

LET'S TALK ABOUT INFERTILITY!: INTERACTIVE STORYTELLING AS IMMERSIVE MEDIUM FOR EDUCATIONAL CONTENT

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Abstract: *Infertility is a problem for some couples of childbearing age in Indonesia. This problem affects one-third of married couples, yet the discussion regarding infertility has not been thoroughly heard. This research focuses on introducing infertility to the general public, intending to transform the general perspective, so the problems that occur in the couple's household will not be disrupted with misinformed myths surrounding infertility. The idea is to deliver information through an interactive story that involves the user in choosing the storyline. The research methodology used combines qualitative methods through observations on infertility online forums and Focus Group Discussions. The quantitative methodology was carried out in two stages, before testing the prototype to obtain public perceptions of infertility, then again after the prototype test to measure users' immersion using a Likert scale. The study revealed that conveying problems through a story that requires user involvement in selecting storylines affects readers' immersion in digesting educational reading content.*

Keywords: *interactive; storytelling; infertility; immersive*

Introduction

The World Health Organization (WHO) defines infertility as the inability of a non-contraceptive married or sexually active partner for at least 12 months to produce offspring (World Health Organization, 2002).

The stigma regarding a married couple's inability to produce offspring as the woman's fault is still high (Bennett, 2012a, Novrika, 2015). Open discussions to address this issue are limited (Pangabea, 2014). Moreover, the decision of a family to seek medical assistance to improve this infertile condition also still depends on the husband's decision as the head of

the family (Demartoto, 2008). Assuming that having a child from marriage is a common thing that every married woman must pass, couples who have not or have not succeeded in doing this stage face social pressure from family and society (Loke, 2014).

The study results reveal that infertility becomes an emotional wound that affects the self-esteem of the couples who experience it (Ningrum, 2017). From a woman's perspective, this is considered a manifestation that her identity as a mother will never be realized (Bennet, 2012b; Pangabea, 2014; Novrika, 2015; Ningrum, 2017). In contrast, from a man's point of view, infertility is associated with virility,

and his self-esteem as the head of a family is considered a failure (Péloquin, 2013). In addition, people who do not fully understand the medical conditions of each different couple make infertile couples feel inferior and cornered in their roles that are considered imperfect (Elvina & Maulina, 2013). As a result, couples that faced with such problems prefer to refrain from social gathering in order to hide in their insecurity (Tabong & Adongo, 2013).

Lack of knowledge to accommodate issues considered a disgrace in society, such as infertility, is one of the factors causing infertile couples to have anxiety and symptoms of depression, this is also why infertile couples delay consultation and seek help from medical experts (Endriyani, 2011). Even if an infertile couple realizes these shortcomings and seeks medical help, the journey they have to take is also not straightforward. The lack of information regarding the medical treatment of infertility also results in the tendency of Indonesians to seek alternative traditional medicine, which is sometimes illogical but believed to cure their infertility (Rohmah, 2017).

Besides the common religious and mystical beliefs surrounding fertility treatment, the barrier faced by infertile couples is also the limit of facility and education regarding infertility (Bennett, 2012a). There is widespread acknowledgment about infertility, yet it has been disclosed from becoming a content of information that is accessible to the general public. The literacy, understanding, and information related to this matter are still lacking (Purvis, 2015). Most information about this matter is available in a scientific journal, presented in English, and only available through an internet search (Bennett, 2015). The lack of assessable information that delivers facts about infertility, which is educating the general public on how to deal with the matter, and touching the value of empathy towards infertile couples, has become the

main idea of this research.

One of the agents in delivering information content is the media. Media is an instrument that can transform educational content into an easier-to-digest form. In the concept of media power, the audience is considered a passive object. Therefore, the media is an active component of constructing ideas, conveying ideology, and controlling the community's perspective (Ariani, 2013). In delivering educational information, users' total involvement and attention are required. One way to convey it is by using storytelling. Storytelling has been a technique used by designers to gain insights, build empathy, and connect emotionally with the user participating in the story. In return, users get a more immersive experience while exploring the narrative world that positions them as actors in the story and creates a more profound impression of the story they just experienced (Interaction Design Foundation, 2012).

Storytelling is an integral part of the human experience. Since the beginning, humans communicate through storytelling, and in its development, stories are also used to entertain and educate (Riedl. M., & Bulitko. V., 2013).

