

Exploring the Role of Mobile Technologies in Place-Based Learning: A Review of Literature

Lili Yan, Utah State University | Mckay Colleni, Utah State University

Context

There is often a disjuncture between school and children's lives that can be found in educational practices (Smith, 2002). Formal school learning can be considered as a-cultural, especially in the STEM disciplines (e.g. Bang & Medin, 2010). There is a need for learning to be more locally contextualized and connected to children's communities.

Place-based learning

- Is a learning experience that enables the exploration of a local environment or community.
- Can adapt to the unique characteristics of a particular place (Smith, 2002).

Mobile Technologies

- Are getting ubiquitous.
- Mediate how people can engage with the place.
- However, less has been discussed about the role of mobile technologies in place-based learning across studies.

Methods

In this study, we conducted a systematic review (Khan, Kunz, Kleijnen, & Antes, 2003) on the roles of mobile technologies in place-based learning (Fig 1).

We employed qualitative content analysis (Hsieh & Shannon, 2005) to examine the collected studies and classify the collection of studies systematically by grouping the studies into categories.

Research Questions

AUGMENTED REALITY

In what ways have mobile technologies been used in place-based learning?

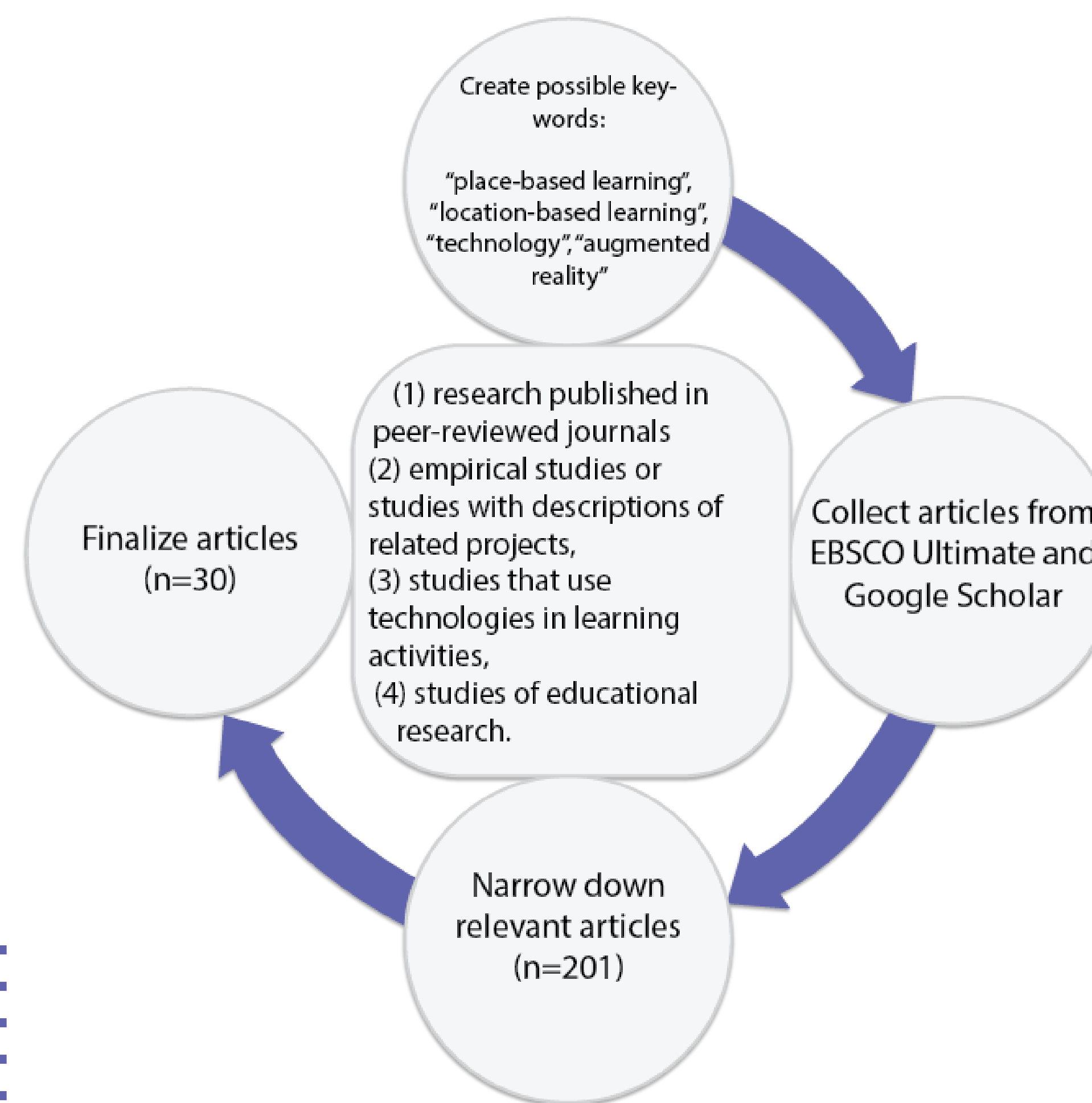


Figure 1 – Article selection process for the systematic review

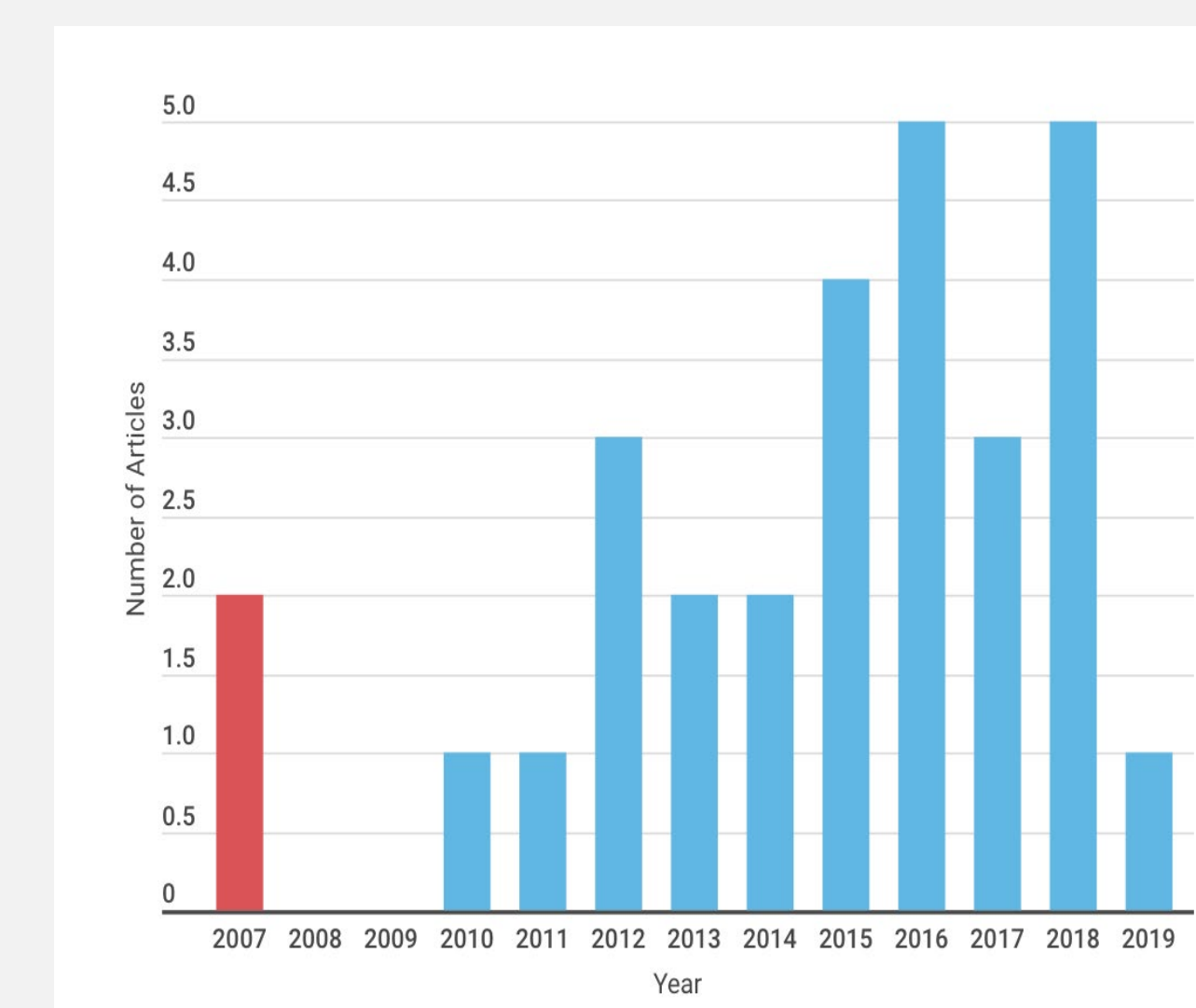
Scholarly Significance

- The three identified roles of mobile technologies help to understand the relationship between the learner and the place.
- The integration of technologies should not disconnect the learner from the place.
- Location and culture are important resources. Affordable and alternative options are possible to realize these roles when technologies are not available.

