

Fighting against Fake News Using the Card Game "Follow Me"

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Abstract: The increasing presence of fake news in the media, especially on social media poses significant damage to our society. Disinformation undermines the credibility of conventional media and the authority of government officials, contributing to the destabilization of democratic systems. The coronavirus pandemic has accelerated these processes; people have been forced to function intensively in the online space, with a related increase in the time spent on social networking sites. At the same time, the so-called infodemic has been unleashed. The amount of fake news – especially dubious information related to the coronavirus – has increased significantly. The most effective protection against fake news is continuous education and the development of critical thinking. Traditional educational approaches are not always sufficient and fail to adapt quickly enough to the dynamic development of technology and society. Educational games can effectively reach young audiences, and therefore they are coming to the fore. These educational games include the card game Follow Me, which focuses on introducing the dynamics of social media. The target audience of the game is primarily secondary school students, and it has been developed with an emphasis on effective use within the high school educational process. In the game, players take on the role of social media users in order to gain as many followers as possible, while trying to maintain their credibility and detect fake news published by other players. The game features articles covering four different domains (health, science, geopolitics, and society), and due to this diversity, topics from different domains inevitably emerge during gameplay. The game was published by the Slovak game development studio Impact Games and is currently available in print in Slovak language, with English, Croatian and Slovenian translations already available online. The aim of this paper is to introduce the game Follow Me and analyse its game mechanics, mainly focusing on the educational elements. The main contribution of the study is a deeper understanding of game mechanics that can develop critical thinking and an estimation of their effectiveness in educating players about the safe use of social media.

Keywords: critical thinking, educational games, fake news, infodemic, social media

1. Introduction

Fake news can be understood as a set of reports about events of public interest that attempt to mimic reliable sources while containing false or misleading information (Levy & Ross, 2021). Such news can be encountered in different domains: news dealing with political events, information about the COVID-19 virus and other health care topics, or fake studies on social issues. The increasing amount and rapid spread of fake news pose an increasing risk to individuals but also to society (Lazer et al., 2018) and is often used to (politically) polarize society and to influence public opinion through false and misleading information, leading to a loss of trust in authorities, experts, and the government (Zhang & Ghorbani, 2020).

The rapid development of technology, especially the easy access to the Internet with almost unlimited possibilities to consume, to create and to share information on different platforms, contributes significantly to the spread of fake news (Simko et al., 2021). Another factor is the COVID-19 pandemic, which has forced a large part of the population to operate largely in the online space. In general, people are not aware of the threat of fake news and are therefore more easily manipulated and prone to believe the information they receive in the online space (van der Linden et al., 2020). The World Health Organisation (WHO) has also warned that, in parallel with the coronavirus pandemic, we face a so-called infodemic, which they characterized on their official website as "too much information including false or misleading information in digital and physical environments during a disease outbreak. It causes confusion and risk-taking behaviours that can harm health".

One of the existing approaches to dealing with fake news is fact-checking, i.e., verifying and marking (especially online) information, sources, and articles as true or false. Content flagging is done either by human experts or, more recently and increasingly, by machine learning methods (Chung & Kim, 2021). The downside of this approach is that it often achieves the opposite effect; blocked messages come to the fore and reinforce the credibility of conspiracy theories claiming that the government or clandestine organizations are trying to hide some information or rule the world. Another risk is the potential for error; mislabelling a fake report as true can increase the impact of that report and mislabelling a true report as false can significantly reduce the credibility of fact-checking methods.

The most appropriate solution to counter the impact of fake news is clearly to educate people so that they are able and motivated to autonomously evaluate and verify the credibility of sources, articles, and information. However, this requires a long-term and well-planned process, a change in the education system and additional training for teachers, the results of which will only become apparent over several years. Another educational challenge is to reach the older generation, who often no longer have the time or motivation to learn and have developed opinions and attitudes that they do not want to reconsider. At the same time, fake news is constantly evolving, and fraudsters are trying new and new ways to convince people, so it would be necessary to create an education system that is flexible enough to face these challenges. Therefore, modern educational elements are being experimented with. This includes educational videos, podcasts and educational board games or digital games. These tools can effectively reach out to the younger generation and provide learning in an engaging way.