Interactive storytelling combines two popular entertainment concepts: interactivity and narrative, so there is a shift in focus from a linear narrative to a non-linear interactive narrative. It is mandatory to immerse users in a story world to make them believe that they are important in unfolding the story, and that their actions have meaningful consequences (Riedl. M. Bulitko, 2013). Users' freedom to determine the storyline certainly impacts the outcomes achieved in each choice taken, so users need to understand the causal consequences of their actions (Roth. C. & Vermeulen, 2012). By adopting the concept of interactive storytelling, an immersive narrative experience can be

introduced to engage the user in a more binding emotional attachment to the story being enjoyed.

Through interactive storytelling, users have flexibility in choosing a storyline, taking the character's action, and making choices according to their preferences. Therefore, interactive stories can revolutionize entertaining, educating, and conveying information to humans in a more personal way. The main challenge for creating interactive narratives is how to balance the need to ensure that players have the authority to dive into the narrative experience, but at the same time, still present a whole coherent story (Riedl. M. & Bulitko. V., 2013).

One thing that sheds light on the interactive story experience is making the user more attached to the story being presented. As these users are required to interact and make their own choices, their curiosity and enthusiasm increase. In linear stories, users usually enjoy the plot, characterizations, environments, and properties that the author has told without being more involved. However, in interactive stories, they can explore and interact thoroughly in the story world. Through this exploration, the narrative obtained through observation, hypothesis formation, and holistic understanding of the world is achieved. When the narrative understanding is achieved, it will increase empathy for the characters and the world being read, and an emotional attachment is formed to the user who is immersed in the storyline. Curiosity, understanding, and empathy are manifestations of achieving narrative immersion (Qin. H., 2009).

An interactive storytelling approach reconstructs the narrative as a cognitive structure that can be generated through various decisions as long as the reader is immersed in the story, and this method can give the reader experience through the causal influence taken as a character in the

story he reads (Koenitz, 2010). To ensure users have agency in the story world, they need to understand that their actions have meaning. To grasp users' enjoyment even further, the way the characters are constructed in the story is also essential. If the user can relate themselves to the character and feel an affinity, it will share the characters' emotions, creating empathy (Vorderer. P. Klimmt. C., & Ritterfeld. U., 2004). Research by Oliver et al. in 2000 (as cited by Vorderer et al., 2004, p. 395) shows that the degree to which individuals empathize with a character varies with two factors: their ability to empathize and their readiness to do so.

In the long term, interactive storytelling that puts the users as the main character in the media conveying infertility information, expected to be an alternative to introduce problems about infertility. Hopefully, with enough introduction and primary education regarding infertility, the negative stigma will be reduced to a minimum. Therefore, the societal pressure experienced by infertile couples is also reduced.

This research aims to create interactive storytelling that introduces and educates infertility problems that have been considered taboo in society. It also means to analyze the level of immersion gained by users through interactive media. The benefit of this research is to provide an alternative way of counseling the target user in addressing infertility in married life and society. Hopefully, with the introduction regarding this matter through storytelling, infertile couples and the people around them will be more informed about this problem.

Methodology

This research used mixed methods of qualitative and quantitative approach. Initial quantitative data was obtained by

distributing questionnaires to respondents to obtain an overview of the stigma of infertility in Indonesia.

Data gathering was done between February to March 2020, and questionnaires were distributed online through Google Forms. Respondents who participated in this research are 188 women in their fertile age, the demographic of these respondents is 81.4% of the respondents were between 21 – 30 years old, 8.5% were between 31-40 years old, and 10.2% were under 20 years old. Stages of the method applied are as followed:

1. Preparation

Researchers collected related journals to gather common facts, myths, and beliefs surrounding infertility in Indonesia. Researchers then conducted participatory observations on an Obstetrics and Gynecology specialist at a private hospital located in Menteng, Jakarta to confirm the findings. Literature study is also used as the basis for storytelling to achieve an immersive story that is expected to immerse the reader in the story to create empathy with the characters and events that happen as the story unravels.

A Focus Group Discussion (FGD) was carried out to sharpen the data, which the researchers carried out together with six respondents. Respondents who participated were women of childbearing age, married and single, and live in a rural area. The discussion in this FGD was related to infertility in rural areas and the solutions usually offered by the local community that carried their belief system and myths regarding this problem. The purpose of conducting this FGD is to find out more deeply how Indonesian people in the rural areas still see that infertility problems can be overcome with traditional solutions that do not involve medical personnel.