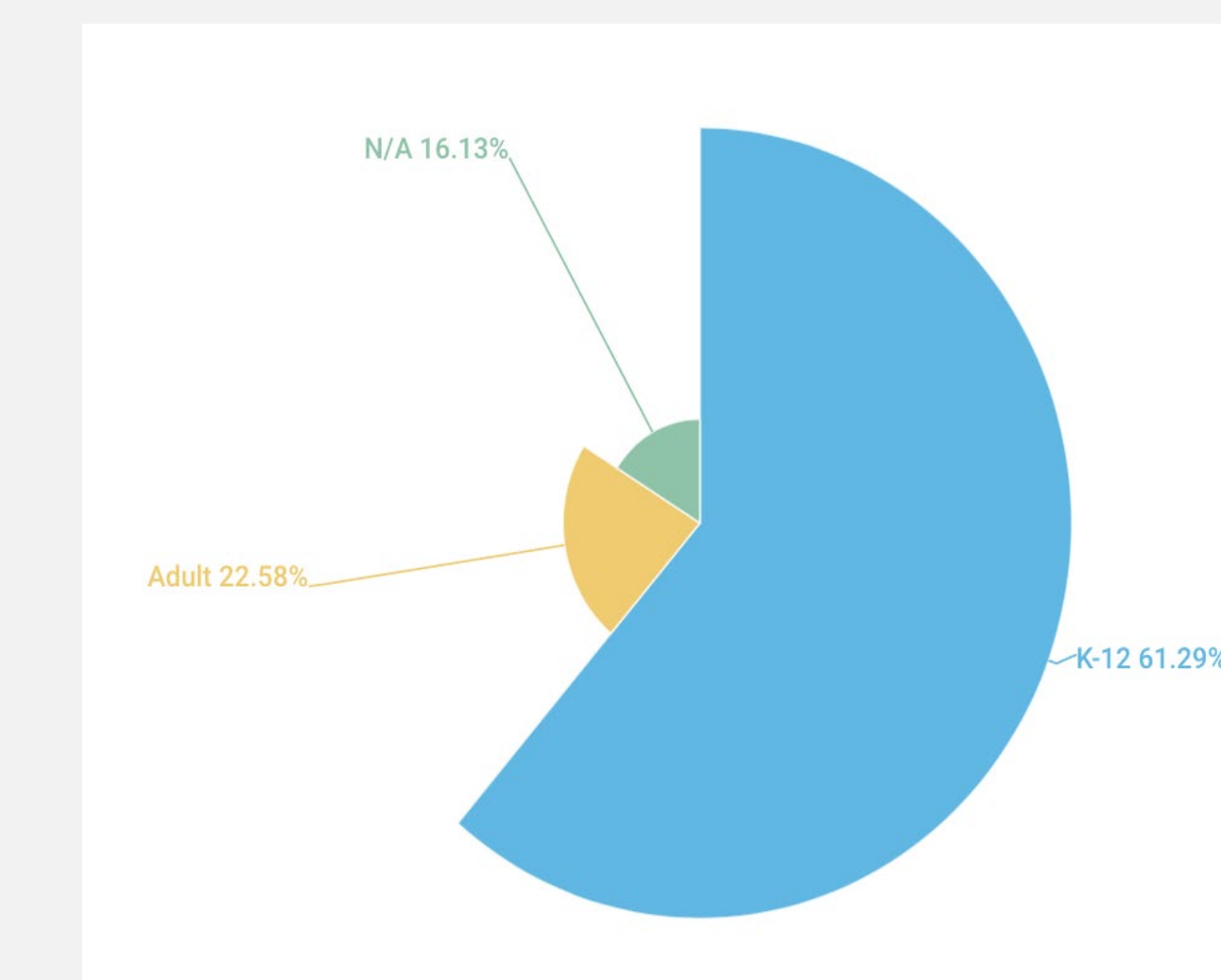
Results

I. Overview of Reviewed Studies

(1) The 30 selected studies were published from 2007 to 2019.



