Board Game Design to Learn about User Persona in Entrepreneurship Programme in Kurikulum Merdeka

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Abstract. Persona is a fictional character that represents the target audience so that the design process can be right on target. Knowledge of persona is very important in the world of entrepreneurship. The Entrepreneurship Program is one of the programs launched by the Ministry of Education and Culture in Kurikulum Merdeka. In Kurikulum Merdeka, educators are asked to provide teaching in an unconventional form. Board game is one of the media commonly used in game-based learning. This study discusses the design process of a board game regarding persona for the Entrepreneurship programme. The methodology used in this research is qualitative and quantitative. With this research, it is hoped that it will make it easier for other educators to create board games for the needs of Kurikulum Merdeka.

Keywords: Kurikulum Merdeka, Board Game, Entrepreneurship, Persona.

1   Introduction

In mid-2021, the Minister of Education and Culture Nadiem Anwar Makarim launched a new policy called Kurikum Merdeka (https://kampusmerdeka.kemdik-bud.go.id/web/about/latar-Back). The form of implementation of the Independent Curriculum is by having learning activities off campus for 1-3 semesters, one of which is with entrepreneurial activities. The role of education in entrepreneurship is very crucial [22] because entrepreneurship is currently seen as one of the supporting factors for the advancement of a country's economy [1]. According to Isrososiawan, entrepreneurship education is teaching and learning activities including broadening knowledge, skills, attitudes, and personal character based on students' cognitive and ages [16].

Visual Communication Design of Universitas Multimedia Nusantara (DKV UMN) began implementing this Entrepreneurship program at the beginning of the 2022/2023 Odd semester. DKV UMN tried to make this programme educational, interesting, and innovative, different to conservative classroom teaching and hope that this programme can be an example for other universities. One of the most important topics in entrepreneurship learning in the design process is identifying the target audience by creating a persona. According to Cooper, persona is a fake human being. However, the persona

has the needs, desires, and ultimate goals of a group of people, groups that are considered to represent customers, consumers, patients, gamers, or other groups in a community with certain interests [8].

Miaskiewicz and Kozar [15] concluded that there are five main characteristics in creating personas, namely 1) focus on the actual goal of the target audience, 2) prioritize product needs and help determine whether the designer is really solving the right problem, 3) prioritizing the audience the most critical, 4) Challenge the inherent and wrong assumptions of the user, and 5) prevent the creation of a self-referential design. The problem is, the knowledge of persona is a science that cannot be learned only in class through the lecture method, instead it takes time and experience in order to understand the needs and desires of the persona.

Currently, generation Z or Gen Z has entered the world of higher education. Gen Z is also a digital native or person born after 1980 and lives in the midst of technological developments [4][6]. However, Gen Z (those born between 1996-2010) have different characteristics from millennials (born between 1980-1996), namely the use of the internet and social media which are part of socialization and daily life. However, this also has an adverse effect, which is a reduced ability to pay attention continuously [2]. Therefore, Gen Z requires a different form of learning than traditional learning [3].

Another characteristic of Gen Z learning is the use of technology that is supported by experiential and exploratory activities, as well as trying and experimenting alone or with friends, compared to just being told [5]. Learning motivation is very important in the learning process and students should be given exposure to different learning experiences when in the classroom [24]. Gen Z themselves have been exposed to games since childhood and games are also one of the media that is often used for experimental and exploratory learning. Therefore, game-based learning is suitable to be implemented in classrooms in the 21st century.

Game-based learning has been shown to significantly reduce retention in learning and increase classroom interaction when implemented in classrooms [20]. Research on the use of stock trading simulation games conducted by Ding, Guan, and Yu indicated that students felt real-life experiences when using simulations and hoped that more simulations would be possible [2]. This is in line with the notion that game-based learning has positive and engaging outcomes when compared to traditional learning methods [7].