2. Implementation

After data gathering, researchers de-

sign a prototype of a fictional story about two young people, Kirana and Arya, who are involved in a marriage. Arya and Kirana had been in love with each other since they met at the campus, they got married, live in the city, and along the way—after three years of marriage without children—they begin to hear questions from their closed family, friends, and the rest of society.

The researchers adapted the storyline based on the result gathered from literature studies, FGD, and observation. The pilot prototype consists of 6 chapters which are broken down into different options. The story premise for the prototype is about how a young married couple navigates through their daily life and their encounters with society.

The first chapter introduced the two protagonists, Arya and Kirana, on their wedding day. Here, users will encounter simple options they must choose, but since this chapter was also intended as a tutorial to get them used to the branched storytelling, their choices will not affect the story.

The second chapter is the fast-forward moment after their three years of marriage. The protagonists are faced with a social dilemma as they receive many invitations from their relatives. The couple discussed each possibility of how these events would have turned out considering the old question feared by most Indonesian newlyweds couples of “Have you gotten pregnant just yet?” (“Sudah isi, belum?”) that will be thrown at them on any of the occasions. Users will decide how Kirana and Arya will answer.

They are moving on to chapter three, the protagonist placed in a family gathering situation where all their relatives are competing to advise them on how to get pregnant. This chapter highlights every single belief, myth, and common suggestion regarding infertility, and users

will have to choose to hear one of the advice and read the full talk from the family members.

Chapter four moves the spotlight back to the couple. This part is the narrative where users can read thoroughly about the struggles, sadness, anger, and mixed emotions the couple faced. Throughout the chapter, Arya and Kirana will discuss all options they have heard from their families, and they decide to believe in modern medicine and visit a gynecologist.

Forward to chapter five, in this chapter, the protagonist learns and discusses the medical options they have with gynecologists. This part is where users will learn all the differences between some of the most common techniques used in modern medicine and its pros and cons. Users who are expected to understand the importance of assisted reproductive technology will have to choose one option between conceiving naturally with the help of hormonal therapy, intra-uterine-insemination (IUI), or in vitro fertilization (IVF). Whichever options users choose will lead to the narrative explanation of what the couple must go through. Users will witness firsthand how infertility treatment works, the steps it takes, and the couples' emotional and physical struggle throughout chapter five.

The last chapter will show users that no matter what they choose, the protagonists stay childless in the end. Kirana and Arya will face a heavy storm in their marriage, and the users will be faced with four options that would determine the ending of the story. The options users have: to try again with different methods (this will take them back to chapter five, and they can choose another option, although the result will remain the same), to heal from the emotional wound then try to live with the fact they are childless, to try to adopt, and to get a divorce. Each choice will lead to an ending narrative for the pilot prototype.



Figure 1. Flowchart of The Story for the Pilot Prototype (Source: Personal research documentation)



Figure 2. Pilot Prototype Example on Figma
(Source: Personal research documentation)

The design of interactive storytelling used as a prototype consists of infertility topic combined with the general topic of human relations. Its function is to conduct a preliminary study of the concept of an interactive story for users who are unfamiliar with this kind of narrative model. The media used by the researcher to conduct the prototype test was made in an online software called Figma.

These chapters are then combined and designed to add visual aids that would help users understand how to navigate the interactive story. Finally, participating respondents are given access to a prototype link, and required to read the story online. They can choose the plot according to the options available; different choices will lead the user to various stories. At the end of the story, the user can find good endings and bad endings.

3. Data Analysis

Respondents filled two different forms before and after the prototype test. Before the prototype test, the questions given contain their knowledge and belief about infertility. Researchers prepared some statements that were gathered from various publications and asked the respondent to rate how strongly disagree or strongly agree they are to the statement using Likert scale.

The second questionnaire was given

after the respondents finished reading the prototype. User Experience assessment questionnaires in interactive stories are then given to respondents after the prototype was made, and data conclusions were drawn based on the quantitative data obtained. Beside the user experience assessment, the respondents were also given the same set of questions as the first one to see if their comprehension regarding infertility changed after reading an interactive story.