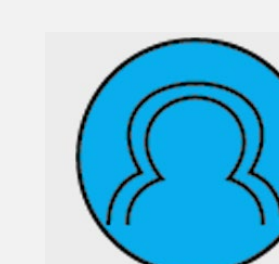
(2) Diverse participants can be identified, including k-12 students, college students, teachers, and adult volunteers.



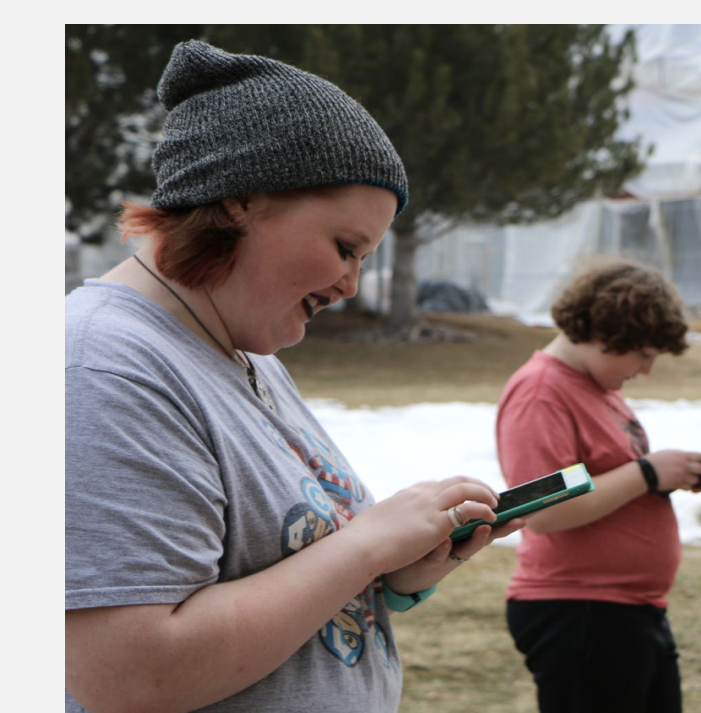
(3) Settings and subject areas

- Partnership between formal and informal settings
- Deep content engagement with a single subject
- Interdisciplinary nature is part of the designed activities.

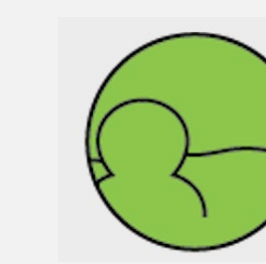
II. The Role of Mobile Technologies in Place-Based Learning



Technologies help to enhance the identity of the explorer of the place



Mobile GPS and location aware applications facilitate scientific observation. Blatt (2013) integrates GPS technologies and basic computer-based tools (e.g. Microsoft Excel) with the inquiry-based learning activities about local trees.



Technologies increase the interactivity with the place



Zheng, Liu, Lambert, Lu, Homei and Holden (2018) employed 3D holographic and AR technology in designing place-based interactive language learning experience.



Technologies co-create the learners' embodied experience



Learners' mobility in the familiar place were resources for learning (Headrick, 2017). Sakr, Jewitt, and Price (2016) investigated the use of mobile technologies in creating learning environments that support emotional engagement.

