

**Case Report**

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**VIDEO GAMES TO COUNTER DISCRIMINATION AND DISINFORMATION: AN EDUCATIONAL APPROACH TO MEDIA LITERACY***Videojogos para Combater a Discriminação e a Desinformação: Uma Abordagem Educativa para a Literacia Mediática***FEDERICO ORFEO  
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ORCID: 0000-0003-1924-9853**ABSTRACT**

In recent years, discriminatory narratives linked to disinformation have fuelled hatred and prejudice, undermining social cohesion and increasing distrust in democratic institutions. These phenomena also affect young people, who are often ill-equipped to address them. As a result, educational policies on media literacy have been implemented, incorporating video games as a strategic tool to develop critical media competencies.

Within this framework, this paper analyses the potential of video games as innovative tools in media literacy education and in countering discrimination and disinformation. The research examines 18 video games through four analytical dimensions: educational objectives, game mechanics, narrative strategies, and visual language. The findings reveal innovative patterns in educational game design and increasing sophistication in synthesising ludic and pedagogical elements, whilst also identifying critical issues such as technological obsolescence, the need for mediators, and the lack of systematic user feedback data, which limits comprehensive impact assessment.

**RESUMO**

Nos últimos anos, as narrativas discriminatórias ligadas à desinformação têm alimentado o ódio e o preconceito, minando a coesão social e aumentando a desconfiança nas instituições democráticas. Estes fenómenos afetam também os jovens, frequentemente mal preparados para os enfrentar. Como resultado, foram implementadas políticas educativas de literacia mediática que incluem os videojogos como ferramenta estratégica para desenvolver competências críticas na utilização dos média. Neste enquadramento, este artigo analisa o potencial dos videojogos como ferramentas inovadoras no âmbito da literacia mediática e no combate à discriminação e à desinformação. A investigação examina 18 videojogos através de quatro dimensões analíticas: objetivos educacionais, mecânicas de jogo, estratégias narrativas e linguagem visual. Os resultados revelam padrões inovadores no design de jogos educativos e uma crescente sofisticação na síntese entre elementos lúdicos e pedagógicos, identificando também questões críticas como a obsolescência tecnológica, a necessidade de mediadores e a falta de dados sistemáticos sobre o feedback dos utilizadores, o que limita a avaliação abrangente do seu impacto.

**KEYWORDS**

Discrimination; Disinformation; Media Literacy; Serious Games; Game Design.

**PALAVRAS-CHAVE**

Discriminação; Desinformação; Literacia Mediática; Jogos Sérios; Design de Jogos.

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## 1. INTRODUCTION, OBJECTIVES AND METHODOLOGICAL APPROACH

The proliferation of discriminatory and disinformative content poses a significant challenge to democratic societies, particularly affecting younger generations. In response to this critical issue, the educational sector is exploring innovative approaches leveraging the potential of digital media. Within this context, video games - traditionally regarded as entertainment tools - are emerging as valuable pedagogical resources, enabling experiential learning approaches. This research examines the innovative potential of video games in enhancing media literacy among young people. Specifically, it investigates their role in developing critical competencies essential for identifying and countering disinformation and discrimination within the contemporary media ecosystem, whilst exploring the factors that enhance youth engagement with these educational tools.

The methodology adopts a dual approach, combining systematic literature review with an empirical examination of 18 case studies. The cases were selected based on two primary criteria: their implementation in anti-discrimination programmes and their presence on collaborative platforms developing socially-oriented video games, with particular emphasis on projects endorsed by established institutions. The analysis spans from 2016 to 2023, strategically aligning with the implementation and evolution of the EU Code of Conduct – from its initial adoption through its sequential expansion to various digital platforms (Instagram, Snapchat and Dailymotion in 2018, TikTok in 2020, LinkedIn in 2021, Rakuten Viber and Twitch in 2022). This temporal framework enables the examination of parallel developments in educational tools and counter-policies through four analytical dimensions, illuminating how the evolution of the EU Code of Conduct has shaped approaches to educational game design.

## 2. STATE OF THE ART

### 2.1. Hate, Discrimination and Disinformation: Destabilising Factors for Democracies

Hate speech, discrimination and disinformation represent fundamental threats to democratic societies, undermining social cohesion, eroding trust in institutions and polarising public discourse (Farkas & Schou, 2019; Udupa et al., 2020).

As articulated in the UN Action Plan, hate speech encompasses ‘any form of communication that attacks or employs pejorative or discriminatory language targeting an individual or group based on their identity’. The EU Code of Conduct (European Commission, 2016) embodies a practical implementation of this vision, establishing an operational framework that has systematically engaged major digital platforms in combating online hate speech. This synergy between global vision (UN) and regional implementation (EU) has fostered an ecosystem conducive to developing innovative educational tools.

Notwithstanding the implementation of numerous international counter-initiatives (European Commission, 2020; United Nations, 2019), these phenomena continue to proliferate throughout the contemporary media ecosystem, disproportionately affecting younger generations. This demographic proves particularly vulnerable to both discriminatory influences and the effects of disinformation, frequently lacking the critical tools essential for navigating today’s complex information landscape (Smahel et al., 2020; UNESCO, 2023). Within this context, media literacy emerges as a crucial educational response, equipping individuals with the necessary tools to comprehend, critically evaluate and consciously engage with the contemporary media ecosystem.