Result

The experience of reading interactive stories passed by the respondents was assessed to measure user experience in interactive stories. The aspects assessed were seven contextual aspects that are directly related to the experience of reading interactive stories and the immersion experienced, these aspects are (Roth, 2015):

- 1) Enjoyment
- 2) Curiosity
- 3) Suspense
- 4) Pleasant
- 5) Presence
- 6) Emotional State
- 7) User Experience

In this study, users presented with a questionnaire in the form of a 5-graded Likert scale containing statements divided into the seven categories above.

The researchers then translated the results into a percentage index by adding up the score of each point with the number of individuals representing the score, then calculating the percentage index with the formula of Global Index Score: $\text{Index (\%)} = (\text{Total Score} / \text{Maximum Score}) \times 100$. From this calculation, the percentage data is displayed to conclude.

The value displayed in the score column is the average value obtained from the responses of 118 respondents.

Result of User Perspective

Users that joined this research had their perspective about infertility in general, influenced by the stigma in society, various information they received, and their experience with their loved ones. In

the beginning and at the end of the prototype test, users were required to fill a questionnaire containing statements. The first set of statements consist of the common belief, myth, and rumor about infertility and its treatment. The next set of statements consists of the general view of what is expected and considered ideal from Indonesian society. Finally, the last set of statements consist of reflective thoughts about how one sees infertility affects themselves.

Table 1. User's Perspective Regarding Common Belief, Myth, and Rumor Surrounding Infertility (source: Personal Research Documentation)

	Statement	Percentage (%)	
		Before	After
1	I think infertility is a form of disability	36%	34%
2	I think infertility relates to one's faith	30%	29%
3	Infertility can be treated by drinking traditional herbs	46%	44%
4	Infertility can be treated by visiting shaman	30%	28%
5	Infertility can be treated by praying	61%	61%
6	Infertility can be treated by getting professional medical help	86%	88%

From Table 1, some differences in percentage can be seen in all states except for statement 5. After reading, the users gain a new perspective regarding some outdated beliefs surrounding infertility (such as seeing a shaman and drinking herbal medicine). However, this table showed no significant change in their faith and belief. Meaning humans will always have to pray whenever they wished for something. Table 1 also showed the increasing value in users' perspectives about seeking medical help when treating infertility. With the decreasing number on the traditional method and an increasing number on the scientific method, what was conveyed in the interactive storytelling was comprehend well by the users.

Table 2. General View of An Ideal Indonesian Family (source: Personal Research Documentation)

No.	Statement	Percentage (%)	
		Before	After
1	A complete family must consist of father, mother, and children	60%	62%
2	All marriage is ideal once the couple have a kid	42%	42%

3	Family is incomplete if it's just husband and wife	37%	36%
4	Infertile women are not a fulfilled as women	24%	23%
5	Infertile couple should try to adopt to complete the family	36%	37%
6	Infertility is not widely spoken in my society	93%	94%

Table 2 highlights the common perspective about how infertility is perceived in society. One of the popular opinions is the idealism about a complete family that has to consist of a father, a mother, and (at least) a child. This table shows that even though users had read the couple's infertility journey, their perspective does not change that much. There are even two statements that gained more number in the second questionnaire, about the fixation of the meaning of a complete family and the compulsion for a childless couple to adopt to fulfill their mean as a complete family. This reflects the narrative inside the novel that pressed the protagonist to do whatever it takes to complete their little family by having children in any means necessary affected users in a way.

Table 3 consists of reflective statements given to the users. Before reading, users filled these questions based on what they perceived, without having a complete understanding of the emotional journey surrounding couples suffering from infertility. The increased number on state-

Table 3. User's Reflective Thoughts towards Infertility (source: Personal Research Documentation)

	Statement	Percentage (%)	
		Before	After
1	If I'm infertile, I'd feel sad	84%	88%
2	If I'm infertile, I'd lost my self-esteem	73%	71%
3	If I'm infertile, I'd draw myself back out of shame	49%	47%

ment 1 (if I am infertile, I would feel sad) showed that users gained empathy toward the protagonist. Because they were placed in the unfortunate couple's shoes, users' have a broader perspective about this problem. However, the other statements show a decline in percentage. This could mean two things. First, after experiencing the infertile story, the users think that infertility should not be a reason to lower self-esteem. The second meaning could be that the users think that infertility is not that big of a deal to make a couple refrain from their roles in society. These can also be considered as a positive note from the experience.

