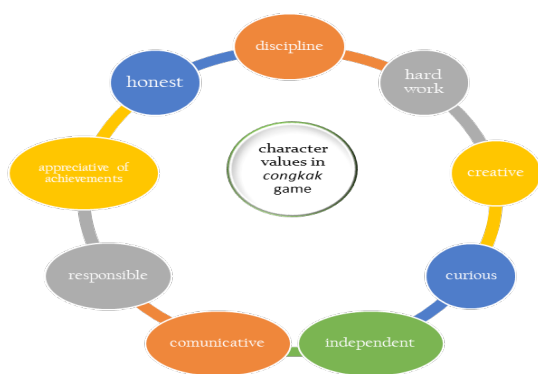
## RESULTS AND DISCUSSION

### Results

To be more interesting, in this section the authors will report the overall results of this study in two phases; *first*, the results of thematic analysis of qualitative data were taken through the direct interviews with all of the informants; *second*, the results of quantitative descriptive analysis were taken by using questionnaires to all respondents.

**First Stage (Result of Qualitative Thematic Analysis)**

Based on the interview, the results of thematic analysis found that there were nine important themes related to the values of characters that can be instilled to learners through *congkak* game. Nine of these characters were the value of honesty, discipline, hard working, creativity, curiosity, independent, communicativeness, responsibility and appreciation for achievement. For More details, the description of character values in *congkak* game can be seen in Figure 1.1 below.



**Picture: 1. Description of character values in *congkak* game**

Nine character values contained in *congkak* game as shown in Figure 1.1 were conveyed by informants to the authors through direct interviews. Although they told the nine items a little bit different in manners and styles, but they have approximately the same intent. An interview between author and all informants is described in the following tables.

**Table 1. An interview about honesty, discipline, hard working and creativity.**

No.	Informant	Excerpts
1	Informant 1	..... in my opinion congkak game has to be preserved, since there are a lot of values that we can instill in children, such as the value of being honest (honest), how to struggle in order to win(hardwork), good at strategy setting (creative).
2	Informant 3	When I was child, my friends and I often played congkak,... of course there are values that can be taken such as the strategy in counting (hardwork) and disciplines, ... no cheating when playing (honest)...
3	Informant 5	Playing congkak is exciting because it can train the kids' thinking (hardwork), being honest and not cheating, but now the kids rarely play congkak ,hehehe ... because there are online games.

**Table 2. An interview about curiosity, independent, communicativeness.**

No.	informant	Excerpts
1	Informant 2	,.... even though it's just a simple game in the past, .. and now the children are rarely play <i>congkak</i> ,but I think, the game needs to be preserved due to many values that can be transferred such as self training not to be depended on one's help ( <i>independent</i> ), curious to know the reason why friends always be the winner ( <i>curious</i> )....
2	Informant 4	In my opinion, the values that exist in <i>congkak</i> is like independent, also can increase playmate ( <i>communicative</i> ),... keep learning how to be the winner ( <i>curious</i> )...
3	Informant 1	Beside my previous opinion, the other values of <i>congkak</i> game such as curiosity and we also can make new friends ( <i>communicative</i> ).

**Table 3. An interview about responsibility and appreciation for achievement.**

No.	Informant	Excerpts
1	Informant 3	... the other value is like being patient waiting for the turn ( <i>appreciative</i> ).... do not blame others when we lost while playing ( <i>responsible</i> ) ...
2	Informant 4	Beside the value I have just mentioned, the other value is how to be sportive ( <i>responsible</i> ) in the game, and have to recognize friend ability ( <i>appreciative</i> )...

### Second Stage (Result of Quantitative Descriptive Analysis)

To strengthen the qualitative data that have been taken on the first phase of this study, the authors subsequently regained the quantitative data on the second stage. Here authors have to explain that the entire items (9) contained in the second phase of this research instrument was based on the interview of the first stage, which means that the research instruments of the second phase is the result of the first research phase. Based on the results of descriptive analysis (frequency) that has been done, the analysis showed overall forty-six (46) of the respondents admit that there are nine character values contained in *congkak* game such as honest, discipline, hard work, creative, curious, independent, communicative, responsible and appreciative of achievements. Overview and discussion of the analysis result can be seen clearly in Table 4 as follows:

Table 4 above can be described as follows; in the value of honesty item, 46 respondents answered “Yes”. It means that all respondents agreed that there was the character value of honesty in *congkak* game. Furthermore, in the value of discipline item, 36 respondents answered “Yes”, 6 respondents answered “No” and 6 other respondents answered “Do not know”. Thus, just few respondents said that the character value of discipline was much less understood as one of the character value contained in *congkak* game, but the majority of the respondents have stated that the value of discipline existed in the game. Furthermore, 44 respondents answered “Yes” in the value of hard work item, only two people answered “Do not know”. As a matter of result, most of the respondents stated that there was character value of hard work in *congkak* game. In the creative value item 30 respondents answered “Yes”, 4 respondents answered “No”, and 12

**Table: 4. Descriptive analysis of character values in *congkak* game**

No.	What do you think about the character values in <i>congkak</i> game as a mathematic instructional media?	N = 46 (the total number of respondents) Frequency and Percentage			
		Yes (%)	No (%)	Do not Know (%)	Total (%)
1.	Honesty	46 100.0%	0. 00%	0. 00%	46 100%
2.	Discipline	34 73,9%	6 13.0%	6 13.0%	46 100%
3.	Hard Working	44 95.7%	0. 00%	2 4.3%	46 100%
4.	Creativity	30 65.2%	4 8.7%	12 26.1%	46 100%
5.	Curiosity	18 39.1%	10 21.7%	18 39.1%	46 100%
6.	Independent	14 30.4%	28 60.9%	4 8.7%	46 100%
7.	Communicativeness	46 100.0%	0. 00%	0. 00%	46 100%
8.	Responsibility	34 73.9%	4 8.7%	8 17.4%	46 100%
9.	Appreciation for achievements	44 95.7%	2 4.3%	0. 00%	46 100%

respondents answered “Do not know”. It indicates that few respondents considered that the value of character creativity in the *congkak* game was unknown, but the majority of respondents agreed to say creativity value existed in the game. In the curiosity value items, 18 respondents answered “yes”, 10 responded “No” and 18 answered “Do not know”. It showed that the respondents did not understand that the character of curiosity related to the character value in the *congkak* game.

More over, in the value item of independent, 14 respondents answered “yes”, 28 respondents answered “No”, and 4 other respondents answered “Do not know”. It means that the respondents agreed to say that the character value of independent did not exist in *congkak* game. In the communicativeness value item, 46 people answered “Yes”. It indicates that respondents agreed that there was communicativeness in *congkak* game. In the item value of responsibility, 34 respondents answered “Yes”, 4 answered “No” and 8 answered “Do not know”. It can be concluded that the majority of respondents agreed with responsibilities value contained in *congkak* game. In the value of achievements item, 44 respondents answered “yes” and 2 other respondents answered “No”. So, in general the respondents agreed that the character value of appreciation for achievements also contained in *congkak* game.

## Discussion

Mathematics learning is one of the significant subjects in Indonesia curriculum. The proof can be seen through the decision making of mathematics as a compulsory subject that is always evaluated at each National Final Examination, even in every schools found the time allocated toward mathematics subject always have a longer portion than other subjects. In the context of mathematics learning, a student is expected to construct mathematical knowledge through experience that they

had before. Therefore, the active learners are highly needed in the learning activities (Syafri, 2012: 67). According to Noer (2014: 39) teachers must be creative using various tools and instructional media so that students understand the material given easily. A mathematics teacher should not be too textual, theoretical and rigid while delivering course material (Abbas, 2004: 111). Even the math teachers have to be creative and expert at using tools and learning media with no exception through traditional games which is able to establish the values of honesty, discipline, hard working, creative thinking, have high curiosity, independent learning, communicative building, able to be responsible and always appreciate the achievements of someone else (Sundayana, 2013: 43; Anggraini & Kusniarti, 2016: 28; Damri, Engkizar, Anwar, 2017: 84; Karisma, et.al, 2018).

The results of this study have clearly shown that the use of instructional media such as traditional games *congkak* as a learning medium can implant the character values to students. Based on qualitative data (interview) and quantitative data (questionnaire) in general, both informants and respondents agreed that there were nine character values contained in *congkak* game, such as honesty, discipline, hard working, creativity, responsibility, appreciation for achievements. The results of this study were supported by research Polloway, Patton & Serna (2008: 321), Fry, Ketteridge and Marshall (2003) Rahayu, et.al (2017) found that through media, teachers could convey the values and the message they want to be conveyed.