Based on the problems above, a new learning media regarding user persona is needed for Gen Z in understanding more about the design and entrepreneurship process. Board games were chosen as a new learning medium because the use of board games in game-based learning can increase intellectual and emotional involvement so that players gain new knowledge during the learning process [9]. Apart from that, board games also offer a strong antidote to the digital lifestyle which, although it offers hyper connectedness, does not provide a sense of togetherness which is actually important for mental and emotional health [21]. Based on all the explanation above, a research question is formed on how to make a board game about user personas.

2   Methods

The method used in this design is the design thinking method by IDEO. Design thinking is divided into five stages, namely Empathize, Define, Ideate, Prototype, and Playtest. Even though this method looks linear, in practice the iterative process can be carried out. In this study, the iteration process was carried out repeatedly in the prototyping and playtest stages to ensure that the game rules were running properly. The iteration process will be carried out at the prototyping and playtest stages until clear game rules are obtained. The playtest will be conducted through questionnaire to gather response from large audience. It is also fast and efficient because this board game design was time-restrained.

2.1   Empathise

In the empathy stage, the author holds discussions with lecturers who teach entrepreneurship courses. Based on the results of discussions with three lecturers, some interesting insights were found. First, students are not aware of the common thread between the demographic persona and the needs and desires of that persona. Often students create personas without understanding the actual circumstances of the target audience, especially if the personas created do not come from the same background. For example, making a museum information app for teenagers from lower economic circles. This is illogical because the download size of the app can be larger than 500MB and can only be downloaded at the museum and only used once during the museum visit. Lower economic teenagers have limited access to the internet and depend on daily or weekly quota, unlike UMN DKV students, the majority of whom have unlimited quota due to wifi at their place of residence.

Second, students prefer to find target audience data by only searching via the internet. The Covid-19 pandemic has changed many things, especially in the education sector. During more than two years of social restrictions, there has been a change in the behaviour of students who were initially reluctant to go to the field to find data, becoming increasingly unwilling to seek primary data because they feel satisfied with secondary data. This is reinforced by research conducted by Google, that Gen Z currently prefers to seek information from Instagram or Tiktok [11]. This happens because Tiktok provides information in a short time, has minimal writing, and straightforward. However, not all information can be validated simply by retrieving data from the internet. By going out into the field researchers can get findings, especially from external factors that influence user decisions on the design [12].

Third, students prefer to communicate online. This happened because after more than two years of online lectures, there was a barrier to face-to-face communication 50% of Gen Z prefer to communicate online [22], but it is undeniable that face-to-face communication still has to be done. Public speaking is one of the important skills that must be possessed in the modern world of work, but good communication content is often obscured due to poor presentation performance [19]. Anxiety when speaking in public often occurs in college students. This happens because of a mental block condition, which is a condition that is closely related to self-deprecating negative thoughts,

worries about performance, and fear of failure [14]. If the anxiety of communicating in public is not trained since college, this can become a problem when students seek internships or start working.

Anxiety when communicating in public can be reduced by practising self-trust, self-confidence, self-esteem, and the feeling of competence [13]. This is also in line with the use of board games in game-based learning, namely building knowledge by connecting meaning between the new concepts they acquire in playing and the knowledge they already have [17]. Apart from that, according to Gee in [18], games also encourage students to take risks and try other learning methods and ideas with a low risk of failure.

2.2   Define

From these three insights, it was finally decided that the goal to be achieved from this game was primarily for students to be able to create a logical story from a persona relevant to the design work to be designed. The relevance to entrepreneurship is that by searching for data in the field via interviews, focus group discussion, observation, etc, a persona is then created and in the end a design can be designed taking into account not only aesthetics, but also the needs of the target audience to be targeted.

2.3   Ideate

In order for students to more quickly understand the common thread between the target audience and their background, this game is made using reverse engineering. If in the real-world students search for data in the field and then create a persona from the background obtained and analyzed. In designing this game, students are actually given a user persona with a predetermined trait and the player must create a logical background between the user persona and the design to be made. It is hoped that by using this reverse engineering, students can fill the gap between persona and design work.