## 2.2. Media Literacy and Video Games: Theoretical Foundations and Evaluative Frameworks

In 1980, Seymour Papert investigated the educational potential of technology, highlighting how computers can promote active learning through experimentation and exploration. Media literacy originated from Len Masterman's studies (1985), which highlighted its role in the social construction of media reality. James Paul Gee (2003) further developed this concept by exploring the literacy opportunities offered by games, the experiential learning they ensure, and how players can interact with themes and concepts difficult to access through traditional didactic approaches.

In the 1980s, with the spread of home computers and consoles, educational video games proliferated, mainly in scientific and mathematical fields. In the 1990s, research analysed the key elements to make these games more effective and engaging, such as rules, feedback, and interaction. Simultaneously, Game Studies examined both narrative and ludic aspects, creating the foundations for Game-Based Learning (GBL) and Digital Game-Based Learning (DGBL). These methodologies are divided into three distinct categories: serious games, organised training tools that combine ludic elements with educational purposes; gamification, which uses typical video game elements (scoring systems, progression, and rewards) to increase user engagement; and game-based learning, a didactic approach that employs games, both digital and traditional, as learning means. With the new millennium, the renewed interest in Edutainment that combines education and entertainment, the application of these approaches has extended the educational role of video games.

All this demonstrates how video games have progressively established themselves as educational tools thanks to their interactive nature (Gee, 2003), their ability to simulate complex systems, and their role in promoting critical thinking (Buckingham, 2006; Bogost, 2007).

In this framework and given the growing importance of video games in media literacy, it becomes increasingly essential to develop tools to systematically evaluate their educational effectiveness, integrating existing frameworks such as the Game-based Learning Evaluation Framework (GEM), the Learning Mechanics-Game Mechanics (LM-GM) model, or RETAIN (Relevance, Embedding, Transfer, Adaptation, Immersion, Naturalisation) to measure the educational impact of these tools.

## 2.3. Educational Video Games Evaluation Frameworks

The assessment of video games' educational efficacy requires sophisticated instruments capable of examining the alignment between pedagogical objectives and game mechanics. A comparative analysis of prominent frameworks—SGDAF (Mitgutsch & Alvarado, 2012), LM-GM (Arnab et al., 2015), RETAIN (Gunter et al., 2008), and the empirical model developed by Ruth S. Contreras-Espinosa and Jose Luis Eguia-Gomez (2023)—reveals complementary yet distinctly limited approaches. SGDAF emphasises the systematic analysis of objectives, mechanics, and narrative, but neglects direct player experience. Conversely, LM-GM concentrates on player-game interaction without providing precise metrics for educational effectiveness. The RETAIN model, through its six interconnected dimensions (relevance, embedding, transfer, adaptation, immersion, and naturalisation), presents a more structured evaluation of the integration between educational content and gameplay. Contreras-Espinosa and Eguia-Gomez's investigation of the "Yo-MEDIA" project, examining 24 media literacy video games, has illuminated both the potential of games in developing critical competencies and the limitations inherent in the prevalent behaviorist approach. To address these constraints, a tripartite evaluative framework emerges as essential: formative (encompassing testing and design iteration), summative (involving pre/post implementation comparative analysis), and longitudinal (comprising effectiveness verification through extended studies). The integration of these phases with mixed methodological approaches could yield more comprehensive assessments of educational impact.

### 3. VIDEO GAMES FOR MEDIA LITERACY AND COMBATING DISCRIMINATION: CASE STUDY ANALYSIS

#### 3.1. Analysis: Objectives and Methodology

The research aims to investigate the effectiveness of video games as tools to counter discrimination and disinformation, with two main objectives:

- Understanding how to nurture young people's engagement with these educational resources
- Identifying possible development directions for these training tools

To achieve these objectives, this section analyses a selection of video games designed to address the themes of discrimination and disinformation. The selection focuses on projects developed within educational initiatives supported by the European Community, NGOs or international associations, as well as video games that have been awarded or recognised for their quality and impact. Games with different visual design, game mechanics and narrative strategies have been included to offer a broader and more in-depth comparison between works united by similar educational purposes.

The analysis is structured through four fundamental dimensions:

1. *Educational Objectives* involve promoting understanding and respect for cultural, physical, and social diversity; developing critical analysis competencies; and strengthening values such as equality, empathy, and collaboration.
2. *Gameplay Mechanics* encompass gameplay (structuring missions, puzzles, and interactions addressing discrimination and disinformation scenarios); decision systems (meaningful choices affecting narrative development, stimulating reflection and responsibility); and feedback systems (reward or penalty mechanisms that encourage inclusive and constructive behaviors).
3. *Narrative Strategies* include narrative structure (linear or branching paths with choices influencing outcomes, enhancing player engagement) and identification elements (character development and roles designed to stimulate emotional connection and active participation).
4. *Visual Language* considers colour codes and visual tone (strategic use of colour to define atmospheres and emphasize emotional components and educational messages); illustrations and images (approaches ranging from realism to stylisation, or combinations thereof, aligned with learning objectives); and interface design (typographic choices, readability, information hierarchies, and layout accessibility).