The aim of this paper is to identify the game mechanics offered by the card game Follow Me, developed by the Slovak game studio Impact Games. In particular, we conduct qualitative content analysis, focusing on the educational potential of individual game mechanics in the context of fake news recognition. Therefore, we can formulate the following research questions:

- RQ 1: What game mechanics does Follow Me work with and what is their educational potential?
- RQ 2: What is the benefit of debriefing after playing Follow Me?

2. Theoretical Background

2.1 Game-based Learning

Game-based learning (GBL) is gaining more and more attention among both researchers and in practice (Anastasiadis et al., 2018). GBL can be defined as an environment where new knowledge and skills can be acquired through game mechanics (Deubel, 2006). The fundamental idea is to educate players through repetition, failure, and accomplishing goals (Hanghøj, 2013). Although many studies point out the potential of games in education, the strength of evidence is not always sufficient to determine how games can impact 21st century education (Qian & Clark, 2016).

The role of the teacher is crucial in BGL. They must be familiar with the game mechanics used and understand their purpose, while managing the activity appropriately to fulfil the educational potential of the game (Hanghøj, 2013). In addition, the teacher must be able to dynamically change their role between four personas: instructor, playmaker, guide, and evaluator (Hanghøj & Brund, 2009). As an instructor, they plan and explain the goals of the game; as a playmaker, they explain the rules, dynamics, and goals of the game to the players; as a guide, they guide the players to achieve the goals of the game and answer questions during play; as an evaluator, they evaluate the game, give feedback to the players, and ask evaluative/reflective questions.

Incorporating games into the learning process brings benefits for both educators and students (Plass et al., 2015). First, by using games, it is possible to increase students' motivation and arouse their interest in the topics addressed in class. In doing so, relationships are built between the players and the teacher thanks to their mutual interactions during the gameplay. At the same time, properly designed games can relieve the work of the teacher, as part of the educational process is transferred to the students' interaction with the game.

In the case of board games, we can also talk about another advantage that is directly associated with the nature of the game, which is to gain experience and build social relationships through communication while playing. This aspect is particularly important when we consider that children almost all over the world have been forced by the pandemic to operate exclusively in the online space for long periods of time. Thus, their relationships within the classroom have grown considerably weaker.

2.2 Developing Critical Thinking through GBL

Critical thinking has had several definitions over the past decades (Huitt, 1998), but all interested scholars agree that this ability is closely related to the processing and recognition of false and true information. For this reason, the development of critical thinking skills is crucial in fighting fake news. In doing so, in addition to the critical thinking skill itself, it is also important to build the habit of using this skill in everyday life (Blake et al., 2002).

One approach actively used in GBL aimed at developing critical thinking skills includes the inoculation theory (Roozenbeek & van der Linden, 2018). This theory is based on the biological metaphor of inoculation: an organism is exposed to bacteria or viruses in safe amounts so that later, when encountering a real disease, it

knows how to respond in an effective manner. This works similarly in games where players can be exposed to the threat of fake news in a safe environment so that they can later recognize it in real life.

There are several games that focus on fighting fake news. These include the card game *The Fake News Game* (Roozenbeek & van der Linden, 2019). The game is designed for larger groups of players, which are divided into teams of two to four players. Each team is assigned a role according to common types of disinformation spreaders: denier, alarmist, clickbait monger or conspiracy theorist. Each team's goal is to use the available text cards to compose an article on a given topic that most closely matches the assigned role. Another game by the same authors is the digital game *Bad News* (Roozenbeek & van der Linden, 2019); in this case it is a single-player online game where the player is, again, situated into the role of a disinformation spreader and gradually learns about the most used techniques employed in writing and spreading fake news and is also introduced to the possible motivations of these people. Another game that tackles this topic, although differently, is *The Fake News Detective* (Junior, 2020), which, unlike the previous games, puts the player in the role of a professional fact-checker and tries to teach them the methods through which false information can be detected.