A second brainstorm was conducted to find the necessary game mechanics using the MDA Framework by Robin Hunicke, Mark LeBlanc, and Robert Zubek [25]. MDA Framework is Mechanics, Dynamics, and Aesthetics. The mechanic is a component in the game in the form of data or algorithms, Dynamic is a series of actions performed by one player that has an impact on other players, while Aesthetic is the player's emotional response that appears when playing. In designing the board game, there are 192 mechanics according to Board Game Geek that can be selected and combined. However, referring to the goals mentioned earlier, the mechanics chosen were hand management, storytelling, and player judgement.

Hand management is a mechanic that makes players have to optimize the cards they hold. Storytelling is a mechanic that requires players to tell something that comes from their imagination. While the player judge is one player who has a role as a judge to determine the final outcome of the action taken. From these three mechanics, five game-components are produced in the form of persona cards, project cards, score-boards, client cards, and player pawns.

The initial draft for how to play this board game was that each player played the role of a designer who had to pitch the client. Each player will be given three persona cards

that can be chosen according to the project issued by the client. The persona card contains random demographics and psychographics that might help a designer win a project. At this stage, the hand management mechanic is used by players. The three persona cards have different demographics, and the player must choose one of the three cards. The player must make every effort to convince the client that his person is the best marketing target for the project to be carried out. It is at this stage that the storytelling mechanic is carried out.

Players must be able to see the red thread of the trait possessed by the persona card and make a logical story about that persona. An example is in Figure 1. There is a project card "Signage of the Commuter Line Transit Station" and a persona card with male traits aged 50-55 years, domicile Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi), working as a civil servant, education level Masters, SES A, with a time-bound psychographic, likes learning, and passive. From these traits players can create a logical story for the client, for example:

"Aldo is a 50-year-old man who works as a civil servant in a BUMN (Badan Usaha Milik Negara – state-owned enterprise). Every day he goes to work using the commuter line (CL) because his house is quite far from the office, but it is still possible to use CL because his office is close to the train station. Because the office is quite strict about hours of entry, Aldo also feels that CL is quite reliable because if you take a private car you may not be sure when you will arrive at the office due to unexpected traffic jams. This transit station is quite a confusing place, especially since this station is a newly developed station with lots of new lines. Because Aldo is a passive person, he always feels embarrassed when he has to ask the security guard for directions. Therefore, it is necessary to design a signage for this transit station for people like Aldo."

Fig. 1. Example of project card and persona cards.

Once all designers have finished pitching, the client will decide which designer gets the project card. At this stage, the player judge mechanic is used. The winning player then put his pawn on the scoreboard according to the number of points written on the project card and the role of the client will move to another player. The winner is determined by who has the most points on the scoreboard at the end of the game.

2.4   Prototype

After the draft of the initial game rules is complete, the next stage is the physical prototype. In this stage the author makes a pen-and-paper prototype to make it easier to iterate. While doing a test play with the lecturer's internal team, there were several notes obtained. First, the lecturer's internal team found this game fun because they could argue with each other. Arguments can also be explained in a humorous approach so that players don't feel bored like listening to a formal presentation. Another note is that project cards must be made with projects that are usually related to visual communication design and have different levels of difficulty. In terms of gameplay, all players easily understand the rules of the game. No other obstacles were found other than how to make lots of persona cards quickly due to limited time.

This board game was later named "Pick to Peak". The word "pick" is used because players are asked to choose the persona card that they think is most appropriate to be the target audience in the design process. Meanwhile, the word "peak" is used to indicate the peak position or victory when they succeed in convincing clients with presentations.

One of the main challenges in making "Pick to Peak" is the limited budget. Starting with counting how many persona cards need to be made because there are quite a lot of them to represent the various personas that actually exist around us. The number of persona cards was decided at 104 by calculating a maximum of standard game cards measuring 86mm x 56mm that can fit printed on one A3 paper. Persona cards are also made that much to widen the number of probabilities between players and projects. Then a project card measuring 104mm x 74mm is also made, taking into account the maximum number in one A3 sheet.

In addition to cards, a board and four pawns are also needed to monitor game points. The board is made in A4 size with a grid pattern filled with numbers around it. The boxes measure 2cm x 2cm so if there are two or more players who have the same number of points, they can be in one box without feeling cramped.