From the table above, it is concluded that some stigma following infertility among married couples reduced as users' general understanding increased after their encounter with the interactive story.

Users' Immersion in Interactive Storytelling

Enjoyment

Enjoyment is closely related to the primary purpose of entertainment media

and this can be judged from how interactive stories give a pleasant impression to the reader (Roth, 2015). In this study, the researcher pursues three adjective statements for the users to measure. From the questionnaire, data related to enjoyment were found as follows in Table 4.

The importance of interactive stories provided by readers can be seen from the statement that interactive stories are fun, satisfying, and tense, representing positive nuances, which is above 70%, which means that broadly speaking, the reader's response to this experience is above average.

Curiosity

In both linear and interactive stories, curiosity is the backbone that keeps the reader engaged with the storyline. By fostering curiosity about the fate of existing characters, readers are made to feel at home and continue to turn the page to find answers or solutions to the stories they read.

Readers can be intrigued by several aspects of the story (Roth, 2015). In this study, the researcher divides it into four statements, where three statements are positive concerning curiosity, and one statement is negative.

In Table 4, statements with positive nuances get high percentages. The part that looks most significant is the reader's desire to reread the story to find out another plot if they take a different choice, reported with a percentage value of 98%. In addition, respondents also agreed that reading interactive stories made them more immersed in the story, more curious, and created an addictive impression.

The researcher also gave nuanced negative choices to balance the positive nuances by stating that reading interactive stories creates boredom. Nevertheless, as

found in the enjoyment aspect, the percentage obtained is only 23%, meaning it does not significantly impact the positive nuances obtained.

Suspense

When the reader dives into the storyline, uncertainty creates a sense of tension called suspense. As described earlier, reading a story arouses the curiosity of the reader. Readers who do not know how the story unravels enjoy the experience with a thrilling feeling that makes them even more attached to the storyline.

In a linear story, the reader is bound by the suspense created by the author. Whereas in interactive stories, they are attached to the suspense the author provided and the tension arising from their own decisions (Roth, 2015). The researcher chooses five main statements that are contextual with the premise of Kirana and Arya's story into the following statements:

The results of the percentage assessment of user perceptions using a 5-gradation Likert scale were carried out. It was found that readers were nervous about thinking about how the storyline would run if they chose different choices (93%). They were also worried about how their choices affected the plot (91%) in each scene. In the story nodes where they should make choices, readers feel tense (91%), and 78% feel anxious if they make the wrong choice. Disappointment is also one of the factors that arise due to suspense in the story. In this case, a percentage of 83% is obtained as a scale of readers' disappointment when their choice points to a plot they do not expect (bad ending).

Pleasant

An entertainment besides being fun,

must also give meaning and increase satisfaction in the reader. Therefore a pleasant impression is also important to be used as an assessment factor. Reading satisfaction can be obtained from several factors, including an exciting plot, the reader's attachment to the story, the reader's sympathy for the characters, the lessons learned from reading, and the impression of achievement obtained after ending the packaged story's entirety (Roth, 2015).

Table 4 shows that the value of reader satisfaction related to their interest in knowing more about the storyline is considered good. During reading, they are interested in following the story's plot (97%). They also reflect on the cause-and-effect of decision-making (94%), and readers feel competent to decide based on their life experience (78%).

As a counterweight, negative nuances are also given in the statement. It was found that these nuances had no significant effect, 41% of readers did not feel empathy for the characters, and only 25% lost enthusiasm to explore the plot further.

Presence

The impression that the reader is present in the story world is commonly found in linear stories. However, this impression is multiplied in interactive stories. The psychological condition in which readers feel that they are part of the story and surrounded by the world of the story being read is called presence. The MEC Presence Questionnaire is used to assess the presence, which analyzes the reader's presence in the story environment (Vorderer et al., 2004). The things that are assessed to emphasize the reader's presence in the story are as follows:

The percentage of 86% is obtained from readers who feel that they are placed in the character's shoes. This score was not as high as the result of the statement

when asked whether they also felt sucked into the story's world (90%). During the dive into the story, 94% of readers are aware that the action they choose directly influences the continuation of the story, unlike linear stories where they can feel a presence but do not feel that they have any influence impacting the plot.