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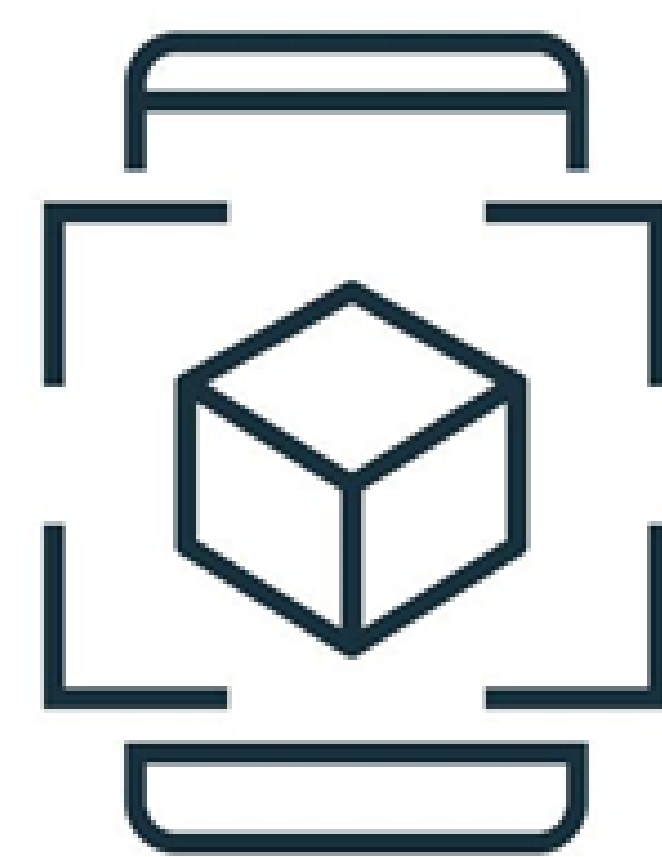
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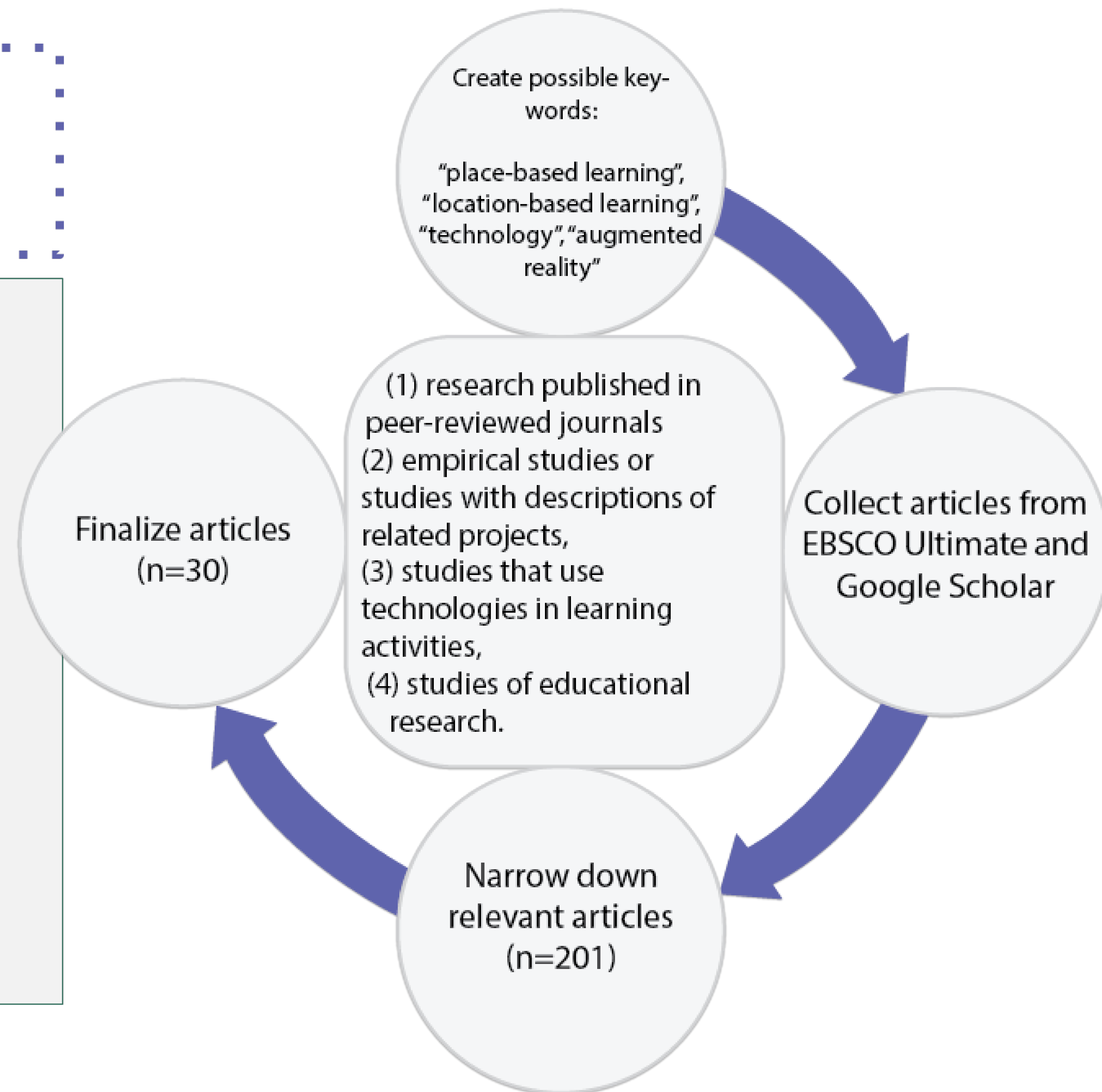


