

# Development of Digital Character Education Comics to Improve Cognitive Empathy

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This research aimed to develop digital comics that are suitable for use as a medium of intervention in Group Guidance. The research method uses Hannafin and Peck's Model Research and Development method. This method step starts from the Needs Study, Design, Expert Test, Revision and Field Testing. This research reached the expert test stage. Overall media expert test results gave a percentage of 80% in the first comic design . Material experts as a whole gave a percentage of 71.7% in the first comic design. After the results had been improved, this reached 95% of the media aspects and 97% of material aspects. This showed that according to the digital comic expert produced as a viable medium for Group Guidance intervention to increase students' cognitive empathy.

**Keywords:** *Media, Comic, Intervention, Group Guidance*

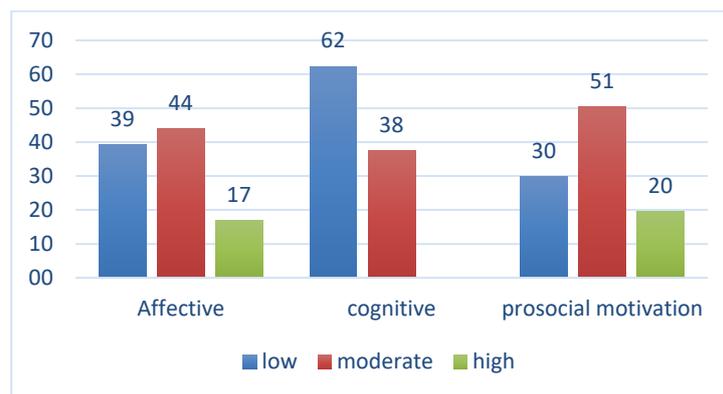
## Introduction

The condition of empathy is a major factor for the formation of character in a person. The results of the study showed that the basic ability to help (altruism) is empathy (Nurhidayati, 2012, Widyaningsih, Noor Ika., & Indriati, 2015, Masita, Risma Dewi., & Umi, 2017) and empathy is also closely related to the emergence of friendly attitudes (Dewi, 2014, & Riess, 2017). Empathy is important because it enhances people's ability to develop their sense (Dereli & Aypay, 2012). Children who have good empathy are expected to grow into individuals who do not want to hurt others and so they can develop cognitive empathy.

Lack of empathy in a person results in the emergence of aggressive behaviour (Winter, Spengler, Bermphohl, Singer, & Kanske, 2017). The perpetrators of bullying have low empathy and tend to have attitudes to dominate others (Olweus, 2016). Bullying is part of aggressive behaviour that often occurs in schools (Seixas, Coelho, & Nicolas-fischer, 2013). Pure bullies lack affective empathy and victims lack cognitive empathy (Gagnon, 2012). These opinions show the close relationship between low empathy and the emergence of aggressive behaviour.

Individuals who experience obstacles in forming empathy can be given intervention through group guidance. Before and after group guidance services are provided, there are larger differences in student empathy (Nurdin & Andriyanto, 2019). Group counselling of values clarification group using modelling or role play was effective in improving junior middle school students' empathy (Gunawan, I.M.S., et al., 2019). In this study, respondents were middle and high school students. For students in elementary school, intervention can also be given in guidance and group counselling.

Through counselling interviews, empathy can be applied (Eikeland, Ørnes, Finset, & Pedersen, 2014) and training (Williams et al., 2015). Several instruments can be used to measure the level of individual empathy (Reniers, Corcoran, Drake, Shryane, & Völlm, 2011), (Zoll & Enz, 2005), (Batchelder, Brosnan, & Ashwin, 2017) and (Overgaauw, Rieffe, Broekhof, Crone, & Güroglu, 2017). The results of previous studies using the EmQue Scale indicate that empathy possessed by fourth grade elementary school students or children aged 10 years who are respondents are in the low category.



**Figure 1** Empathy Measurement Results

The lowest aspect based on overall analysis is the aspect of cognitive empathy with 62.4% of respondents in the low category, 37.6% in the medium category and 0% in the high category. Elementary students who have low cognitive empathy require intervention through group guidance. In adults, the group guidance intervention does not require media, whereas in children it is needed to be more effective. The results showed that the comic media effectively increased interest and the process of absorbing information as well as understanding in students (Asih & Pratiwi, 2010, Listiyani, 2012, Ambaryani & Gamaliel Septian Airlanda, 2017).

In principle, the developed digital comics are a means of learning. The expected learning outcomes are the changes. Learning is a process carried out by individuals to get new behaviours as a result of their environmental experiences (Anurrahman, 2010).