For each dimension, the analysis considers:

- Observations and Limitations highlighting main critical issues that emerged in game application and previously analysed aspects
- Development Opportunities suggesting possible improvements and developments for the analysed educational video games

Fig. 1 synthesises the comparative analysis of the examined video games, highlighting the key dimensions identified in the analytical framework.

1. TITLE EDUCATIONAL OBJECTIVES	2. PLAYFUL MECHANICS	3. NARRATIVE STRATEGIES	4. VISUAL LANGUAGE	OBSEVATIONS AND LIMITATIONS	DEVELOPMENT OPPORTUNITIES
<b>STRATEGIC RELATIONSHIPS' APPROACH</b> Develop critical awareness of hate speech and fight hate speech	Urban treasure hunt with 4 stages (identified by QR codes) where the learners face simulated social scenarios and challenges, including hate speech, discrimination, and digital exploitation, concluding with a collective discussion.	Use of role-playing through three characters (Betty, Mary, Zach) who face different forms of online discrimination. The game features a mix of narrative and interactive dynamics, allowing stereotypes and prejudices to be recognized and analyzed.	The interface takes up the aesthetics of social media by integrating it with the illustrations of the protagonists. This provides a sense of familiarity and engagement. The game is designed for mobile devices and can be played on digital platforms to encourage engagement and identification.	Dependence on connectivity might limit accessibility in some contexts. The speed of solving clues may vary, and the modular nature of the game may require learners to work individually. Appendices provide support for educators, but they are not on the final discussion, requiring specific skills from facilitators.	Possible developments include expanding the simulated situations beyond the base scenario. Possibility to include more complex mechanisms for communication, integration of mechanisms to document and share the effective strategies that emerged during the game.
<b>YOUTH FOR LOVE - THE GAME</b> Fights on violence and cyberbullying, providing tools for critical thinking and self-education	The gameplay, based on multiple choices that affect the story and relationships, takes place in realistic environments, such as schools and homes, with various challenges. A moderated social component allows users to share their experiences and learn from the dialogues, offering guidance and different perspectives.	The narrative features three main characters who interact with each other, exploring different forms of violence and cyberbullying. Adaptive narrative mechanics allow for different endings based on the choices made by the player.	The visual language combines characters and stylized urban environments with pixel art, balancing modernity and nostalgia. The interface is clean and modern, with a color palette that reflects the different narrative levels.	The simplification of discrimination dynamics and the limitation of social interactions could limit the educational value of the game. The modular nature of the game depends significantly on the facilitator's skills in managing the discussion and the need for learners to translate the different narrative levels.	Possible developments include more complex mechanics to increase user engagement and facilitate communication. The modular nature of the game is a strength, but it requires facilitators to translate the different narrative levels into other languages.
<b>CONVERSING NOT A GAME</b> It counters violence and school harassment through critical thinking and self-education	The game features four stories on gender-based violence (stereotype, molestation, rape, revenge point) through flashbacks, multi-choice challenges, and a final discussion. It includes various achievements, with both single and multiplayer modes.	The game adopts embedded design, balancing education and entertainment. The stories were developed with the contribution of young people (14-18 years old) and experts in gender-based violence. The game uses a modular structure to ensure engagement and accurate representation of the issues.	The game uses a minimalist interface, characterized by dark tones and strong contrast, reinforcing the investigative atmosphere. The alternation of static illustrations, stylized animations and video clips creates a dynamic and immersive experience, reflecting the different narrative levels.	Managing narrative content requires a delicate balance between realistic representation and psychological protection of young users. The effectiveness of the game depends on the facilitator's ability to translate the different narrative levels.	Possible developments include an advanced rescue system, built-in psychological support, and a moderated community for peer sharing. The modular 3D-rather than 2D-interface could be improved to better facilitate the mediation of the most complex contents.
<b>DATA DEFENDERS</b> Developing data assessment skills to counter disinformation	In this tower defense, players use the Data-Analyzer to classify media content as trustworthy. The "Oris Impact" indicator measures the level of polarization and the "Fake News" meter measures the level of progressive waves of information. Threats ensure that the player must constantly adapt to the game's achievements, with both single and multiplayer modes.	The story combines science fiction and current social issues in a futuristic setting (2155), where the robot threat is intertwined with the digital and physical world. The game features a mix of narrative and interactive elements, including a "Fake News" meter that tracks the spread of fake news. The player must navigate through challenges and puzzles to protect the city from the robot threat.	The 3D science fiction style and clear interface are aimed at a young audience. The functional color palette associates blue with defensive elements, orange/red with offensive elements, and green with the environment. The game uses a modular structure, with each level having its own specific challenges and objectives.	The repetitive mechanics and simplification of facts, checking risk-reducing information and not reflecting the real complexity of the phenomenon. The difficult balance between the need for protection and the need to compromise the overall effectiveness of the experience.	Possible developments include collaborative multiplayer modes, complementary educational content, and modular levels of complexity for different ages. The modular nature of the game could be improved to better reflect the progression system without impacting the experience.
<b>HATEBICK: THE ADVENTURES OF A HATEFUL KID</b> A form of recognition and confrontation of hatred and social exclusion	The gameplay is structured through 2D environments and the experiencing of obstacles that challenge the player's perspective. The player characters allow the user to discover stories of discrimination and survival through a non-linear narrative.	The story takes place in a dystopian world characterized by 2D environments and the experiencing of obstacles that challenge the player's perspective. The player characters allow the user to discover stories of discrimination and survival through a non-linear narrative.	The 2D perspective format will limit the depth of thematic exploration. The dystopian setting risks alienating the player, who may feel disconnected from the reality of everyday life. The player could feel less involved in the action aspect over the reflective one.	The brevity of the experience could limit the deepening of the topic. The playground format may oversimplify the story and the player's role, which may be restricted in some contexts for political reason.	Possible developments include expanding the narrative through new levels and characters. Possible development of a 3D perspective format to better reflect the mechanics that link empathy to Amnesty International's online advocacy.
