

Design of a Serious Game to Challenge Sexism

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Abstract. Among the many aspects in which gender inequality manifests itself, sexism behaviors appear almost inadvertently daily. From personal life situations to workplace scenarios, sexism behaviors have an impact that is largely overlooked. Despite its relevance, there is still a need for tools to effectively educate about this issue. We consider that serious games are an innovative and effective tool to address social issues, making them visible and increasing players' awareness and reflection about them. In this paper, we present "La Entrevista" ("The Interview"), a serious game to address sexism, particularly in the workplace, aimed at young adults. We detail the design process of the game, based on common sexism situations and behaviors, as well as exploratory user interviews with 10 engineers. Then, we describe two initial formative evaluations of the game: (1) an evaluation of an early prototype with 17 school teachers to gather their opinion and feedback; and (2) an initial formative evaluation of the game with 32 Red Cross Youth volunteers to obtain their opinion about the final game version. The positive results of these early evaluations, as well as the improvements pointed out by participants, have helped us to refine the final version of the game. Hereafter, we prepare its application with target users and the inclusion of learning analytics to capture players' actions while playing to better measure the game impact.

Keywords: Serious games, Education, Sexism, Social awareness.

1 Introduction

Sexism is the set of prejudices and discriminatory behaviors originating from the condition of gender [1]. This issue often translates into unequal opportunities and treatment for women. Sexism manifests in several ways, from discrimination in the workplace to subtle societal expectations and biases that reinforce gender roles. Addressing sexism is crucial as it is one of the factors that contributes to gender inequality. It is important to ensure that everyone, regardless of gender, has access to the same opportunities and rights.

The Council of Europe (COE) [2] highlights examples of sexism in different areas such as: language and communication (e.g. the generic use of the masculine gender by a speaker), media, internet and social media (e.g. sexualised depictions of women),

public sector (e.g. sexualised comments or comments about the appearance or family situation of politicians, most often women), justice (e.g. judges implying to victims of sexual violence that she was ‘asking for it’), culture and sport (e.g. sportswomen depicted in the media according to their family role and not their skills and strengths).

The COE points out the need to take measures to raise awareness of this problem [2]. However, raising awareness about sexism is not easy. Beliefs about gender equality, traditional roles and gender equity policies are often influenced by ideological positions. In addition, some studies point out to variables such as political ideology or social dominance orientation as predictors of ambivalent sexism [3]. These social positions generate resistance and polarization in the public debate, causing many people to reject information that contradicts their worldview. Particularly when this information is merely expositive, for instance using talks or videos to educate about this problem, these strategies are rarely effective.

In this context, serious games can be an effective tool, as they present an interactive environment where players can obtain personal experiences and reflect on their own perspectives without feeling directly attacked. Serious games, designed for purposes beyond entertainment, have emerged as an innovative way to address complex social issues. These games provide an interactive platform for players to engage in and reflect on serious issues. The benefits they bring from traditional video games, such as engagement or continued attention, encourage their application in educational or social settings. By immersing players in virtual experiences that simulate real-world scenarios, serious games can foster empathy, challenge preconceived ideas and inspire action. Serious games have been applied successfully in multiple domains. They have proven to be effective tools for addressing varied issues, from bullying to environmental sustainability, by creating engaging environments that encourage learning and reflection[4], [5].

This paper presents the design of “La Entrevista”, a serious game to address sexism, and two formative evaluations made with an initial prototype and the final version of the game.

2 Related Work

Serious games are an increasingly popular tool to raise awareness about social issues and foster empathy among their players. These games allow players to experience real life situations within a controlled environment and from different perspectives. For instance, games like Depression Quest [6], to offer insight into depression, or Conectado [7], to raise awareness about bullying and cyberbullying, have helped their players deal with serious issues. By embedding players into their interactive narratives, and allowing them to make choices within them, these games can create engaging educational experiences. If the game is well designed, it will create a personal sense of connection with the narrative and virtual characters making players feel emotionally or socially involved obtaining a meaningful engagement (sometimes this is described as relatedness) [8]. In

schools, serious games can be also used as an initial shared experience to start a conversation about these sensitive issues, for instance, being followed by a debate or leading discussions in a school class.