Experiments conducted with these and other games suggest that games can be a powerful tool for developing critical thinking skills and thus combating fake news (Basol et al., 2020; Roozenbeek & van der Linden, 2019, 2020).

3. Follow Me and Its Educational Potential

Follow Me is a card game developed by the Slovak game development studio Impact Games. The game focuses on the development of critical thinking and digital literacy. Players are put in the role of users of a fictional social networking site *Duckface*, where they try to gain as many Followers as possible. The primary target audience is high school students, but the game can also be enlightening for older generations. The game teaches about the functioning of social media, how to distinguish between fake and true news, how fact-checking works and about responsible online behaviour.

The game can be played by two to four players at a time; for a larger group of players (such as a classroom), it is recommended to divide the entire group into smaller teams, and provide each team with its own game set. Players compete while playing but are also given tasks that they must solve together. In principle, one game can last as long as all the cards are not spent. The recommended playing time is approximately thirty to forty-five minutes (eight rounds for four players and nine rounds for three players).

In this chapter, we describe the game mechanics in more detail and examine how they reflect the real world and how they educate players. The game has not yet been tested on a larger sample of players; this work focuses on a qualitative analysis of the game mechanics. Quantitative testing of the game is a challenge for further research.

3.1 Basic Game Mechanics

The game contains 4 types of cards, each distinguished by colours and icons: News, Followers, Action Cards, and Events.

The News cards (Figure 1) contain various articles that players can share to gain new Followers. News topics are divided into four categories: health, science, society, and geopolitics. Each News card belongs to one or two categories and is either a fact or a hoax. Each fact has a legitimate website, a specific author name listed, and an informative style of writing. On the other hand, hoaxes involve at least one of the following traits: the author is not mentioned, or a nickname or random string of characters is used, the website does not look legitimate or the text of the article is expressive and contains errors. Noticing these signs should be the primary step in judging the veracity of articles, even in the real world. This information is not communicated to players in advance; they are expected to learn it while playing or are introduced to it during debriefing.

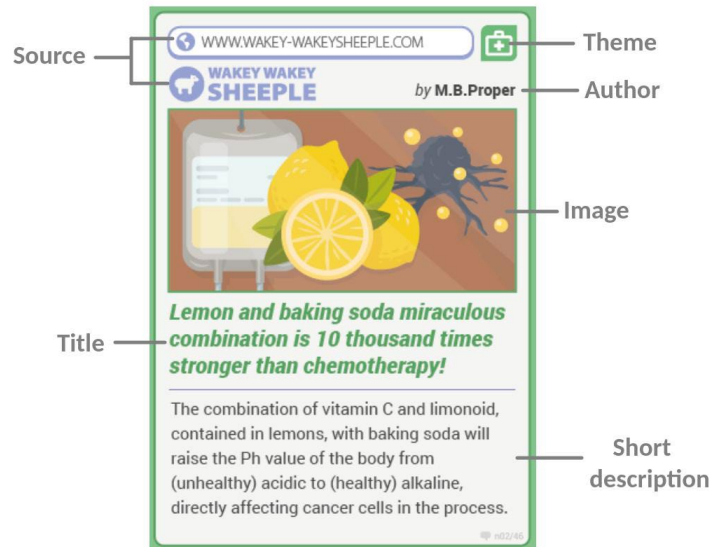


Figure 1: Sample News Card. Each News card contains several pieces of information that can help to determine the credibility of the news (source: Impact Games, Follow Me methodology guide)

Another type of card is the Follower card (Figure 2). These are the most important cards in the game, as the player with the most Followers wins. The Follower follows the player who has shared the most articles on topics of interest to them, while also requiring a certain level of credibility, which players gain by creating their own original content or debunking hoaxes shared by other players. Again, the Follower mechanic simulates the real world: by sharing a large amount of news on various topics without regard to its accuracy, a player can quickly gain followers, but if other players reveal that they have shared hoaxes, they lose credibility and will not gain any more Followers in the long run.