<b>LYLIA AND THE SHADOWS OF WAR</b> It promotes the awareness of the effects of conflict through the 2014 Gaza War	The game combines platforming and environmental puzzles to represent survival in a war-torn environment. The player must navigate through the game, communicate the precariousness of living during a conflict.	The narrative is linear and based on real events of a Palestinian family at war, stimulating empathy and critical thinking. The game features a mix of platforming and narrative, with particular attention to children.	The minimalist aesthetic with black silhouettes and light elements, stylized memory and sound design build a sense of atmosphere and tension. The game uses a modular structure, similar to children writing, to express the perspective of the characters in the conflict.	The repetitive mechanics and simplification of facts, checking risk-reducing information and not reflecting the real complexity of the phenomenon. The difficult balance between the need for protection and the need to compromise the overall effectiveness of the experience.	Possible developments include expansion with multiple stories and different perspectives. Possible development of a 3D perspective format to better reflect the game mechanics for educational use.
<b>THIS WAS OF MINE</b> It promotes the respect of war-torn environments on civilians and moral dimensions in war zones	The game is divided into disrupt and restore modes. In the first mode, players manage the shelter and take care of the survivors, while at night they explore the city in search of supplies. In the second mode, players must restore the city and its infrastructure. The game features a mix of platforming and narrative.	The game follows a linear path with no explicit narrative, but it reflects the complexity of the experience of different citizens, with developments determined by the player's actions. The game features a mix of platforming and narrative, creating unique narrative paths that favor the player's personal experiences.	The black-and-white aesthetic with high contrast and repetitive elements is used for the interactive elements, accompanied by desaturated photographs and portraits. The side-view perspective allows for a better view of the environment and the player's actions.	The repetitive disrupt mode mechanics and high difficulty of the restoration mode may disengage the player. The emotional intensity of the situations and the need for protection may be limited in some contexts.	Possible developments include inclusion with scenarios of different complexity, especially for less experienced players. The emotional intensity of the situations and the need for protection may be limited in some contexts.
<b>PAPERS, PLEASE</b> It stimulates critical reflection on the mechanisms of social control	The document control system evolves into a complex system of checks that reflect bureaucratic depression. The depression affects both the fate of the documents and the moral weight of 'brothers', stones stimulate reflection on the mechanisms of power and privilege.	The game follows the player as he explores the city of Arar, a journey through art, creation, giving, sharing and exchange and landscapes that transform their surroundings.	The interface uses 8-bit pixel art with desaturated colors to create an oppressive atmosphere. The space is functionally organized, with typewriters and elements that reflect Eastern European documents.	The repetitiveness of the mechanics could be alienating. The complexity of bureaucratic rules risks stalling the player. The historical setting would disengage us from the current contexts of migration and social control.	Possible developments include new contemporary scenarios by introducing more narrative ramifications. Development of a multiplayer mode. Creation of a mobile application that would permit game mechanics to current social phenomena.
<b>4,000 CUT JOURNEY</b> It promotes an arduous and highly simulated experiences	The experience allows you to experience the challenges of the protagonist through interaction with a 3D audio system that adds to the realism.	The experience is divided into three interconnected chapters that focus key moments in the protagonist's life. The game features a mix of platforming and narrative, with particular attention to the focal points of the interactions.	The minimal interface preserves immersion in an experience characterized by photographic images and sound design. The game uses a modular structure that evolves from the violent tones of childhood to more mature tones of adolescence. The game features a mix of platforming and narrative.	The focus on a single narrative perspective may not fully address the complexity of racial discrimination dynamics. The modular setting could disengage us from the current contexts of migration and social control.	The project could address different forms of discrimination and include a non-VR version for greater accessibility. The modular setting could be improved to better reflect the dynamics, lighting increases the immersion of the narrative.
<b>CONCRETE GENIE</b> Use artistic creativity as a tool against bullying	The game system combines virtual painting with augmented reality to create a unique artistic experience. The redevelopment of the sheltered city becomes a metaphor for personal transformation, while magical elements catalyze the player's creativity in the healing process.	The game follows Aris's journey, who, through art, explores the city of Arar, a journey through art, creation, giving, sharing and exchange and landscapes that transform their surroundings.	The minimalist interface with hand-drawn fonts blends with the dark, atmospheric background, creating a cold, enveloping and vibrant artistic creation. Aris represents Aris's emotional healing journey. The game features a mix of platforming and narrative, creating a sense of personal catharsis in the healing process.	The repetitive disrupt mode mechanics and high difficulty of the restoration mode may disengage the player. The emotional intensity of the situations and the need for protection may be limited in some contexts.	Possible developments include inclusion with scenarios of different complexity, especially for less experienced players. The emotional intensity of the situations and the need for protection may be limited in some contexts.
<b>DOT'S HOME</b> It focuses on systemic racism and racial inequalities	The game combines point-and-click game mechanics with a narrative that follows the protagonist as he chooses the complexity of decisions faced in different historical periods.	The story unfolds through key moments in life, family, love, and death. The game features a mix of platforming and narrative, creating a sense of personal catharsis.	The 2D illustrations are inspired by animated short films, with a mix of black and white and color. The game features a mix of platforming and narrative, with particular attention to the focal points of the interactions.	The 2D illustrations are inspired by animated short films, with a mix of black and white and color. The game features a mix of platforming and narrative, with particular attention to the focal points of the interactions.	Possible developments include other timelines and historical periods. The modular setting could disengage us from the current contexts of migration and social control.