Serious games have also been shown to be effective as a “vaccine”, teaching players to recognize and resist subsequent situations like disinformation [9]. This vaccine methodology has also been applied to cognitive biases [10], [11]. As in a vaccine, the main idea is to expose the player to the social problem to be addressed in a controlled and less harmful environment. The goal is to increase resistance to these situations, making it easier to recognize and address them. Recognizing the less harmful situations and characteristics of sexism can help both sides of it: the person who engages in such discriminatory behaviors to reflect about it and, hopefully, stop acting in a discriminatory way; and the person targeted by that discrimination as well as the observers who can identify such situations more easily and act sooner against them.

To address gender equality issues, serious games can also be a powerful tool to encourage conversations after sharing a common experience. The literature review by [12] shows a prevalence of games addressing violence and targeted at teenagers, while other gender equality issues like sexism or stereotypes are not so commonly addressed in these digital tools. To try and fill this research gap, this paper presents “La Entrevista”, a serious game to address sexism aimed at young adults. The game aims to address some sexist behaviors, particularly those related to the workplace, education, and the private sphere. In the following sections, we describe both the design process of the game, as well as two early evaluations with teachers and trained volunteers, and the feedback and conclusions obtained from those experiences.

3 The Game “La Entrevista”

“La Entrevista” (Spanish for “The interview”) is a point & click serious game designed and developed with the aim of addressing sexism, that is, discrimination against a person for being a woman. The game is aimed primarily at players between 16 and 25 years old, i.e., young people of working age.

The game tells the story of a woman who goes to a job interview for a junior developer position. Along the way, she will encounter sexist situations, which will make her react in different ways. The game is played in first-person mode (i.e., the player is not represented by an avatar in the game). The fact that independently of their gender all players play as a woman is not revealed until the end of the game (when they see the main character reflected in a mirror). This narrative trick is done to reinforce the message that the game wants to send, that is: sexism in the work environment often goes unnoticed, but it exists. Until then, a neutral language is used, so as not to reveal the gender of the protagonist.

During the game story, players must prepare for and conduct a job interview. To do so, they have to move around and explore the company where the interview will take place. With this exploration, players will meet different game characters with whom they will have different conversations, including the job interview. These conversations will show different situations of discrimination and micro-sexism that players must

learn to identify. To address and raise awareness of sexism, players will endure inappropriate comments and questions about their private life. Players' possible interactions within the game include moving between scenes, talking to other game characters and interacting with some game objects.

However, as mentioned, the key plot twist of the game is that throughout the entire gameplay and conversations, the dialogues provide no information about the protagonist's gender (i.e., the character embodied by the player). The gender of the protagonist is only revealed once the job interview is completed. The purpose of this is to make all conversations seem strange and discriminatory to players, making them realize at the end of the game that this is because they had played as a female character (regardless of their actual gender). This also increases the immersion of players in the story, regardless of their gender, by making them feel like they could be the person who needs to pass the job interview, taking the in-game decisions more seriously.

3.1 Application in Class

The game has an estimated duration of 20 minutes. This allows the game to be easily integrated into a class session, with leftover time to conduct a reflection session and debate immediately after all students have played the game. The shared experience of playing the game, and the sexism topics addressed in its story, can be used as a baseline to open up a discussion about these issues in the class. This can be useful both to expand the effect of the game's impact on sexism awareness as well as to adapt the educational tool to the context and needs of the class. The choice on the specific way on how to introduce the use of the game into the class is of course left to teachers, but the designers' idea is that players complete the game without knowing its intended goals. This aims to avoid or at least reduce any possible prejudice that they may have when discussing sexism topics.

The game has been developed with uAdventure [13], a tool for the development of games with educational purposes and exported for Windows as many compulsory education centers are implementing policies restricting or even prohibiting the use of mobile devices. Another reason for designing the game for PC use is that it allows teachers to better manage the class by easily overseeing each student's activity.

3.2 Game Structure and Content

The game story presents a simplified version of a selection process for a job position, from the job application to the interview with human resources. The game is structured in 4 differentiated parts that also mark the player's progress: (1) at the main character's house, prior to the interview, (2) at the company, before the interview starts, (3) during the actual job interview, and (4) going back home and ending the game. In each part, players will discover different game scenes and interact with different game characters. Each of these four parts introduces different sexism topics.