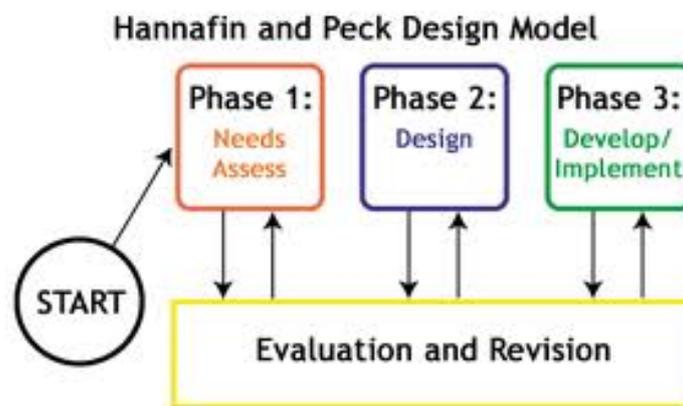
Counsellors, in providing services, need to do creative things. One of the skills that needs to be owned by a counsellor is creative thinking (Papaleontiou- Louca, Varnava-Marouchou, Mihai,

& Konis, 2014) and (Daskolia, Dimos, & Kampylis, 2012). Creativity is needed so that the service provided, in improving learning outcomes during the service process carried out by the counsellor, is more effective.

From the above, this is known that the media in group guidance for cognitive empathy interventions in elementary students is needed. The various potentials of comics make researchers interested in developing comic as media, especially digital. In line with all of the above, this research aims to develop digital comics as a medium for group guidance intervention to improve cognitive empathy of elementary school students.

## Methods

The method used in this research is the research and development method. The study design uses Hannafin and Peck's design. This design is elegant and simple (Tegeh etc, 2014).



**Figure 2** Hannafin and Peck Design Model (Hannafin, Michael, 1998)

This research consists of three main phases: needs assessment; design; and development. Different from other designs in each phase emphasizes evaluation and revision. This is the reason why this design was chosen.

The procedure of this research follows the second step of the R&D design used, which is at the media design or development stage. The needs assessment phase was examined in the previous year. The results of the first study are used as a basis for media development at this stage in terms of choosing aspects of empathy and in determining the theme of the story developed in comics. After that the story board and script are developed. Then the manuscript is given an assessment to the content expert to ensure that the story matches the intent and purpose of making media. The manuscript is then revised according to advice from content experts. After all the stories that are not revised, then illustrated the story in the form of images. The sketch is then given to media experts to check whether it is in accordance with the principles of good

media development. The revisions are made then corrected and the final comic is obtained. The research instrument uses a media rating scale developed by researchers.

## **Results and Discussions**

Based on the results of the research that has been carried out with aspects of cognitive empathy developed in the media, comics that are designed include two themes, namely about care and responsibility. These two themes are the most relevant themes in this study. The character of education that focuses on the students identity development to be smart and having students character, needs to be enforced through informal and formal education (Agung, 2018).

Products developed are tested by experts. Examiners consist of material experts (content) and media experts. Data based on expert testing is then used as a way to evaluate the resulting product.

Products that have been developed have passed content or material expert testing. The material expert test using instruments has been developed by containing several indicators, namely the suitability of the story with the material and the suitability of the language used by elementary students. Material experts as a whole gave a percentage of 71.7% in the first design comic. What needs to be improved the most is the material submitted not being appropriate for the age of the comic's target, the spelling used, the terms not being right and the use of punctuation. The recommendation given is that the term is difficult to replace and there needs to be an addition to the purpose of the gift.

The media expert test using instruments has been developed by containing several indicators, namely the accuracy of the size, the accuracy of the arrangement of the picture, the attractiveness of the picture, the simplicity of the learning media, the outrageous visual aspects, the suitability of the illustrated images with the level of student age and the clarity of the story line. Overall media experts gave a percentage of 80% to the first design of the comics. The lowest score contribution is in the media simplicity indicator. The shortcomings that most need to be fixed are the appearance of letters and the use of foreign terms. Recommendations for improvement are correction of word errors and completeness of the media such as comic objectives and story synopsis.

After the expert test, the researcher makes revisions. Revisions were made on aspects that were lacking and recommendations given for improvement. After the revision stage is complete, the expert is given back the comics that have been revised. The results from the material aspects of 97% and 95% of the media aspects or significant improvements are not needed. This figure already shows that the comics developed are very suitable to be used as media in group guidance according to expert testing.