<b>ANOTHER DREAM</b> It promotes critical reflection on the needs of the LGBTQ+ migrants in contexts of persecution	The interactive experience transforms the user into an architect of a better world, where the player can explore the virtual environment. VR is used to create a sense of immersion, creating an emotional bridge to the true story.	The narrative combines documentary and artistic representation, with the player's actions and the game's mechanics being integrated with symbolic elements, such as the Egyptian pyramids.	The 3D interface uses 8-bit pixel art with desaturated colors to create an oppressive atmosphere. The space is functionally organized, with typewriters and elements that reflect Eastern European documents.	Limited access to VR technology could restrict the potential of the game. The modular setting could disengage us from the current contexts of migration and social control.	Possible developments include a VR version and an educational version. The modular setting could be used to create a training tool for immigration operators, reflecting on the variety of stories of migration.
<b>GAMER GIRL</b> Exploring gender and professional settings	A multiple-choice dialogue system simulates real-world interactions. Decisions influence narrative and character development through character reactions and narrative consequences of choices made.	The branching narrative, based on real cases, explores female isolation in male-dominated environments, and the experience of the player and the game's mechanics reflect the player's gender and the player's choice in the decision-making process.	The minimal style of the interface uses many pins and dots. The characters are illustrated in a stylized art style, with a mix of black and white and color. The game features a mix of platforming and narrative.	The system of choices could benefit from greater depth and longer consequences. Some situations may be more realistic than others, and the modular setting could be improved to better reflect the complexity of the situations faced in reality.	Possible developments include expanding the narrative system with more impactful choices, mini-games and modular levels. The modular setting could disengage us from the current contexts of migration and social control.
<b>BURY ME, MY LOVE</b> It raises awareness about the risks of migration through personal stories	The game simulates a real-time message communication between the player and the player's husband. The decisions of the player affect the outcome of the message and the experience of the player and the game's mechanics reflect the player's gender and the player's choice in the decision-making process.	The player takes on the role of Madi, Nour's husband, and through this relationship is stimulated the player's desire to migrate. The game features a mix of platforming and narrative, with particular attention to the focal points of the interactions.	The messaging interface creates an intimate experience. Images and texts stimulate the imagination of events. Pictures and text messages are used to create the palette of purple and pink, reflecting the storylines.	The excessive use of text messages and real-time communication risks limiting the experience. The focus on a single narrative perspective may not fully address the complexity of the situations faced in reality.	Possible developments include possible parallel narratives about the refugee crisis, with real documentary materials and images. The modular setting could disengage us from the current contexts of migration.
<b>NEWFEED DEFENDERS</b> Developing fact-checking skills and media literacy	Players face realistic scenarios where they have to choose what news to share, verifying sources and analyzing content. The game highlights the impact of fake news on the decision to disseminate information.	The narrative is based on concrete situations that reflect the experience of concrete social media. Despite the literacy of the post, players are invited in the need to make quick and responsible decisions.	The graphics reproduce the environment of a social platform with newsfeed, posts and images familiar to users. The simple style makes the experience accessible and easier to understand for the educational message.	Social simulation is in danger of becoming disengaging. The simplified and linear format may not adequately reflect the complexity of current and future communication dynamics.	Possible developments include expanding levels to a dynamic platform based on real news, where users collaborate in identifying new modes of fake news and share stories through a collaborative feature.
<b>BAD NEWS</b> It promotes critical reflection on the mechanisms of discrimination and develops critical thinking	The game simulates the management of a social media platform, where the player must make decisions that reflect the reality of the social media environment. This allows you to experiment with different management tactics, from polarizing to conspiracy theories.	The narrative develops through decisions that reveal the player's role in the spread of fake news and the experience of the player and the game's mechanics reflect the reality of the experience.	The interface faithfully replicates the aesthetics of social media, with a mix of black and white and color. The game features a mix of platforming and narrative elements such as the newsfeed.	The point-and-click format is a major source of frustration for the player. The modular setting could be improved to better reflect the complexity of the situations faced in reality.	Possible developments include evolution with updatable newsfeed, newsfeed with different levels of complexity and a modular newsfeed. The modular setting could be used to create a training tool for critical reflection and exchange of experiences.
<b>HARMONY SQUARE</b> It explores the dynamics of social media and the impact of a stigmatized approach	In a virtual community, the player manages a stigmatized square through four programmed modules: communication, education, and support, aiming to reduce the negative impact of the square on the community.	The irony between the peaceful Harmony Square and the stigmatized square generates the didactic effect. The game features a mix of platforming and narrative.	The graphics blend elements of circus and neighborhood social media, using pixelated colors. The game features a mix of platforming and narrative.	The irony may not be understood by everyone, and briefly kills the sense of expectation. The modular setting could disengage us from the current contexts of migration and social control.	Possible developments include the integration of real-world scenarios and multiplayer modes to explore the dynamics of social media and the impact of a stigmatized approach.
<b>DO ORAL</b> Teach health maintenance in the context of the COVID-19 pandemic	The game explores three manipulative techniques: emotional exploitation, misuse of scientific expertise, and conspiracy theories, showing how these elements contribute to the spread of misinformation about the pandemic.	The narrative is developed through the simulation of a social media environment during the pandemic. The player progressively discovers how manipulation, exploitation, and cognitive vulnerability to spread misinformation.	The graphics are inspired by the 8-bit era, with a mix of black and white and color. The game features a mix of platforming and narrative.	The description of COVID-19 and the beauty of the experience limit the complexity of the game in the long run, reducing the ability to prepare users to recognize and combat disinformation.	Possible developments include expansion with modules on different forms of health maintenance. The integration of social features and localized versions would facilitate dissemination and use in training contexts.

