



**HAL**  
open science

# The Digital Serious Games, a Specific Educational Resource: Analysing Teachers and Educational Engineer's Information Seeking Behaviour Using the Concept of Information Horizons

Mamoudou Ndiaye, Fabrice Pirolli, Raphaëlle Crétin-Pirolli

## ► To cite this version:

Mamoudou Ndiaye, Fabrice Pirolli, Raphaëlle Crétin-Pirolli. The Digital Serious Games, a Specific Educational Resource: Analysing Teachers and Educational Engineer's Information Seeking Behaviour Using the Concept of Information Horizons. Games And Learning Alliance Conference 2023 (GALA 2023), Nov 2023, Dublin (IE), Ireland. Springer Nature Switzerland, Games and Learning Alliance, 14475, pp.444-450, 2024, Lecture Notes in Computer Science. 10.1007/978-3-031-49065-1\_47. hal-04329800

**HAL Id: hal-04329800**

**<https://hal.science/hal-04329800v1>**

Submitted on 7 Dec 2023

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

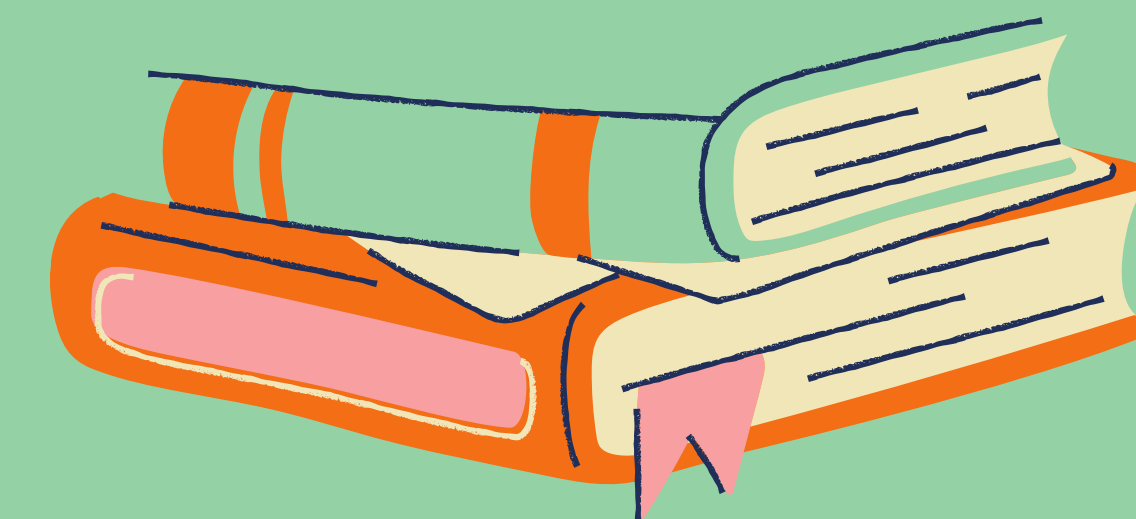
L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# THE DIGITAL SERIOUS GAMES, A SPECIFIC EDUCATIONAL RESOURCE: ANALYSING TEACHERS AND EDUCATIONAL ENGINEER'S INFORMATION SEEKING BEHAVIOUR USING THE CONCEPT OF INFORMATION HORIZONS

We present the first study that analyses and understands the information seeking behaviour of teachers and pedagogical engineers in the context of Serious Games. Although digital Serious Games are increasingly recognized as valuable educational resources, research into teachers and pedagogical engineers' information-seeking behaviour and needs in this area remains sparse.

## Authors

Mamoudou Ndiaye, Fabrice Pirolli, Raphaëlle Créatin-Pirolli  
Le Mans Université, CREN, EA 2661 Le Mans, France  
mamoudou.ndiaye@univ-lemans.fr



## INTRODUCTION

In today's rapidly evolving digital landscape, the utilization of digital Serious Games (SG) as educational resources is gaining considerable attention. Our research focuses on the educators' pursuit of information to identify, find and access these games in order to successfully integrate them in their pedagogical activities.



## OBJECTIVE

This study examines the **information seeking behaviour** of teachers and educational engineers who use or intend to use digital Serious Games in their pedagogical practices or contribute to their use.