In the first part, the main character is at her¹ house, in front of a PC to fill in the CV information. With that information, players can choose between two job offers to apply to. This choice does not affect the game experience but only changes slightly some of the later dialogues. The player can always check the character's CV to answer the questions correctly. This initial part does not expose any sexism topic yet but instead serves as a general introduction to the game plot and gives players a clear goal to achieve, which will serve to hide the educational theme.

In the second part, after choosing a job offer to apply to, the main character arrives at the company where the job interview will take place. The player must find the interview room and wait for the interview time to arrive. During that waiting time, players will talk with game characters that appear in different game scenarios and that have different roles within the company.

In the third part, after going through all the previous company areas, players arrive at the actual job interview. This interview takes place in one office room and two game characters from the human resources department of the company conduct the interview.



Fig. 1. Screenshots of the company's cafeteria (left) and company's waiting room (right) of the game. The player can interact with the characters and read the dialogs with the sexist comments.

Finally, in the fourth and last part of the game, once the player has completed the interview, the human resources characters will tell players whether they are a good fit for the company. The main character will be considered for the position depending on the answers the player has made during the interview. After this, players will appear at home, in front of a mirror, at which point they will discover that they have played as a female character. To end the game, they must answer 9 questions related to 9 key moments in which they have experienced a sexism situation during the game. For each one, the player is asked to identify what is inappropriate in the game character's behavior. These moments include: a conversation with the receptionist, two scenes in the waiting room and two in the cafeteria, and four moments from the job interview.

3.3 Game Design Process and Sexism Situations Selection

The design of the game "La Entrevista" was based on a dual approach: on one hand, we studied common examples of sexism from official sources (e.g., [14]), while also conducting some exploratory user interviews with engineers (mostly women).

¹ Notice that in the following description of the game content we use the female gender to refer to the main character, but this is not shown in the game until the player has completed the game.

The Council of Europe (COE) highlights examples of sexism in different areas as previously stated. We were particularly interested in exploring the examples they pointed out for the three areas that were most relevant for the game content: the workplace, education careers, and private life. For the workplace, they highlight the practice of unofficially excluding women who have children from career opportunities; ignoring women in meetings, appropriating their contributions or silencing them; favoring a man rather than a woman for a managerial position by presuming her lack of authority; gratuitous comments about physical appearance or dress (which undermine women as professionals); derogatory comments to men taking on caring roles; and “mansplaining”. In education, textbooks containing stereotypical images of women/men, boys/girls; the absence of women as writers, historical or cultural figures in textbooks; career and education counselling discouraging non-stereotypical career or study choices; teachers making comments about the appearance of pupils/students/fellow teachers; sexualised comments to girls; bullying of non-conforming pupils/students by fellow pupils/students or education professionals; and the absence of awareness or procedures to address such sexist behaviours. In the private sphere, women performing more unpaid (care and household) work than men; sexist jokes between friends; systematically offering traditionally “feminine” or “masculine” toys to girls/boys; boys being encouraged to run and take risks and girls to be docile and compliant; the use of expressions like “running like a girl” or “boys will be boys”.

On the other hand, we conducted user exploratory interviews with female and male engineers to gather information about their experiences with sexism situations. We interviewed 10 engineers (7 women, 3 men) and asked them to describe their experience with open-ended questions (*“Could you describe if in any of your job interviews have you been asked any question/comment that seemed strange or that could be sexist (even if it is a minor thing)?”*). We were purposely broad in our question, since we did not want to lead them or specify any sexism situation, but to gather their actual experiences with no bias. They included both questions asked in job interviews as well as other sexist comments or behaviors that they had experienced in first person or heard/seen from colleagues in their jobs. Comments gathered from user interviews included: personal and inappropriate questions in job interviews (*“Are you married? Do you have kids? Do you usually cry under pressure?”*) or sexist comments (*“Is that girl the secretary?”*, asked about the only woman in a technology team) and behaviors (a male



Fig. 2. Screenshot of the player answering a question (left) and main character in front of the mirror. The player discovers that the main character is a woman (right).

coworker interrupting a woman explaining something because “her voice was too soft”).