Emotional State

When diving into a story, the emotional state of a person is referred to as affection for the story. Different narratives will have different impacts, and a story should pack positive and negative emotions in a balanced way to create dynamics. In interactive stories, these emotions can be assessed through Positive and Negative Affect Scales (PANAS) which was introduced in 1988 (Watson, Clark, & Tellegen, 1988).

In the context of interactive stories, the researchers choose 5 primary emotions that are expected to appear in readers when they interact with interactive stories, as shown in the following table.

To represent positive nuances, the adjectives chosen are Interested, Lively, and Powerful. While the negative nuances chosen to describe the context of the interactive story are Alert and Nervous.

The results showed that readers felt interested and cared about the story they read and how the story ended, proved by the small percentage of statements about their

disinterest in the ending (41%). In addition, 94% of the readers believed that their choices impact the story continuity.

As they read, readers got more cautious, which can be seen from the percentage of alertness (90%). Once they realize that their choice has an impact, readers make sure they read each sentence care-

fully and give

further consideration to their choice. Uncertainty in the story outcome also gave the average anxiety points higher (91%).

One of the fundamental points of interactive stories is the reader's ability to determine the storyline and the flow experienced by the characters. This point is achieved and is evident in the statement that while reading interactive stories, as many as 92% of readers were aware that the plot could change based on their choices; this gives the impression that they have the power to determine the destiny of the characters created.

Satisfaction of User Experience

In an interactive design, whatever its form, user experience is a mandatory point that becomes a benchmark for the success of the interaction itself. A good user experience can bind users longer and deeper into the media that is used as an intermediary, as well as in interactive stories.

Satisfaction in terms of User Experience generally relates the user's expectations of a whole media to the performance in the field (Roth, 2015). In the context of the interactive story that the researcher created, the User Experience point of view asked of the user is two things: the alignment of expectations with the reality they find after reading and the reader's desire to reread interactive stories at another time.

From the table below, it can be concluded that the expectations and reality they found were beyond what they anticipated when they just started reading the story, where the percentage of reader satisfaction reached 93%. In addition, 97% of readers also want to reread interactive stories on another occasion. Therefore, it is concluded that the user experience of

reading interactive stories, which is used as an introduction to educational content, is considered quite positive.

Table 4. User's Immersion while Reading Interactive Storytelling
(source: Personal Research Documentation)

No .	Rating Element	Percentage (%)
ENJOYMENT		
1	Interactive story is fun	98%
2	Interactive story is satisfying	92%
3	Interactive story is tense	92%
CURIOSITY		
1	Reading interactive story made me want to reread and choose other options	98%
2	Interactive story is addictive	69%
3	Reading interactive story increases my curiosity	92%
4	Interactive story is boring	23%
SUSPENSE		
1	I wonder what the outcome if I chose differently	93%
2	Sometimes I worry how the story will go on after I made a choice	91%
3	In some pages where I must make decision, I felt tensed	91%

4	In some pages where I must make decision, I'm afraid that I'd choose wrong	78%
5	I feel disappointed when the outcome of my choice came out bad	83%
PLEASANT		
1	As I read, I got more interested in the story	97%
2	Interactive storytelling make me think about cause-and-action	94%
3	As I read, I gain NO empathy towards the protagonists	41%
4	I DID NOT feel enthusiastic while reading interactive story	25%
PRESENCE		
1	While reading, I feel like I'm the protagonists	86%
2	While reading, I'm immersed and felt like I'm in the story world	90%
3	I know my action will affect the storyline	94%
EMOTIONAL STATE		
1	[Interested] I DO NOT care how the story ends	41%

2	[LIVELY] I wish my choices will lead to the best ending	94%
3	[ALERT] I read the story more carefully because I must make choices	90%
4	[NERVOUS] In some parts where I must choose, I felt anxious	91%
5	[POWERFUL] I know my choice affects the life of the protagonists	92%
SATISFACTION OF USER EXPERIENCE		
1	Reading interactive storytelling turned out to be better than I expected	93%
2	I would like to read another interactive story in another time	93%

Users' Impression of Interactive Storytelling Experience

To get an overall conclusion about what readers experienced and felt as they read interactive stories, the researchers also wrote down a selection of adjectives from the Positive and Negative Affect Scales (PANAS) which Watson, Clark, & Tellegen introduced in 1988.