This study was also supported by Murniyetti, Engkizar and Fuady (2016: 156), found that there were seven ways that teachers can do to instill character values to learners, such as 1) through school regulation (*discipline, care for the environment, and responsible*); 2) science competitions among students (*creative, fond of reading, curious*); 3) award program for

students having achievements (*respect, hard work, democratic, caring*); 4) national day celebration (*the national spirit, love of the homeland, respect, caring*); 5) religious practice and spiritual guidance (*honest, religious, responsible*); 6) the scouts (*creative, social care, hardworking, honest, friendly, peace-loving, democratic*); and 7) the talented and musical group (*creative and work hard, respect*).

Referring to the results of study which is supported by several previous researches, it showed clearly that the implantation of educational character values on learners can be done in various ways, based on these results one way to do so is through the medium of traditional game *congkak*, a folks game well-known by society of Riau Malay for such a long time. According to Lynn, Revell & James (2007) the implementation of character values that focus on a single strategy is not sufficient enough as the way to convey character values toward learners, and so do in Leslie research & Grier (2012) and Lickona (2006) which point out that the successful on the implantation of character values to learners can be done through multiple approaches like instructional media made by teachers manually or through traditional games which is already popular and well-known by learners. In this study, the game called *congkak* game. In fact, this game has proven to be used as a medium to transfer the character values to learners.

## CONCLUSION

The importance of character education for learners is an indisputable necessity. There is no strict rule about the way how to implant the character education toward learners. Nevertheless, a teacher is required to design the media properly and seriously so that the character values can be implemented permanently on learners in the future. The media that can be used is *congkak* game because based on this

study there are nine character values of *congkak* game that can be implanted on learners, such as honesty, discipline, hardworking, creativity, curiosity, independent, communicative, responsibility, and appreciating achievements. Absolutely, the use of *congkak* game needs to be developed continuously through innovations and other ways that suitable toward the learners characteristics in one class. Somehow, although both strategy and media used are not similar, the purpose of educational character is still the same, that is creating good learners who have the valuable characteristics such as religious, honest, tolerant, discipline, hard work, creative, independent, democratic, curious, patriotic, country-loving, appreciate the achievements, communicative, peace loving, fond of reading, environmental care, social care, and responsible.

## REFERENCES

- Abbas, N. 2004. Penerapan Model Pembelajaran Berdasarkan Masalah (problem based Instruction) dalam pembelajaran matematika di SMU. *Jurnal Pendidikan dan Kebudayaan*, 51(10): 93-117.
- Althof, W., & Berkowitz M.W. 2006. Moral education and character education: Their relationship and roles in citizenship education. *Journal of Moral Education*, 35(4), 495-518.
- Anggraini, P., & Kusniarti, T. 2016. The Implementation of Character Education Model Based on Empowerment Theatre for Primary School Students. *Journal of Education and Practice*, 7(1): 26-29.
- Braun, V., & Clarke, V. 2006. Using thematic analysis in psychology. *Journal Qualitative Research in Psychology*, 3(2): 77-101.
- Cahyani, N.P.D., & Bali, I.A.L.F. 2014. Per-

