IUT Laval
Le Mans Université

cais acsi

Digital Serious Games as Educational Tools:
Information Practices, Integration Perspectives, and Preservation Challenges at the French National Library (BnF)

Authors *Mamoudou Ndiaye, Fabrice Pirolli & Raphaëlle Crétin-Pirolli*

Le Mans Université, Pays de la Loire, France

Introduction

Serious Games (SGs) are innovative educational tools combining learning with entertainment, responding effectively to contemporary digital and pedagogical challenges. Yet, their integration into educational practices and their preservation as cultural artifacts pose significant challenges. Our study investigates the information-related practices of teachers and pedagogical engineers involved with SGs and examines preservation efforts at the French National Library (BnF).
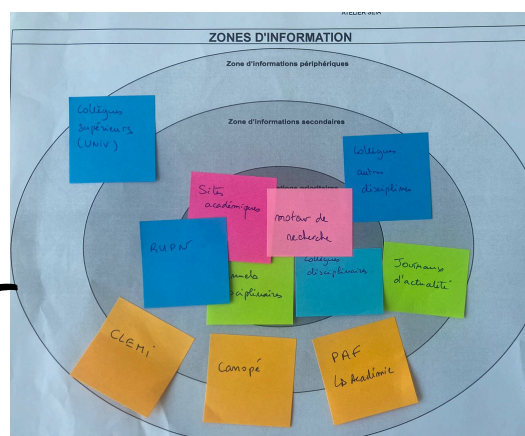
Research Questions

- What information practices are adopted by teachers and educational engineers when working with Serious Games?
- What are the reasons (technical, institutional, social) that limit the integration of SGs in educational contexts?
- What are the challenges and strategies for preserving SGs as heritage artifacts?

Methodology

Mixed methods approach :
- Participatory Workshop: 31 teachers and educational engineers (EdTech Day, Le Mans
- University)
- Semi-Structured Interviews: Teachers and instructional designers from diverse disciplines
- Observation at The French National Library (BnF) which has been a key actor in the preservation and documentation of Video Games, leveraging its mandate as part of the legal deposit framework established in 1992.

Teachers Information Practices workshop   **BnF**
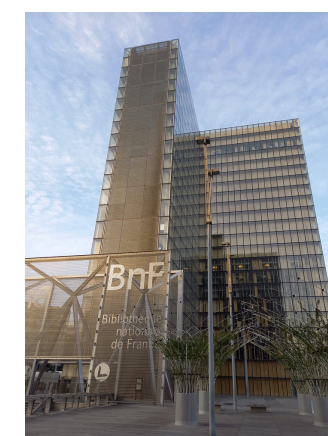
Table 1. Type of Information Sources according to Savolainen

Type of sources according to Savolainen	Average score	Total score	Total sources	Zone 1	Zone 2	Zone 3	%
Human Sources	2,48	156	63	38	17	8	22%
Printed Sources	1,98	91	46	12	21	13	16%
Websites – Online sources	2,19	221	101	38	44	19	35%
Organisational sources	1,96	100	51	14	21	16	18%
Other sources	2,11	57	27	9	12	6	9%
Total			288	111	115	62	100%

Teachers' Informations Practices

Teachers and pedagogical engineers utilize diverse resources and face unique informational needs when identifying, selecting, disseminating, and integrating SGs. Despite institutional encouragement, adoption barriers persist, including:
- Hardware/software obsolescence (need for emulation)
- Many SG only exist online (difficult to archive)
- Non-spontaneous deposits from creators
- Economic and legal barriers

Conclusion

Understanding informational practices related to SGs and overcoming integration and preservation challenges can significantly advance educational innovation and cultural heritage management. Collaborative efforts between educational actors and preservation institutions are essential.

References

- Alvarez, J. (2007). Du Jeu Vidéo au Serious Game [Thèses, Université Toulouse]. https://hal.archives-ouvertes.fr/tel-01240683
- Chaudiron, S., & Ihadjadene, M. (2010). De la recherche de l'information aux pratiques informationnelles. Études de communication. Langages, information, médiations, 35, 13–30. https://doi.org/10/gf3vb8
- Savolainen, R., & Kari, J. (2004). Placing the Internet in information source horizons. A study of information seeking by Internet users in the context of self-development. Library & Information Science Research, 26(4), 415–433. https://doi.org/10.1016/j.lisr.2004.04.004
- Sonnenwald, D. H. (1999). Evolving Perspectives of Human Information Behavior: Contexts, Situations, Social Networks and Information Horizons.

Le Mans Université   **cren** Centre de Recherche en Éducation de Nantes