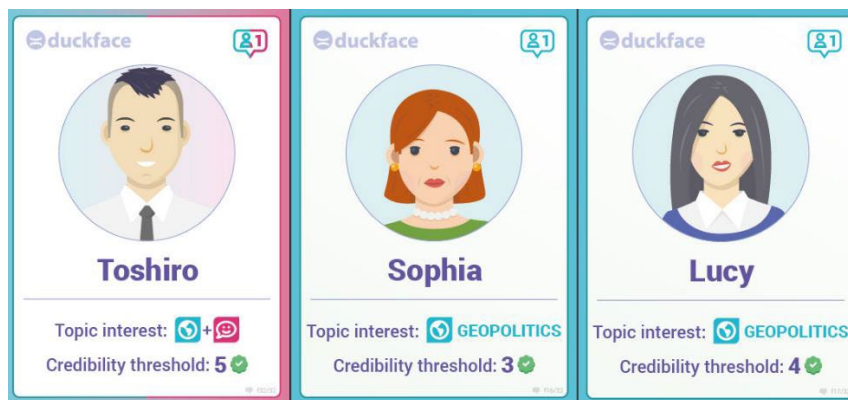


Figure 2: Examples of Followers' cards. (source: Impact Games, Follow Me methodology guide)

The third type of cards are Action cards. These represent actions that players can perform, and players keep them secret. There are several types of these, which affect the game in different ways. One of the most important is the Original Content card, which represents writing one's own article based on verified sources on a specific topic. Sharing original content increases player's credibility and subsequently works like other shared news. This card serves to make players aware that sharing articles per se is not bad and can even be beneficial; the problem lies in sharing fake news.

Another important action card is the Fact Check card. This card is used to verify articles shared by other players. If a player debunks a hoax, they gain credibility tokens and the player who shared the hoax loses credibility. Verification of news is done using the attached Fact Checker's Guide, which contains information about the veracity of the articles, including an explanation and a link to sources where players can verify the information. This card teaches players how to fact-check real news: first they must be suspicious and disbelieve any news, then they can turn to fact-checking tools and portals where they can verify the information by comparing it with reliable sources.

The last type of cards are Event cards. At the end of each round, one Event card is turned over. Each Event brings a new effect to the game, which the players must evaluate together. These effects are educational (e.g., a press release appears, stating that any News whose author is just a random string of characters is an artificial intelligence-generated hoax), but they also affect the game itself (e.g., players who have shared artificial intelligence-generated News lose credibility). The aim of these cards is to encourage communication among players through cooperation during the evaluation of an Event, while developing their critical thinking and digital literacy.

3.2 The Game Loop

Before the game starts, each type of card is shuffled in its own deck; each player receives four credibility tokens and two Action cards (Figure 3). The game is divided into rounds. During each round the active (i.e., starting) player is someone else; the active player's token moves in the direction of the game each round. Each round consists of eight phases.

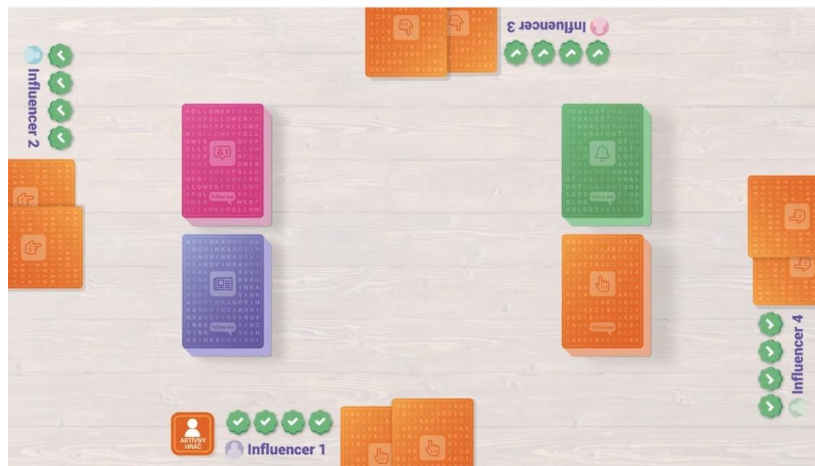


Figure 3: Game layout before the start of the first round (source: Impact Games, Follow Me methodology guide)

3.2.1 Action Card Draw

At the beginning of each round, starting with the active player, each player draws a card from the Action card deck.