Expert comments that become an important note in this media are that the digital comics produced in this study have the advantage of being easily made and accessed compared to conventional comics. The steps taken to digitise comics using the Webtoon platform are as follows:



**Figure 3** Flow of Making Digital Comics

Comics that are already in the platform can then be accessed easily at <http://bit.ly/Komikempati-memahamiteman>. The flow is as follows:



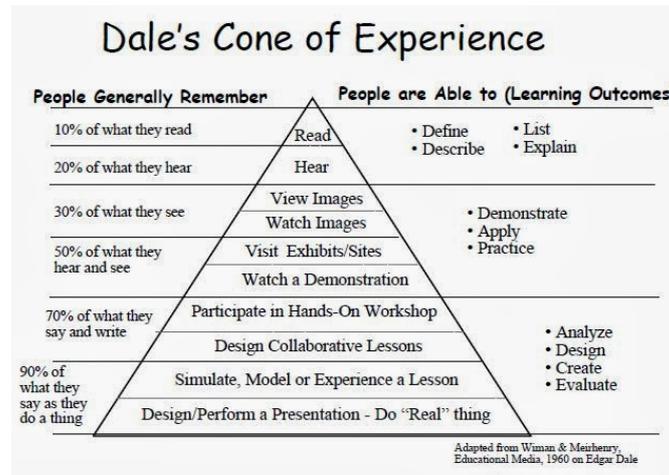
**Figure 4** Comic Access Flow

The flowchart above shows the advantages of digital comic media. These advantages become a potential factor that supports the effective use of media, if the media is used in the process of students' cognitive empathy intervention.

Appropriate intervention media is important in achieving an optimal understanding. The media is able to make a learning activity more effective in achieving its goals. Research shows that comics can improve achievement. Comics can also increase learning motivation (Puspitorini, 2015) and from learning process as indicated by the increased value of character in students through observation and value student achievement (Buchori & Setyawati, 2015). This can be done of course if the comics that are made meet good criteria and the right content.

The use of media in the implementation of group counselling to increase empathy has also been done with media other than comics. The field of group guidance successfully uses film as a medium (Susilaningsih, 2015). The use of puzzle media can also increase social interaction in the classroom (Nursalim, 2013) and assertiveness (Suci & Christiana, 2013).

Good use of media can help make group guidance services more effective. In line with this explanation, according to Edgar Dale, the absorption of information using media images, films and viewing demonstrations was 30% more effective than just hearing or reading text.



**Figure 5** Experiences Cone(Wyatt R.L and Looper S., 1999)

This above figure illustrates the more concrete the knowledge presented, the easier it will be understood by students. This is the basis for the group guidance process using the media. Group guidance that can present a concrete picture in the implementation process can increase the potential of achieving goals. In addition, the presence of the media in the group guidance process can influence group dynamics. One of the functions of the media is to influence the climate, conditions and learning environment (Azhar Arsyad, 2010).

The learning media functions as a communication tool used to channel messages and can stimulate students' thoughts, feelings and abilities so as to encourage an effective and efficient learning process (Risnawati, Amir, & Sari, 2018). Comics are media that are able to attract the attention of people of all ages because they have advantages that are easy to understand (Smolderen, Beaty, & Nguyen, 2014). Media in guidance and counselling services plays an important role in the implementation of guidance and counselling so that students can get better understanding, comprehend and internalise the material of the guidance and counselling services provided to the student (Alhadi, Supriyanto, & Dina, 2016) and (Listyowati, Anies., 2018).

The use of media in the process of group counselling in elementary schools is consistent with the task of cognitive development. Elementary school students aged 10-11 years are at the stage of concrete operational development. Piaget's cognitive development theory states that children are mature enough to use logical thinking but only for physical objects (Ibda, 2015). The use of digital comic media is expected to be effective in the intervention process.

The accuracy of the use of empathy comic media in further group guidance will be proven by testing it on students in the third phase of research. Comics after the expert test phase has been carried out and the comics can be used. Then the user test is performed. The user test tests the effectiveness of digital comic media. Researchers have designed an evaluation instrument for the achievement of activities using EmQue (Overgaauw et al., 2017). Besides EmQue to



deepen the results of the analysis, KEDS instruments are also used (Reid et al., 2013). This instrument was adapted from the KEDS multi-perspectives item instrument.

## **Conclusions**

Overall media expert test results gave a percentage of 80% in the first comic design. Material experts as a whole gave a percentage of 71.7% in the first comic design. After the results have been improved this reached 95% of the media aspects and 97% of material aspects. This showed that according to the digital comic expert produced, it is a viable medium for group guidance intervention to increase students' cognitive empathy.

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