

Bibliometric Analysis of Game-Based Methodology in Environmental Education

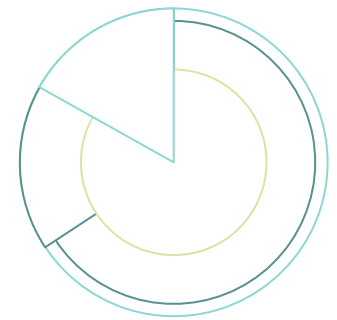
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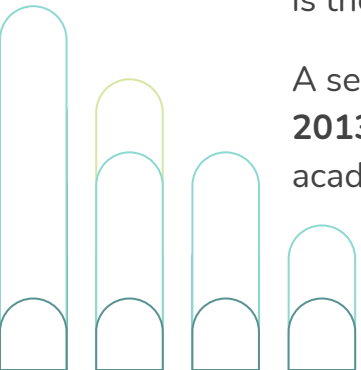
Introduction



Environmental Education is the educational process that relates the individual to his or her natural and artificial environment, considering all the elements that it affects and is affected by, such as population density, pollution, resource use, urban/rural planning, etc.

One of the trends that is obtaining the best results for teaching in environmental education is the use of **game philosophies** for its development.

A search of the word “gamification” in Scopus shows that **213 papers** were published in **2013** and **1193 papers** in **2020**. This shows the growing interest in the subject in the academic field. In this sense, Environmental Education is also taking on this interest.





Objective

“To facilitate the **understanding of the field of study of environmental education** that uses **gamification** as a methodology, making visible both those **topics considered relevant and** those that can serve as a **research niche**. For this reason, we proposed the creation of representations that could serve as a starting point for future interested researchers through bibliometric analysis.”

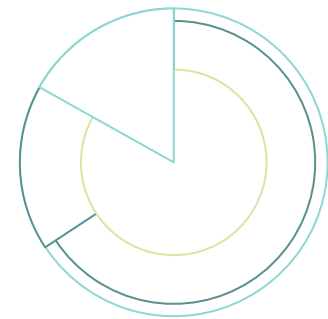


Methodology





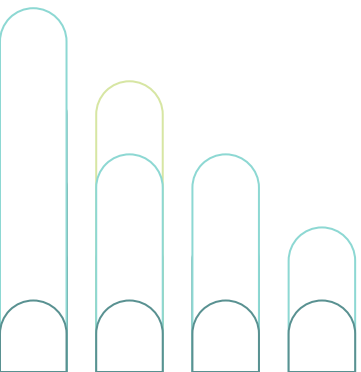
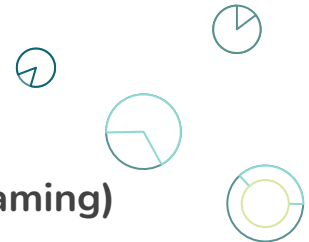
Bibliographic collection



Collected from the Web of Science (WoS) Scopus database in June 2021.

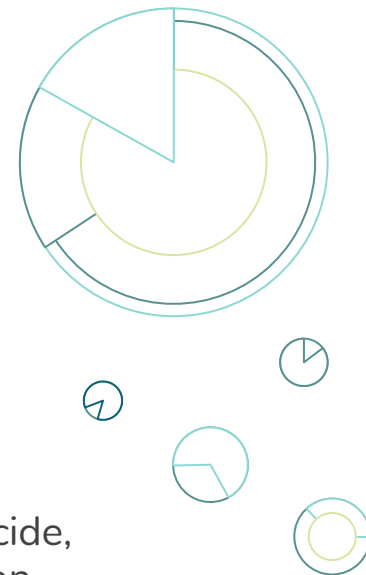
Syntax: **(KEY(environmental AND education)) AND (gamification OR gaming)**

The collection was **228 documents**, dated between 1972 and 2021.





Analysis

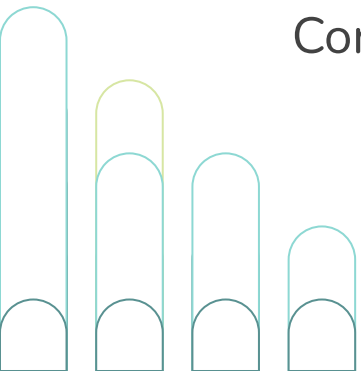


Cluster Analysis

The references of each document are related and when they coincide, they are “linked”. The degree of linkage can be calculated based on whether they share the same reference.

Conceptual Analysis

The relationship between the keywords of the documents in the collection are evaluated.