The real examples of sexist behaviors collected by the interview were analyzed in conjunction with the common examples of sexism from the COE. From this analysis we obtained a list of 22 behaviours or situations, and each one of these was rated from 1 to 5 on ease of introduction into the game and relevance. For the game narrative, we discarded those items that would clearly reveal that the main character of the game is a woman. In the end, scenarios and dialogues were created based on the most relevant items that also had more than 2 points in ease of introduction into the game.

The sexism topics chosen to appear into the game based on the above-described process were:

- Women are not capable of or are not suited to technical or engineering careers. A common form of sexism is to consider that women do not have the training or interest to apply for highly skilled positions.
- A man's opinion or advice is worth more than a woman's because they have more knowledge, especially in technical or engineering careers. One form of sexism is to distrust a woman's advice or knowledge, despite her experience, and to only take it as valid when a man comments on the same thing.
- Women are a distraction at work for men and make them less productive. This is an aspect sometimes raised in a casual or joking tone, but that also presents a form of sexism.
- With quotas, companies prioritize hiring women, even if this means hiring a woman who has a worse CV than a man. As a result, women get jobs just for being women. One of the most common forms of sexism is to think that a woman gets a job because the company wants to improve its image, or because it must comply with certain percentages of gender occupation.
- Men are not good enough to do housework, while women are better at it, or they are who should be in charge (role of housewife). A form of sexism is to think that housework is the woman's responsibility, and that if the man participates, he is simply “helping” the woman.
- Women write better and are more orderly than men, so they must do the jobs that are related to taking notes, organizing agendas, or carrying out bureaucratic procedures. One form of sexism is for the man to do the main, complex work and delegate minor activities to women, assuming they will perform worse on the difficult ones.
- Women may not assert and respect themselves in front of other male peers, making it more difficult for them to take on leadership positions.
- Women do not know how to work under pressure, cry more easily and are less able to withstand stressful situations.
- Women bring to the job things that men cannot bring to the job, such as their physique or other qualities. One form of sexism is to consider women for their qualities, and not for their ability to perform the job.
- Women are the ones who must take care of family members in need, children and household chores, and they cannot dedicate enough time to their professional ca-

reers. A common form of sexism in job interviews is to assume that the care of children or dependents is women's responsibility, and that this also affects their professional performance.

4 Formative Evaluation of Initial Prototype

4.1 Methodology

With an initial prototype version of the game, not including the actual final graphics, we conducted an initial formative evaluation to gather teachers' opinions about the game's content and applicability. N=17 teachers from different secondary schools in Cádiz (Spain) played the game and gave us their feedback about the game.

In this early version of the game, we were particularly interested in knowing teachers' opinion about the game content and sexism topics addressed, and whether they would consider a fully developed game following these ideas an interesting tool to apply in their classes. The questionnaire after playing the game included the following open-ended questions:

- Is the video game you just played (language and content) suitable for students aged 16 and older? Why?
- Would you use this game in class to create a common experience and then lead a discussion about it? Why?
- What is your opinion about the game you just played?
- How would you improve the game?

4.2 Results

We present teachers' responses to the open-ended questions about the game.

Is the videogame you just played (language and content) for students aged 16 and older? Why?

We obtained 13 not-empty responses to this question. Out of those, 11 considered the game adequate and/or entertaining and suitable for that age group and above. The other 2 responses mentioned they found the game boring, and that while its content and language were adequate, there was too much to read, which could not be very motivating for students.

Would you use this game in class to create a common experience and then lead a discussion about it? Why?

We obtained 14 not-empty responses to this question. 11 answered positively to this question, stating that they consider the game an adequate baseline to then lead a discussion in class. 2 stated that they would not use it because its content does not fit within the courses that they teach. One teacher mentioned not being sure whether he/she would

use it because he/she felt that students would find it a bit tiresome as they already know some of the things mentioned in the game.

What is your opinion about the game you just played?

Regarding opinion, responses were mixed. 6 teachers mentioned some level of “boring” or “tiresome” as they found too much text and too little interactions within the game, and not very interesting graphics. Another 6 teachers mentioned the game to be very “interesting” or to have liked it. Other words used were “actual”, “direct”, “useful” and applicable in classes.