3.2.2 Playing Action Cards

During this phase (again, starting with the active player), each player may play as many Action cards as they wish, except for Original Content, which may be played just once. The effects of the cards are immediately evaluated. Depending on the type of card, the player places the played cards in front of them or in the discard pile. If a player does not want to play any more cards, the next player follows until all players have had a chance to play cards.

3.2.3 Revealing News Cards

In this phase, as many novelty cards are revealed as there are players, and each player can take a close look at them.

3.2.4 Sharing News Cards

In this phase, each player in turn can choose one News card from the turned over News cards and place it in front of them. The unused cards remain face up, and in the next round, again, as many novelty cards as there are players will be added to them. This will potentially give players an increasing number of novelty cards to choose from.

3.2.5 Revealing Follower Cards

As with the News cards, as many Follower cards are revealed each round as there are players.

3.2.6 Acquiring Followers

In this step, the players divide the Followers together (i.e., the order of players no longer matters). The Follower will follow the player who currently shares the most news in their topic of interest and meets their credibility level requirements. If multiple players have the same number of articles on a topic, the higher credibility level will function as the tiebreaker. If they also have the same credibility level, the Follower will remain placed in the middle until the next round, at which point players will be able to acquire them again. This implies that there may be quite a few unclaimed Follower cards left in the middle of the table, especially at the beginning of the game. Follower cards remain with the player (although it is possible that they may not meet their requirements later in the game), they can only be removed using Action cards and Event cards.

3.2.7 Revealing and Resolving the Event Card

Players reveal one event card and together evaluate its effect. This serves to encourage communication and cooperation between players and reduces rivalries that may have escalated during earlier phases of the game, especially at the time of selecting News, where very different opinions on the veracity of articles may clash. It is the role of the teacher to avoid possible conflicts, even if there is a relatively small chance of their occurrence.

3.2.8 Shifting the Active Player's Token

At the end of the round, the active player's token is moved to the next player and the next round begins with the same course of actions. At the end of the game, the player with the most Followers wins.

3.3 The Role of Debriefing after the Game

The authors of the game recommend that after the game is finished, the teacher conducts a debriefing. Thanks to this, it is possible to increase the educational effect and to sort out the acquired knowledge with the students. Such a "block" of playing and debriefing can be done in free time but also during formal education, as its duration is about an hour and a half. During the debriefing it is important that there is a discussion between the teacher and the students. For example, instead of having the teacher list the characteristics of the hoaxes that were used in the game, the teacher should ask on what basis the students were deciding which News to share. During this discussion, topics such as the reasons why fake news spreads, the reasons why ordinary people share fake news, the characteristics of fake news, the role and use of fact-checking portals, and the reasons why we are prone to believe fake news can be addressed.

3.4 The Teacher's Role

The game itself will stand up well as a family board game without any guide, but it was designed primarily for usage during formal education. The role of the teacher is therefore important, though not necessary in every case. The teacher acts at the start of the game primarily in the role of playmaker, and it is important to explain the rules to everyone at the beginning and help the players to get into the game flow. During the actual gameplay, the teacher has a role of a guide, watching the players and answering any questions they may have, but otherwise should not interfere with the game or make recommendations on different strategies or on the selection of News cards. Then, during the debriefing, the teacher takes on the role of evaluator and leads the discussion with the students about their experiences with the game, this part is the most important for the teacher because this debriefing can help to further develop the knowledge gained during the game.

3.5 Pros and Cons of Follow Me

The Follow Me game introduces a number of creative elements, offering interesting educational potential in the development of critical thinking. Unlike the aforementioned games, it does not situate the players on the "bad" or "good" side; the players are ordinary Internet users. Their goal is to attract as many Followers as possible, and they can decide for themselves what strategy they will use to achieve victory. Another interesting element is the rather large amount of information that the player has to keep track of: News in front of themselves and other players, News that no one has shared yet, Followers that no one has convinced yet, the credibility of the players and the Action cards in their hand. This aspect of the game looks unnecessarily confusing at first glance, but it actually illustrates social media, where we are also exposed to a huge amount of information, quite convincingly.