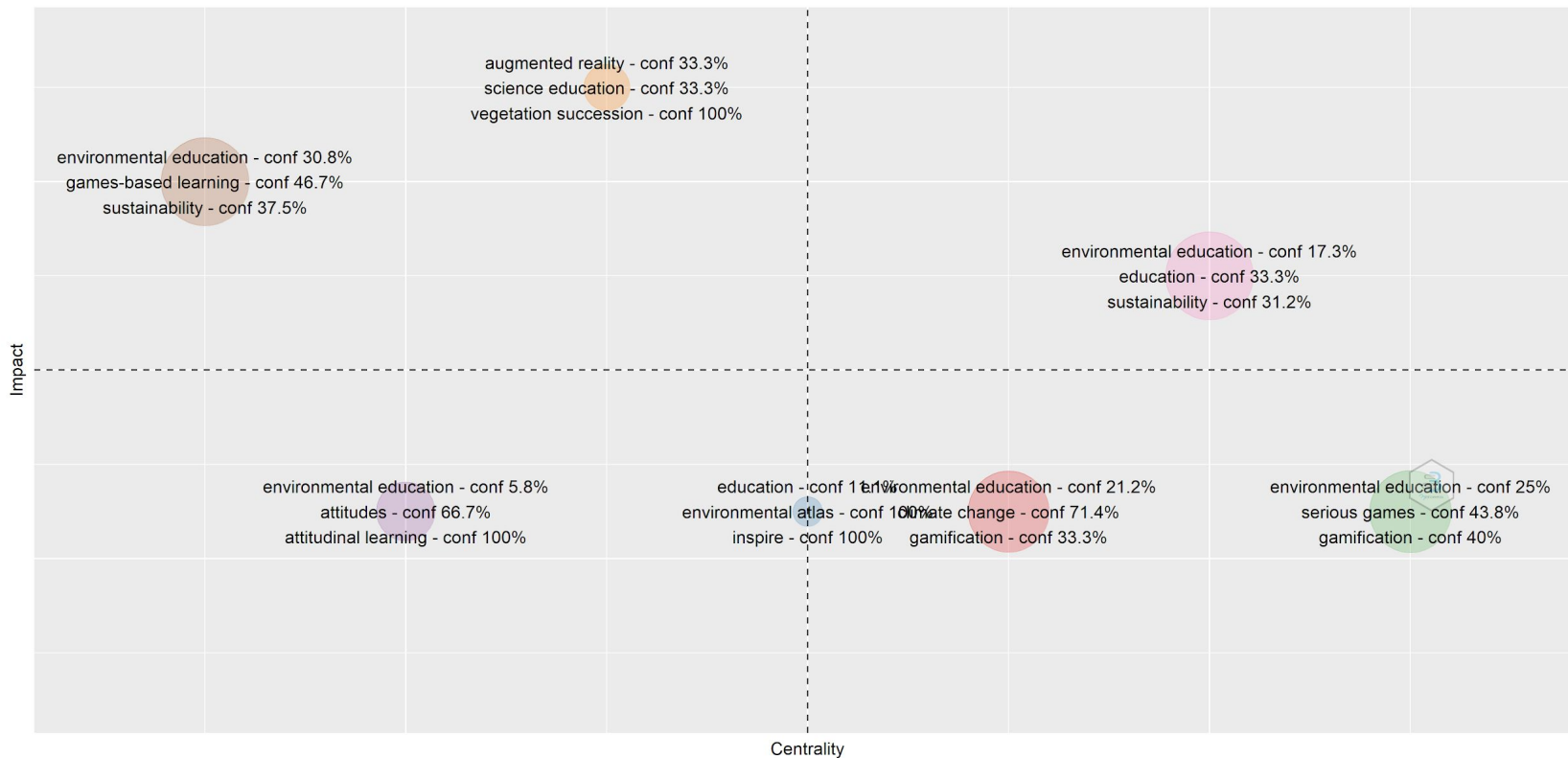


Results



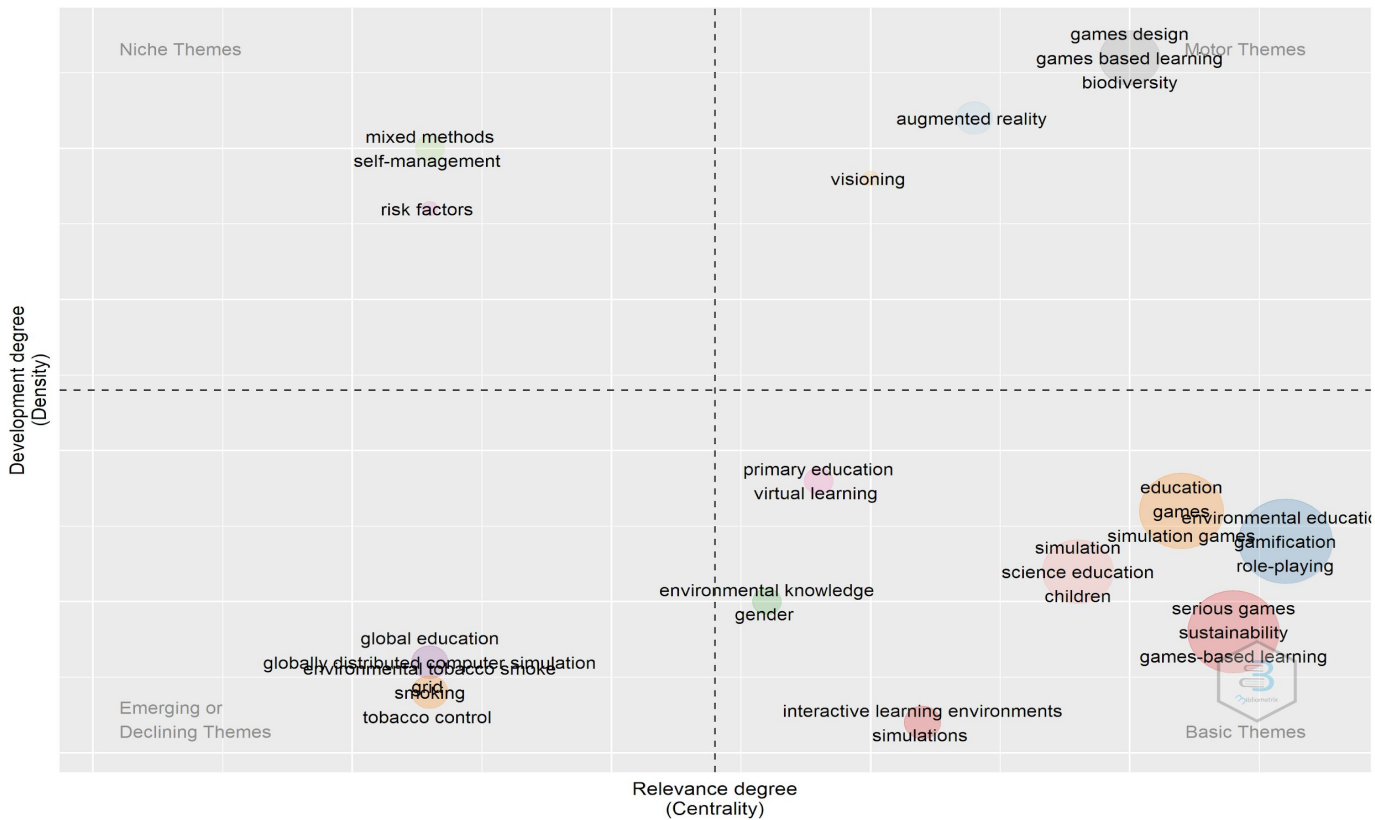


Cluster Analysis





Conceptual Analysis

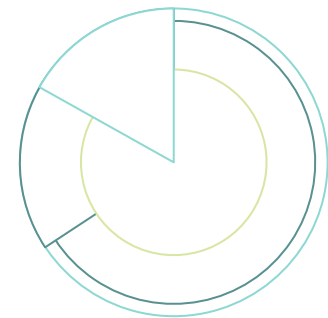


Conclusions



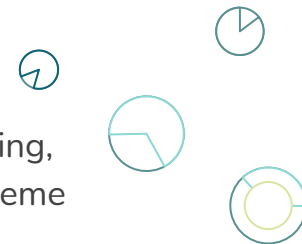


Conclusions



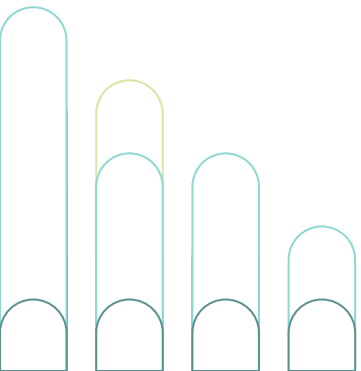
According to Cluster Analysis:

The themes are related in such a way that the links between game-based learning, probably through serious games, and sustainability within the environmental theme seem to be more relevant.



According to Conceptual Analysis:

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