How would you improve the game?

Recommendations to improve the game included: improving the graphics (4 participants), adding music or sound effects (3), make it more dynamic (2), with more interactions (2), shorten the conversations (1), increase the number of sexism situations (1), including both male and female perspectives for the main character (1), adding the option to actually “fail” the game and have to re-start from the beginning (1), make the game message “less obvious” (1), adding other game elements such as puzzles (1).

5 Formative Evaluation of Final Version

5.1 Methodology

The goal of this initial formative evaluation was to obtain feedback from participants like those who will apply the game in their classes/workshops (secondary or higher education teachers, educators or researchers addressing gender topics, etc.). The main interest was to know their opinion about the final version of the game (things they liked and disliked) and whether and how they would apply it in a classroom setting.

N=32 Spanish Red Cross Youth volunteers participated in this initial formative evaluation. They are volunteers who commonly give different talks in high schools and who were taking a specific course on “Career guidance and entrepreneurship”. There were 28 volunteers in training between 18 and 24 years old and 4 trainers of the course. The sample size was sufficient to conduct a first formative evaluation, particularly coming from volunteers used to address these topics who could provide valuable feedback to improve the educational value of the game.

The formative evaluation had three parts: two questionnaires (before and after playing the game) and the gameplay. Broadly, the initial questionnaire aims to gather different information about participants' habits while the final questionnaire aims to collect their opinion about the game. Additionally, both pre- and post- questionnaires contain a set of sexism questions to compare whether participants' perception of them change with the game. In more detail, the evaluation consisted of:

1. Participants completed a pre-test including:
 - Agreement to participate in the study

- Demographic questions: gender and age
 - Sexism questionnaire: 13 questions “who do you think performs better at...?” and the areas: Teamwork, Teaching, Sports, Repairs/construction, Languages, Physics, Chemistry, Biology, Mathematics, Computer science, Technology/robotics, Videogames, Caring for others. For each question, participants can answer by choosing among “men”, “women”, or “either”.
2. Participants played the game “La Entrevista” from beginning to end
 3. Participants completed a post-test eliciting:
 - Game opinion questions:
 - What did you not like about the video game “La Entrevista” and what would you change to improve it?
 - What did you like the most about the video game “La Entrevista”?
 - Did the game make you think? About what?
 - Can this game be used in the classroom? How would you apply it?
 - Sexism questionnaire (same from pre-test for comparison).

5.2 Results

First, we compare the results of the sexism questionnaire from the pre-test to the post-test, to gather an idea of whether the game narrative has had any impact on participants’ perception of these topics. 28 valid responses were obtained for both questionnaires. 3 users did not answer the post-questionnaire, and we did not receive the game interaction data from 1 of them. Overall, the option “either” was mostly chosen. However, there are some exceptions. Particularly, in three questions: “who do you think performs better at...Computer Science”, “...Technology/robotics” and “...Caring for others”. In these 3 questions, the most chosen answer changed from the pre-test (“men” for the first two areas, “women” for the last one) to the post-test where “either” was mostly chosen for all of them (see Figure 3).

In the question “who do you think performs better at... repairs/construction”, the option “men” was mostly chosen both in the pre-test (20 responses) and the post-test (17 responses). In all other 9 areas (Teamwork, Teaching, Sports, Languages, Physics, Chemistry, Biology, Mathematics, Videogames), the answer “either” was the one most frequently chosen both in the pre-test and the post-test.

In addition to these questions, we gathered participants’ opinions about the game in the questionnaire after playing with the following questions. We obtained 26 valid responses in these opinion questions. The summary of their responses is detailed below.

What did you not like about the video game “La Entrevista” and what would you change to improve it?

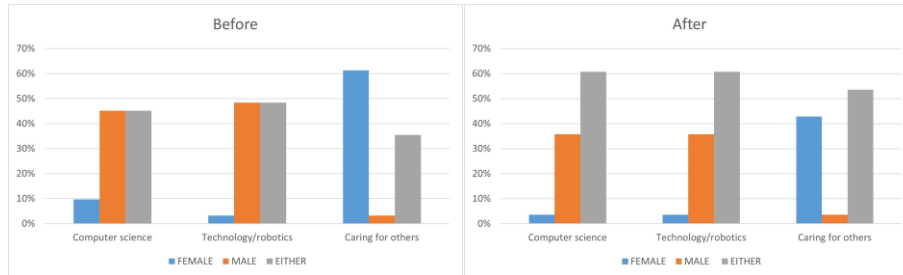


Fig. 3. Comparison of participants' answers in three sexism questions before (left) and after (right) playing the game "La Entrevista".