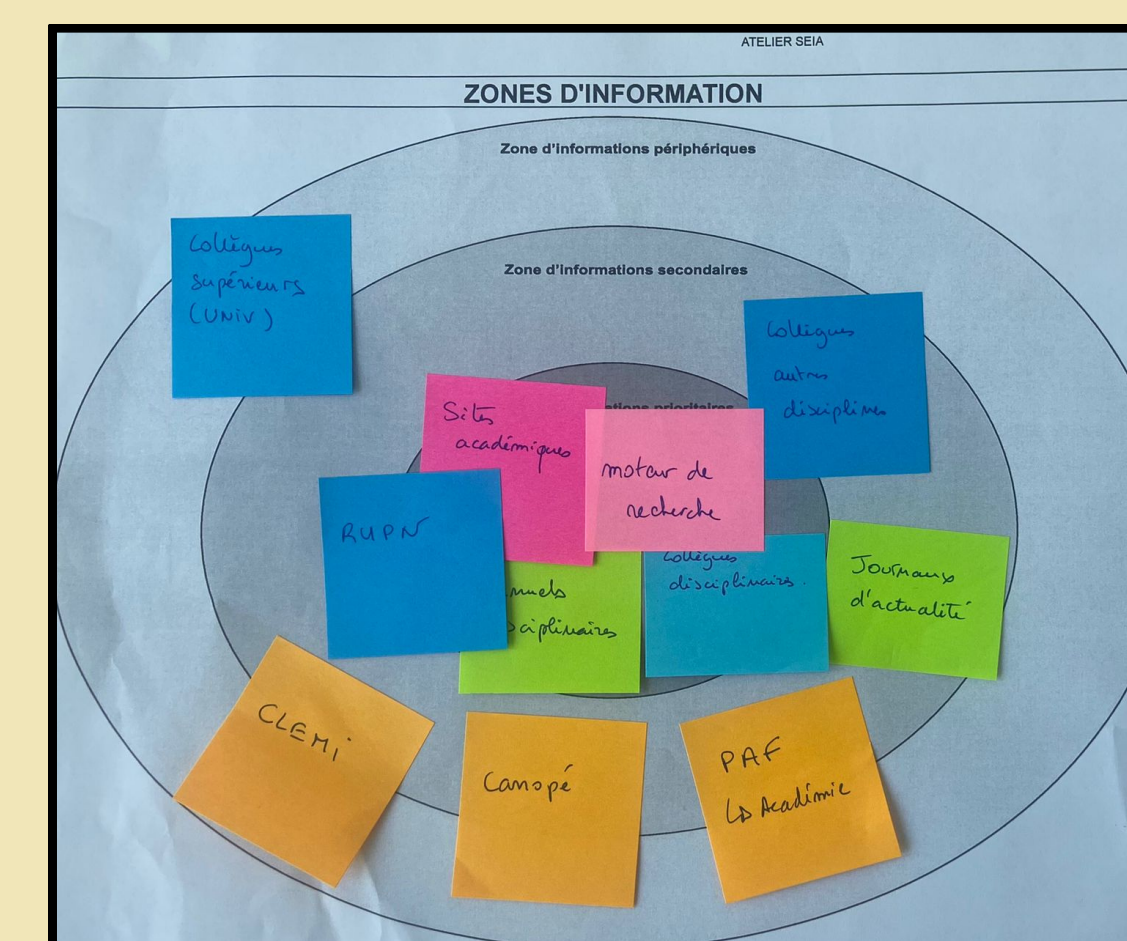
## LITERATURE REVIEW

Despite the growing recognition of digital Serious Games as valuable educational resources, **there is a scarcity of research exploring teacher's information seeking behaviour concerning these resources.** Most of the studies are centred on video games.

To fill that gap, **we investigated their information seeking behaviours using the concept of Information Horizons.** Introduced by Diane Sonnenwald[2], this concept posits an "information horizon" shaped by decisions, search processes, preferences, and situational impacts, comprising human, digital, printed, and organizational sources

## METHODOLOGY

We engaged with 31 educators through workshops, employing the **Information Horizon** methodology to elucidate their information-seeking practices related to Serious Games.