Due to time and budget constraints, a card generator was used to randomly generate dozens of personas. Demographics such as gender, age, domicile, occupation, education level, and economic level are entered into the generator. Also include several traits that are commonly found in Indonesian people. By using a persona generator, thousands of persona combinations can appear as needed. But unfortunately, not all combinations are logical. For example, there is a combination of female personas aged 8-12 years whose education level is doctoral. If an illogical combination was found, the card generator will generate another persona until a logical combination was obtained. At this stage the digitizing process of the game visual was also started.

Visuals in the game were created using a vector style with an outline, because the image on the project card is small, but must be visible to all players at once. The illustration on the board is made like the atmosphere of the pitching room, where people gather around the table and look at the projector. The illustration of the projector is made in the middle and emptied with the aim of being filled by the project card so that it seems as if the player is in a pitching atmosphere with the client.

Meanwhile the card illustrations are also made in a vector style so that they are united with the illustrations on the board. Because the persona is a fake person, the illustrations are made random, but still adjust to the traits they have, especially in terms of gender. Personal names are also randomly generated, only according to gender, although there are several names that can be used for both men and women, for example the name "Robin". But there are also names that indirectly show personal religion, even though there is no religious trait in the persona card, for example in the name "Iqbal" which is affiliated with a male name in Islam.

Persona illustrations do not have real human characteristics, for example in age, skin colour, eyes or hair, to show the diversity of races in Indonesia. However, there are still cases where personal attire shows religion, something that is not in the trait on the persona card, for example the use of the headscarf which is affiliated with the dress code for Muslim women. All illustrations that are intentionally or unintentionally tied to other things outside of traits can be used as another basis for players to develop stories and tie common threads so that the story told becomes even more logical.

2.5   User test

After all components were designed and printed, the authors conducted a simple test on 64 respondents who were students taking entrepreneurship courses. Students have previously gained knowledge about persona in class in the previous semester. Another note is that the 64 students were 5th-semester students who have just returned to offline lectures after two years of online lectures due to the Covid-19 pandemic so this entrepreneurship lecture will be their first face-to-face lecture and they already have the task of developing a product for the target audience.

The user test was carried out by placing the 64 respondents in one room and then asking all four of them to sit at a table. Then they were taught how to play "Pick to Peak" and then opens a question session if there are rules of the game they didn't understand. Players were asked to play 1 round of "Pick to Peak", which is when all players have become clients or have completed 4 project cards or when 12 presentations have been done.

3   Result

After conducting trials on 64 respondents, the following are the results:

Table 1. Results about "Pick to Peak"

Questions	Mean	Score(%)
Time needed to get 1 project card	3,57	71,56%
Time needed to finish 1 round	3,87	48,43%
This game made me understand how to find a target market for a project	6,15	76,95%
This game can help me with public speaking	6,35	79,48%

This game makes me think fast	6,46	80,85%
This game made me think about doing deeper research on the target audience	6,54	81,82%
This game forces me to have a wider imagination	6,95	86,91%
The illustrations on the project cards are easy to understand	7	87,5%
The illustrations on the persona cards are easy to understand	6,53	81,63%
Typography on project cards is easy to read	7,34	91,78%
Typography on persona cards is easy to read	7,37	92,18%

Based on the table above, it can be seen that to get 1 project card it takes around 16-30 minutes, which means that to complete 1 game round it will take at least 192 minutes or more than 3 hours. This is also reinforced by a score of 48.43% regarding the length of playing time. Playing board games in class for more than 1 hour will make players feel mentally exhausted and can eventually lead to retention and boredom.

It can be seen from the score of 79.48% of the players felt that the board game "Pick to Peak" was able to help them speak in public, which means that this game was quite successful in solving the problems raised at the beginning of the research. The score of 81.82% also shows that this game makes players think about doing deeper research on the target audience, according to the purpose of designing a board game.