### 3.2. The Case Studies

#### 3.2.1. European Community-Supported Initiatives: Educational Video Games for Addressing Discrimination and Misinformation

Recent years have witnessed the implementation of several European Community-supported projects utilising video games as tools for enhancing media literacy, fostering critical thinking, and addressing discrimination. These initiatives are aligned with the United Nations Action Plan on combating hate speech, which emphasises the fundamental importance of addressing root causes through educational interventions and youth engagement. The European Union Code of Conduct monitoring framework, implemented through a network of member state organisations, provides a methodological structure for evaluating the efficacy of these educational instruments. Within this context, video games are integrated as components of comprehensive educational programmes encompassing multiple pedagogical activities. Four initiatives merit particular attention for their methodological approaches and demonstrated impact:

1. The “Yo-MEDIA” initiative, supported by the European Media and Information Fund, addresses youth media literacy within pandemic and conflict contexts. The methodological framework incorporates both qualitative and quantitative analytical approaches, emphasising experiential learning through gaming mechanisms. The programme facilitates collaboration among educators, media professionals, and youth participants (aged 11-17) to enhance information verification competencies. The initiative comprises three distinct gaming instruments: the Social Media Puppeteers role-playing simulation, the Social Media Fake News card game, and the Data Defenders video game. The latter, situated in 2165, integrates tower defence mechanics with media literacy elements, requiring participants to implement data analysis tools to protect information systems from disinformation attacks.

**Fig. 1**  
A Comparative Analysis Framework of Educational Video Games Addressing Discrimination and Misinformation

2. "Youth for Love", co-financed through the European Union Rights, Equality and Citizenship (REC) programme, addresses adolescent bullying, violence, and cyberbullying phenomena. The pedagogical framework, grounded in identification and decision-making processes, facilitates the development of risk situation recognition and management competencies. The programme's central component, Youth for Love – The Game, presents an interactive narrative environment wherein participants engage with twelve interconnected character narratives, implementing decision-making processes within quotidian contexts, supported by adult guidance frameworks.

3. "CONVEY", a transnational initiative within the Rights, Equality and Citizenship programme, addresses sexual violence and harassment through digital pedagogical interventions focusing on gender stereotypes. Targeting adolescents aged 14-18, the programme integrates educator training, pilot implementation, policy recommendations, and longitudinal impact assessment. The initiative's primary instrument, Not A Game [Fig. 2], examines gender-based violence through an investigative framework incorporating four case studies. The gameplay methodology synthesises investigative processes, temporal narratives, and interactive dialogue, integrating documentary evidence and primary source testimonials through multimedia presentation.

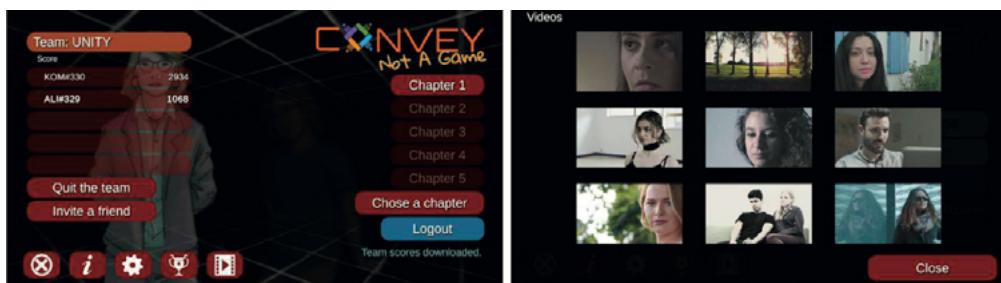


Fig. 2

Screenshot from the video game *Not A Game*. (CONVEY Onlus, 2019).

4. "Play for your rights!", supported by Erasmus+, addresses gender-based discrimination and sexism through media education and gamification methodologies. The initiative facilitates educator-student collaboration (ages 12-18) in the co-development of digital instruments addressing social media hate speech. The programme incorporates the Strategic Relations card game and an Urban Game implementation [Fig. 3], integrating physical exploration and digital interaction through strategically positioned QR codes. Participating groups engage with discrimination scenarios through competitive social media simulations.