- mainan Tradisional: Media Pembelajaran di Dalam Kelas BIPA. *In Asile 2014 Conference*, 29-45.
- Creswell, J. W., Clark, V.L.P., 2005. Mixed Methods Research Designs in Counseling Psychology. *Journal of Counseling Psychology*, 52(2), 224.
- , J. W., & Creswell, J. D. 2017. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage publications.
- Damri, Engkizar dan Anwar, F. 2017. Hubungan Self-Efficacy dan Prokrastinasi Akademik Mahasiswa Dalam Menyelesaikan Tugas Perkuliahan, *Jurnal Edukasi Bimbingan Konseling*, 3(1): 74-95.
- Engkizar, E., Alfurqan, A., Murniyetti, M., & Muliati, I. 2018. Behavior and Factors Causing Plagiarism Among Undergraduate Students in Accomplishing The Coursework on Religion Education Subject. *Khalifa Journal of Islamic Education*, 1(1): 98-112.
- Fad, A. 2014. Kumpulan Permainan Anak Tradisional Indonesia. Jakarta: Niaga Swadaya.
- Fry, H., Ketteridge, S., & Marshall, S. 2003. *Understanding student learning. A handbook for teaching and learning in higher education: Enhancing academic practice*, New York: Routledge.
- Hawkrige, D. 1999. Cost-effective support for university students via the Web? *Association for Learning Technology Journal*, 6(3): 24-29.
- Ibrahim, P.I.P. 1982. Permainan Gasing (Top Playing). *The Brunei Museum Journal*, 5(2): 105-118.
- Karisma, P., Fatmariza, F., Fatimah, S., Engkizar, E., Nazirwan, N., & Yanti, R. (2018). Conflicts Between Traditional and Modern Fishermen Toward Fishing Tackle. *Adabi : Journal of Public Administration and Business*, 1(1): 1-15.
- Kesuma, Dharma. 2012. *Pendidikan Karakter Kajian Teori dan Praktik di Sekolah*. Bandung: PT Remaja Rosdakarya.
- Koesoema, D. 2007. *Pendidikan Karakter: Strategi Mendidik Anak di Zaman Global*. Jakarta: Grasindo.
- Leslie, K., Grier. 2012. Character, Social-Emotional, and Academic Outcomes Among Underachieving Elementary School Students. *Journal of Education for Students Placed at Risk (JESPAR)*, 17(3): 201-216.
- Lickona, T, 2006. Eleven Principles of Effective Character Education. *Journal of Moral Education*, 25(1): 93-100.
- Lynn, Revell & James, Arthur. 2007. Character Education In Schools and The Education of Teachers. *Journal of Moral Education*, 36(1): 79-92.
- Megawangi, R. 2004. *Pendidikan Karakter :Solusi yang Tepat untuk Membangun Bangsa*. Bandung: BPMIGAS dan Energy.
- Mulyasa, E. 2012. *Manajemen Pendidikan Karakter*. Jakarta: Bumi Aksara.
- Munawaroh, S. 2011. Permainan Anak Tradisional Sebuah Model Pendidikan dalam Budaya. *Jurnal Jantra*, 4(12): 208-216.
- Murniyetti, Engkizar, & Anwar, F. 2016. Pola Pelaksanaan Pendidikan Karakter Terhadap Siswa Sekolah Dasar. *Jurnal Pendidikan Karakter*, 6(2): 157-166.
- Noer, S.H. 2014. Kemampuan Berpikir Kreatif Matematis dan Pembelajaran Matematika Berbasis Masalah Open-Ended. *Jurnal Pendidikan Matematika*, 5(1): 34-53.
- Nur, H. 2013. Membangun karakter anak melalui permainan anak tradisional. *Jurnal Pendidikan Karakter*, 1: 87-94.
- Polloway, E.A., Patton, J.R., & Serna, L. 2008. *Strategies For Teaching Learn-*



- ers With Special Needs. Prentice Hall.
- Prayitno, L.L. 2018. Permainan” Congklak” Untuk Mengajarkan Operasi Penjumlahan di Sekolah Dasar. *Jurnal Buana Pendidikan*, 10(18): 78-96.
- Pahrudin, A., & Syafril, S. 2018. Learning Content Of Islamic Education Based On Multikultural In Senior High School In Bandar Lampung. *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 9(1): 81-91.
- Reiser, R. A. (2001). A history of instructional design and technology: Part I: A history of instructional media. *Educational Technology Research And Development*, 49(1): 53-67.
- Rawana, J. R., Franks, J. L., Brownlee, K., Rawana, E. P., & Neckoway, R. 2011. The Application of a Strength-Based Approach of Students’ Behaviours to the Development of a Character Education Curriculum for Elementary and Secondary Schools. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative*, 45(16): 127-144.
- Rahayu, T., Syafril, S., Wati, W., & Yuberti, Y. 2017. The Application of STAD-Cooperative Learning in Developing Integrated Science on Students Worksheet. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, 6(2): 247-254.
- Siregar, S.N., Solfitri, T., & Roza, Y. 2014. Pengenalan Konsep Operasi Hitung Bilangan Melalui Permainan Congklak Dalam Pembelajaran Matematika. *Al-Khwarizmi: Jurnal Pendidikan Matematika dan Ilmu Pengetahuan Alam*, 2(1): 119-128.
- Sundayana, R. 2013. *Media Pembelajaran Matematika Untuk Guru, Calon Guru, Orang Tua, dan Para Pecinta Matematika*. Bandung: Alfabeta.
- Syafril, U.A. 2012. *Pendidikan Karakter Berbasis al-Qur’an*. Jakarta: Rajawali Pers.