The game successfully employs the inoculation theory: it allows players to experience the difficulty of judging the credibility of news and the feeling of being fooled by fake news. And while they experience the consequences of their mistakes within the game in the form of lost credibility and followers, these events, of course, have no real-world impact, bringing the players the opportunity to experiment in a safe environment. This is also why gaming should not be graded within a formal grading system in schools.

Among the disadvantages of the game are the relatively difficult rules, as there are many different actions in each round, and it can take players one or two rounds to fully understand the game. This difficulty can cause frustration and loss of interest in some types of players, so it is important for the teacher to help overcome the initial confusion to get all players into the game.

As for the disadvantages, we can also mention the limited potential for repeated playing. If players already remember which articles are true and which are false, the game loses its purpose and entertaining nature. There are currently forty-six news cards in the game, of which players will use approximately thirty-two to thirty-six (depending on the number of players and rounds) in a single play, with only some verified by Action cards fact-check. When debriefing is considered, there is a high chance that after the first game players will learn to recognize the hoaxes in the game with a fairly high probability. On the other hand, this means that the game has fulfilled its purpose and playing it again is not even necessary. It should also be noted that within a few months the game can be played again without any problems, because by that time most of the news will be forgotten by the players.

4. Conclusion

Fake news poses an ever-increasing threat to both individuals and society as a whole. The rapid development of technology and social media is also contributing to the rise of fake news. People are generally unaware of the dangers of consuming distorted information, which makes them easy to manipulate. The situation is further worsened by the coronavirus pandemic, which, in addition to forcing people to move across the online space, has also triggered a new wave of (primarily medical) fake news called infodemic. One of the efficient tools to combat the impact of fake news is to label news as true or false through fact-checking. However, this approach does not appear to be entirely sufficient, and similar efforts need to be focused on educating people and developing their critical thinking skills. In this process (especially when working with younger generations), modern tools such as podcasts, videos and educational games can be very useful.

In this paper, we discussed the educational card game Follow Me. This game focuses on social media simulation and puts players in the role of Influencers trying to get as many Followers as possible. They achieve this goal by creating their own content and sharing articles on different topics, while they have to be careful about their credibility and not share hoaxes. The game can be played by two to four players and a single game lasts approximately half an hour to forty-five minutes. Follow Me successfully uses the inoculation theory and offers players a safe environment to learn about the phenomenon of fake news. In addition, it educates players in an entertaining manner about the typical features of hoaxes, the process of fact-checking and the dynamics of social networking sites. An organic part of the educational process is the post-game debriefing, which provides a space to discuss the topic in order to deepen and consolidate the knowledge gained during the game. This activity requires adequate preparation by the teacher but is supported by the methodological guide provided by the authors of the game, which is freely available on the Internet.

One of the biggest challenges of the game is its localization, as it is only available in print in Slovak language, which is why it cannot be used internationally yet (although online preprint versions are freely available in English, Croatian and Slovenian language). The most challenging task related to using this game in teaching is to explain the rules to the players and help them navigate the game's rather complex environment without suggestively hinting at possible strategies. Among the drawbacks we can also rank the replayability, which is limited by the number of News cards: when players memorize them, the game loses its purpose. This problem can be solved by releasing additional News cards, or by creating a custom set of cards (the authors offer a publicly available blank News card format).

Future work needs to focus on validating the assumptions about the educational power of Follow Me, primarily through experiments, in a similar way to what was done for the other games mentioned above: first measuring the ability to recognize fake news before playing, then playing the game and going through debriefing, and finally measuring the ability to recognize fake news again at the end of the experiment. The data obtained from such experiments can offer a more detailed insight into the potential of the game, showing its strengths and weaknesses, as well as providing experience with the possibilities of using it in practice.

Acknowledgement

The study is a partial outcome of the scientific project supported by Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (KEGA) No. 023UCM-4/2020, titled 'The development of digital game studies and design'.

The authors would also like to thank Impact Games for their cooperation and for the opportunity to work with their game Follow me.

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