Fig. 3

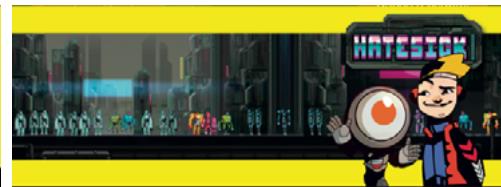
Screenshot from the video game *Play for your rights! - Urban Game*. (Zaffiria Onlus, 2020).

### 3.2.2 Amnesty International's Contribution: HateSick - Alter's Adventures

Amnesty International, as part of its comprehensive programme of initiatives addressing online hate and promoting inclusion - including the "Hate Barometer" and the "Table for Countering Hate Speech" - has developed a video game addressing intolerance and discrimination: *HateSick - Alter's Adventures* [Fig. 4]. Developed with input from children and

adolescents, the game aims to raise youth awareness about hate and discrimination. The video game is structured as a 2D platform experience where environmental exploration and overcoming physical obstacles serve as metaphors for social barriers. The narrative unfolds through non-player characters' personal stories within a dystopian context dominated by intolerance, where the protagonist discovers social exclusion dynamics through encounters with marginalised characters.

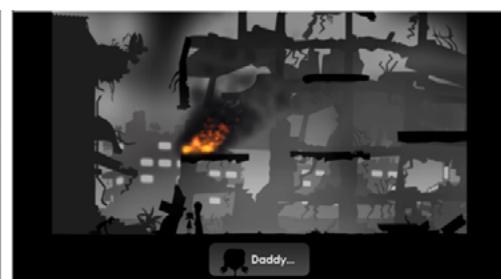
### 3.2.3. Games for Change: Diversified Approaches to Addressing Discrimination



**Fig. 4**  
Screenshot from the video game *HateSick - Alter's Adventures* (Steam Factory, 2019).

Since 2004, the Games for Change (G4C) organisation has supported initiatives utilising Serious Games for social change. As illustrated in Fig. 1, analysis of the video games on their platform reveals ten significant cases addressing discrimination and misinformation through complementary approaches. In media literacy, *NewsFeed Defenders* simulates a social media experience to develop information verification competencies, whilst in the migration context, *Bury Me, My Love* and *Papers, Please* offer distinct perspectives on the phenomenon: the former through real-time interactive narrative of a refugee's journey, the latter through simulation of bureaucratic and moral complexities in border control. Social discrimination is explored through diverse immersive experiences: *Dot's Home* addresses systemic racism through temporal navigation of urban dynamics, whilst *1,000 Cut Journey* employs virtual reality to illuminate daily microaggressions. *Another Dream* combines interactive documentary and VR to examine the intersection of LGBTQ+ discrimination and forced migration. *This War of Mine* and *Liyla and the Shadows of War* [Fig. 5] document conflict impact on civilians, the former through survival mechanics, the latter via a platform narrative based on actual events in Gaza.

*Gamer Girl* and *Concrete Genie* [Fig. 6] represent innovative approaches to technological sector sexism and bullying respectively, the latter employing visual metaphors and creative mechanics that transform art into a resilience instrument.



**Fig. 5**  
Screenshot from the video game *Liyla and the Shadows of War* (Rasheed Abueide, 2016)..

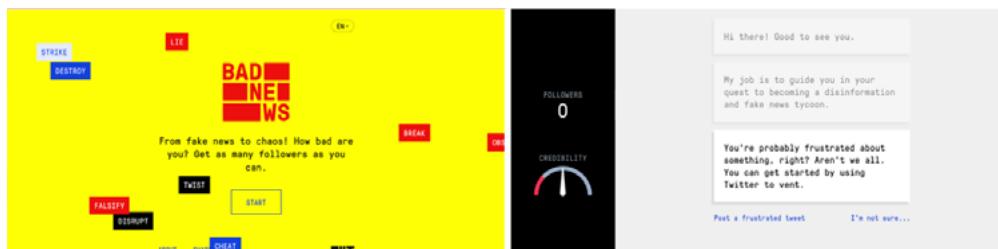


**Fig. 6**  
Screenshot from the video game *Concrete Genie* (Pixelopus, 2019).

### 3.3.4. Newsgames and Inoculation Theory in Addressing Disinformation

Newsgames represent a hybrid form combining journalism and game design to inform the public about current affairs and develop resistance to false information, applying principles of psychological inoculation theory. According to van der Linden, Roozenbeek and Basol (2022), this theoretical framework employs a vaccine analogy: exposing individuals to controlled doses of manipulative information (prebunking) activates “mental antibodies” against persuasive techniques, effectively “inoculating” the mind against disinformation. *Bad News*, developed through collaboration between DROG, Gusmanson Design, and the University of Cambridge, exemplifies this approach through paradoxical design: players, positioned as disinformation creators, directly experience media manipulation strategies, from polarisation to conspiracy theory construction. The interface, replicating social media aesthetics, structures this experience through progressive choices revealing the consequences of information manipulation. Longitudinal research on *Bad News* [Fig. 7] efficacy (Maertens et al., 2021) documents significant enhancement in false information recognition and critical evaluation capabilities.