For the visuals of the game, all of them get scores above 80%, which means that visually this game is in accordance with the needs and desires of the players. The lowest score is obtained by the illustration on the persona card of 81.63%. The author assumes that the illustration of the persona card gets the lowest score because players feel that sometimes the illustration on the card does not match the description of their trait, for example illustrations of characters with genderless names or illustrations of characters who are very young (children) or very old (elderly).

In addition to questions regarding gameplay, the author also asked what he likes and dislikes the most about the game "Pick to Peak". The result is as follows:
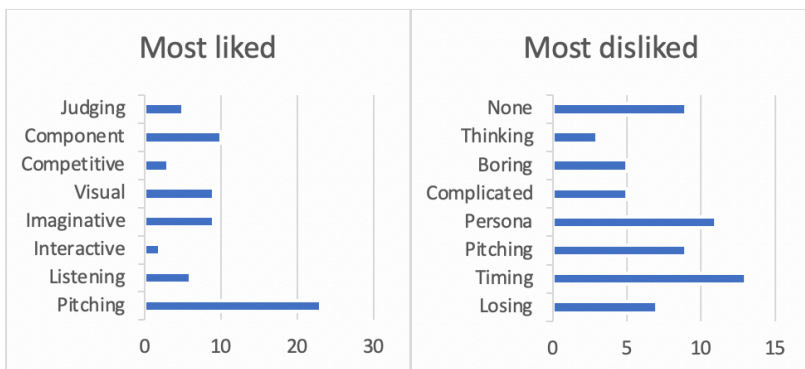

Fig. 2. Responses to "most liked" and "most disliked" in the game.

From the test results obtained several notes regarding the board game "Pick to Peak", namely:

1. It requires the use of a timer so that each player's pitching time is limited. This is reinforced by the respondent's assessment of 48.43% which states that this game is too long. This is also in line with the part that players dislike the most, which is about time by 20.31% or 13 respondents. Even though pitching gets the best score of 35.93% about what respondents like about this game, the use of a timer seems necessary to keep this game from being too time-consuming and boring. The boredom mostly came from the time spent waiting for the presentation of another player. If the presentation leads to argumentation, it would take an even longer time for the judge to decide.

2. Difficulty getting the desired persona. 17.18% of respondents stated that it was difficult to get a persona card that matched the project card. There are two possibilities in this case. First, the player does not get a persona card that matches the desired project or second, the player is unable to make a common thread from the traits in the persona card with the project card due to a lack of knowledge. In the first case, the solution is to add a rule that players may exchange cards in their hands for new cards in the deck. However, in the second case, this actually strengthens the initial hypothesis that the reluctance to conduct field research affects their knowledge of the target audience, especially from people with different backgrounds from the players so that players find it difficult to find a common thread between the traits on the persona card and the project card.

3. Because the selection of the winner is absolutely in the hands of the client, the players do not have clear goals regarding what should be presented. Clients can choose to win players who do not have clear arguments but have convincing gestures and intonation during presentations or use a humorous demeanour when composing stories. There are two assumptions in this regard, the first is to add a component to calculate the variables needed to win a pitching although it risks making this game not imaginative because it is limited by these variables. Second, the client actually has the right to give projects to players with a convincing presentation style because they are helped by gestures and intonations because in fact, people with gestures and intonations that show confidence tend to be more trusted by others.

4   Conclusion

"Pick to Peak" is a board game that was created to help students understand the relationship between the background of the target audience and the design to be made. In the context of the Entrepreneurship programme, "Pick to Peak" is considered quite successful in improving students' public speaking skills and developing their imagination and creativity in a short time, although there are still many shortcomings such as the absence of a time limit during presentation and inappropriate visual persona cards.

There are still many things in this study that have not been examined, for example whether there is a relationship between positive or negative results in "Pick to Peak" with students' time exposure to games or board games. In addition, it is also not examined regarding student knowledge regarding the importance of understanding the context of persona before and after playing. However, with this it is hoped that there will be more in-depth research regarding the design of board games as part of game-based learning for students taking the Entrepreneurship programme later.Please note that the first paragraph of a section or subsection is not indented. The first paragraphs that follows a table, figure, equation etc. does not have an indent, either.

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