Participant information sources positioned from Zone 1 to 3 : from most important to least important source

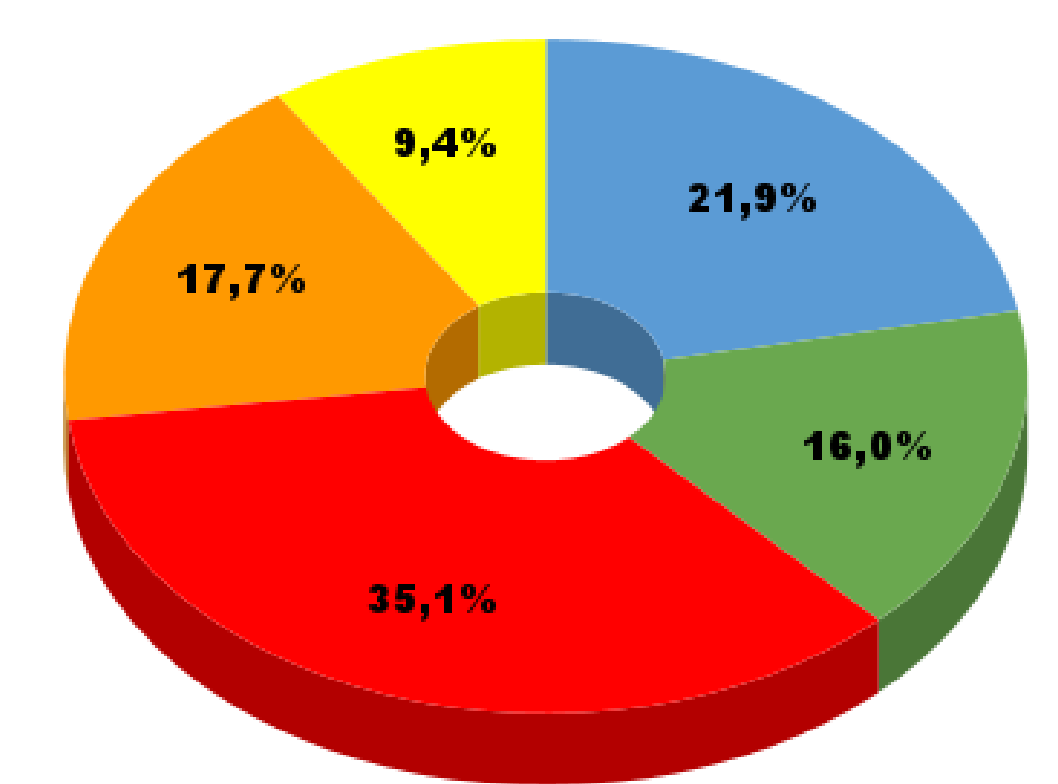
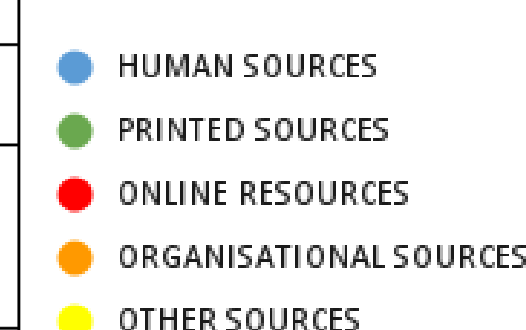
## RESULTS

**Data reveals a heavy reliance on human and online resources.** Primary sources include personal networks and digital platforms, with organizational and printed materials being less frequented.

**Educators expressed a need for specialized search tools for Serious Games** and opportunities for professional development and resource sharing.

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 resources	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%

Table 1. Type of sources according to Savolainen [3]



Teachers and pedagogical engineers information sources

## DISCUSSION

### Trend Towards Digital Learning Resources:

- Online resources considered accessible, diverse, and current.
- Highlights the need for robust online platforms for Serious Games information.

### Significance of Human Sources:

- Key for their direct, immediate, and interactive nature.
- Provide contextual information and tailored recommendations.
- Possible indication of a gap in formal and comprehensive information sources.

## CONCLUSION

The study highlights the **need for improved distribution of resources** and suggests **potential for strengthening the collaboration between teachers and Serious Game designers.**

To delve deeper into these initial findings, **we have conducted semi-structured interviews with the participants.** This will allow us to explore the emerging themes in greater depth, better understand participant experiences, and identify potential strategies to address these unmet needs more effectively.

## Related literature

1. Case, D.O., Given, L.M. eds: Information Needs, Motivations, and Use. In: Studies in Information. pp. 79–96. Emerald Group Publishing Limited (2016).
2. Sonnenwald, D.H., Wildemuth, B.M., Harmon, G.L.: A Research Method to Investigate Information Seeking using the Concept of Information Horizons: An Example from a Study of Lower Socio-economic Students' Information Seeking Behavior. 22 (2001).
3. Savolainen, R., Kari, J.: 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, 415–433 (2004).