This methodology has generated targeted implementations: Harmony Square (2020) addressing political disinformation and subsequently Go Viral countering pandemic-related misinformation proliferation, demonstrating the model’s adaptability in responding to diverse forms of information manipulation.



**Fig. 7**

Screenshot from the video game *Bad News* (DROG, Gusmanson Design, University of Cambridge, 2018).

## 4. RESULTS OF VIDEO GAME ANALYSIS AGAINST DISCRIMINATION AND DISINFORMATION: EMERGING TRENDS AND CRITICAL ISSUES

### 4.1. Identified Evolutionary Patterns

The analysis of 18 case studies, developed through four analytical dimensions and summarised in Tab. 1, shows significant evolutionary patterns in serious games. The comparative table highlights a growing integration between game mechanics and educational objectives, alongside a diversification of narrative strategies based on the themes addressed and a constant adaptation of visual language to the needs of the target audience. Specifically:

1. In educational objectives, a training strategy structured on three interconnected dimensions emerges. The first concerns the development of empathy and identification, as in *1,000 Cut Journey* and *Another Dream*, which emphasise direct experience and emotional immersion. The second focuses on analytical skills, as in *Bad News*, *NewsFeed Defenders* and *Data Defenders*, emphasising critical thinking and information evaluation. The third involves socio-personal growth, present in *Youth for Love* and *Concrete Genie*, where social learning combines with individual development.
2. Game mechanics follow two distinct but complementary approaches. The first favours consequential decision-making systems, as in *Papers, Please* and *This War of Mine*, where player choices produce concrete effects in the game world. The second emphasises analytical-evaluative systems, as in *Data Defenders* and *NewsFeed Defenders*, focusing on measuring decisional impact.

3. The narrative approach develops through three modes: contextualised personal narrative, as in *Dot's Home* and *Gamer Girl*; projection into future scenarios, illustrated by *Data Defenders*; and narrative based on real events, as in *Not A Game*. Character development and construction of realistic situations strengthen player identification.
4. Visual design presents various solutions, from the minimalism of *Lyla and the Shadows of War* to the photorealism of *1,000 Cut Journey*. The strategic use of colour becomes essential narrative support, as in *Concrete Genie* and *Another Dream*. Interfaces incorporate social media elements and digital platforms familiar to the target audience.

#### 4.2. Critical Discussion and Future Perspectives

The results highlight that game design evolution in this field manifests in growing thematic complexity and refinement of narrative solutions, and that the integration of these games into broader educational projects enhances their pedagogical effectiveness. There is an emerging greater capacity to balance the playful aspect with the educational one and to create meaningful experiences where learning arises from interaction. Also significant is the co-design of these video games with young people to ensure the correspondence of content and mechanics to target audience needs.

The evolution of game design reflects increasing thematic complexity and narrative sophistication, amplified by integration into broader educational projects. As theorised by Miguel Sicart (2013), systems based on micro-decisions foster greater ethical depth compared to limited-choice narratives, creating environments where consequences emerge from the accumulation of small decisions.

The main critical issues concern: dependence on intermediaries to optimise educational impact, technological obsolescence due to the rapid evolution of digital media, the need for constant content updating due to continuously changing strategies in the spread of discriminatory ideas and disinformation. Another limitation is the difficulty of measuring the specific impact of these educational tools, distinguishing them from other factors that influence media literacy.

These critical issues indicate possible directions for future research, including the need to develop precise metrics to evaluate the effectiveness of these tools and to consider cultural variables in their implementation, through an approach that measures not only skill acquisition but also long-term behavioural changes. Quantitative pre/post intervention analyses could be employed with validated scales and qualitative evaluations through focus groups, semi-structured interviews, and longitudinal behavioural tracking.

### 5. CONCLUSIONS: EFFECTIVENESS AND PERSPECTIVES OF VIDEO GAMES IN MEDIA EDUCATION AND COMBATING DISCRIMINATION

Recent years have shown significant evolution in educational video game implementation, confirming Katie Salen and Eric Zimmerman's (2003) insight: games not only reflect culture but help shape it, influencing our thought patterns. Game design proves crucial in developing critical competencies and media literacy, promoting exploration of diverse perspectives and reducing prejudice (Passmore et al., 2018). This evolution reflects EU Code of Conduct and UN Action Plan objectives: developing resistance to hate narratives through innovative educational tools, while promoting critical thinking and digital awareness in an evolving media ecosystem.

Analysis highlights three key dimensions in educational video game effectiveness: capacity to transform complex social themes into meaningful interactive experiences; integration of ludic mechanics with educational objectives; and development of critical competencies through narrative immersion. For anti-discrimination video games, direct youth involvement in design emerges as a determining factor, alongside multiplayer experience implementation

facilitating intercultural dialogue through immersive technologies. Visual design assumes a strategic role in mediating between representative authenticity and emotional engagement, while newsgame evolution indicates significant potential in social platform integration and artificial intelligence utilisation for personalised learning. The collaborative dimension proves essential in developing effective informal learning communities. Future challenges require an integrated approach combining more sophisticated evaluation tools with continuous adaptation to the digital ecosystem. These educational tools' success depends on their ability to evolve alongside technological and social transformations, maintaining educational effectiveness through synergistic collaboration between game designers, educators, researchers and young users, supported by institutions. This represents the necessary condition for developing educational tools capable of effectively contributing to building a digitally aware and inclusive society.

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