Most participants (17) stated that they would not change anything and/or that they liked the game as it is. Among those, 8 mentioned that they would change something out of the scope of the game, that is people's sexist attitudes, comments or behaviors. As improvements in the game, most comments were about the text: 3 participants mentioned that there was too much to read, 2 did not like options in dialogues (for some of them being too similar or for having options that they would not choose), and 1 would like to improve the dialogues of some characters. Other things marginally mentioned were no option to go back if you skip or do not read a question; missing details about the steps to take in the game; too many steps to take before reaching some sections in the game; the impossibility of checking the CV without leaving the question about it.

What did you like the most about the video game "La Entrevista"?

Answers to this question were very varied, including: the way the game shows the reality lived by women (6 participants), the game content (4), the awareness of sexism after playing the game (3), the options or responses that they can choose from (3), that is entertaining/dynamic (3), the surprise ending (3), the graphics (2), the main character, once she is revealed (2), the options in the end to review the situations and explaining the sexism (2), the fact that the game made them take time off their classes (1). 2 participants stated to have liked everything.

Did the game make you think? About what?

Most participants (19) stated that the game had made them reflect about sexism. In more detail, about sexism in the workplace (9 participants) and about how it is a reality still present nowadays (6). Other responses included reflection about: issues that women experience; and their personal bias as they had assumed that the main character was a man. 3 participants stated that the game did not make them reflect at all.

Can this game be used in the classroom? How would you apply it?

All 26 participants answered affirmatively to this question. Some of them provided further details on how they would apply it: 7 stated that they would use it as a reflection or awareness tool (1 of them particularly mention for sexism in the workplace, 1 for sexism daily, and 1 that particularly for even younger students who are still not fully

aware of this problem). 4 participants mentioned that they would use it with role-playing, and 3 that they would include it in classes to prepare for job interviews. Other comments included: using the game as a review activity (1), using it in class followed by a review of its scenes (1), and playing the game in class together showing all possible options (1).

6 Conclusions and Future Work

This paper has presented the design of the serious game “La Entrevista” to increase awareness about sexism situations, with particular emphasis to those occurring in the workplace. The purpose of this tool is to fill the gap identified about educational tools that allow students to have a dynamic role in awareness activities about social issues, particularly sexism, avoiding student’s previous barriers, such as ideological biases. We have additionally presented two initial evaluations of the game. First, we conducted a formative evaluation of an initial prototype. The most repeated feedback obtained in this evaluation was about improving the graphics, which were an initial version for the prototype, and adding sound effects, which may not be adequate for the actual application of the game in class with all students playing simultaneously (or at least it would require them to use headphones which would be another additional requirement of equipment for the game application). Second, the formative evaluation with training volunteers confirmed the positive perception of the game, as they considered it an interesting tool that had made them reflect about sexism. These volunteers belong to the set of target users (e.g., educators) who will use the game, but also belong to the age group targeted by the game, as they are starting their professional life. Therefore, the effect of the game in making them reflect about sexism also hints at its possible positive impact on target players.

These early evaluations have their limitations: mainly the limited number of participants, and the fact that the first evaluation was carried out with an early prototype without the final graphics. Still, they provide a baseline about its acceptance among the final users who will apply the game in their classes/workshops, which is critical as they are a key stakeholder for the game to be used in classrooms.

The formal validation of the game is a clear line of future work. Prior to that, we plan to include game learning analytics in the game, to collect players’ actions (mainly choices in dialogues) while playing. We also would require previously validated measures (e.g., questionnaires) to assess the game’s effectiveness in changing players’ attitudes regarding sexism.

The overall positive results regarding acceptance and applicability obtained in the early evaluations carried out make the serious game “La Entrevista” a promising educational tool that we plan to keep exploring to address sexism, an issue still very present in current society.

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