The researcher asked them to choose three adjectives that appeared most frequently during the reading experience, and from 118 respondents, the following results were obtained:

The three main keywords that appeared most frequently from 118 respondents are: Interested 72% (n=85), En-

thusiastic 65.3% (n=77), and Entertained 49.2% (n=58). These words represent enjoyment and pleasant impression.

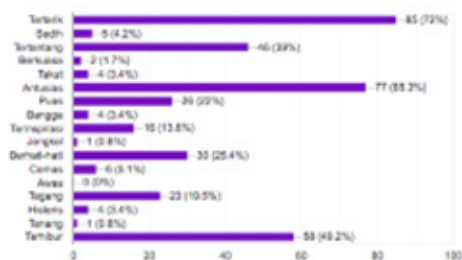


Figure 3. Result of User Perception After Reading Interactive Story (Source: Personal research documentation)

In addition, in the fourth place, 39% of readers felt Challenged (n=46), 25.4% Cautious (n=30), and 22% Satisfied (n=26). These words represent the impression of curiosity, suspense, and presence. From an emotional point of view, almost all adjectives were chosen, except for the word Caution. In conclusion, the overall aspects of the emotional state described in the Positive and Negative Affect Scale (PANAS) were touched and felt by the respondents.

Discussion

With interactive stories, readers are directly involved in determining the fate of the characters in the story world. Therefore, they gained a cause-and-effect experience that expects deeper involvement. From this involvement, their curiosity that tweaked from the state of not knowing the unexpected storyline increased. Their involvement is also reflected in how their reading behavior changed because they dive into the story more cautiously. As the reader puts themselves in the characters' shoes, sympathy emerges, which leads to reflection on the story that has just been read. In linear stories, readers gain moral value. In interactive stories, not only mor-

al values are obtained but also satisfaction with the outcome gained from the choices readers made during their interaction with the story.

However, not all readers seemed to enjoy the whole experience. These readers dislike this new method because they hated the dawning feeling when the choices made led to the bad ending. Another reason why some readers were not too keen on this storytelling method is that they prefer the traditional way of reading, where they can expect the author to direct the storyline without burdening them to make decisions. Besides the bad ending, the final ending of the story that stated no matter what the protagonists do, they would remain childless caused disappointment within the readers.

In future research, some improvements can be made to increase users' engagement in the story. The short storyline can be prolonged into several circling stages to reflect the actual situation faced by infertile couples. The dynamic of choices can be added to create a more fluid flowchart. A perfect ending of this story that narrates a success story of conceiving a child can be added to give users satisfaction. Visual aids can be added to give a better understanding of the medical term.

The story can also use the technological advantage to incorporate back sound to grasp the reader into the experience and mood of the story. One of the main insights gained from the early questionnaire and Focus Group Discussion regarding infertility is that most people view that having offspring relies on God's will; if a couple is meant to have children, they will and vice-versa. This belief was confirmed through an interview conducted with the gynecologist. It is true, that despite all effort taken to conceive—in the end—it is all about fate. From these insights, adding gamification of rolling the dice that added to the story mechanics to give a sense of

luck can also be pursued in the

Conclusion

Infertility is a sensitive issue that becomes an undisclosed matter in society, and this lack of information has led to misinformed understanding. In a preliminary study conducted by researchers through distributing questionnaires and focus group discussions, it is evident that infertility is often associated with traditional and spiritual beliefs. Although there are few discussions about infertility, these discussions were written in the context of medical information on news articles that are one-way in nature and use complicated terms that might confuse the general public.

Researchers conducted new methods of conveying infertility problems through interactive storytelling to reach out to the general public. Through stories, the medical context of the infertility problem can be disguised through a friendlier narrative, and the educational content can also be delivered in a way that is easier to digest. Interactivity was then introduced to create freedom as readers dive into the storyline. It is also created to introduce users to their cause of actions throughout the story.

In this preliminary research, it was found that readers got more curious, more interested, and more careful in reading when they know that the actions they take have consequences on the story's outcome. In addition, their perspective and understanding regarding infertility matters also changed and their empathy was inflicted as they read into and decided the course of actions in the protagonists' lives. It can be concluded that interactive stories can serve as an alternative medium for educating the general public to instill a deeper understanding of infertility problems among couples.

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