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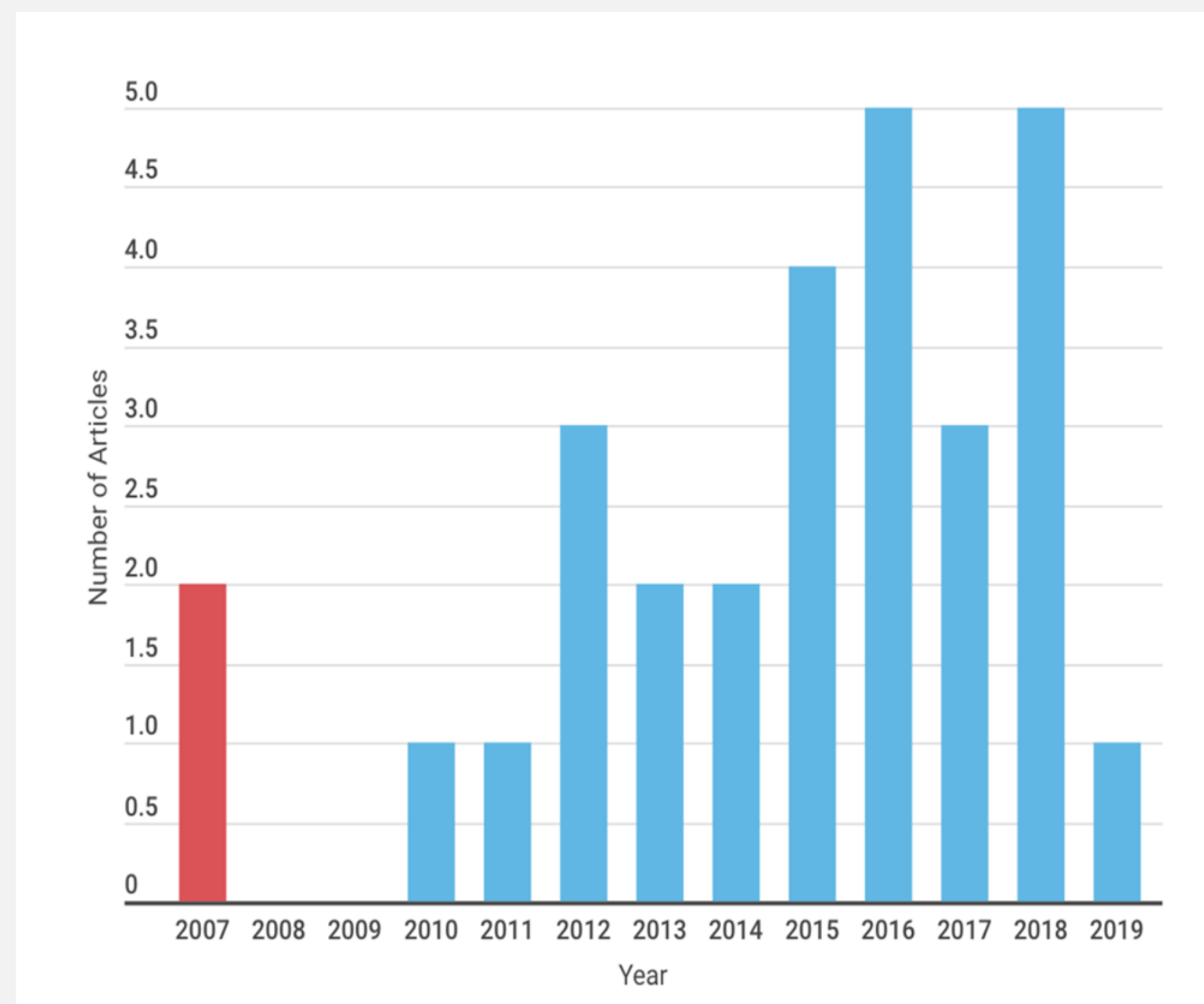
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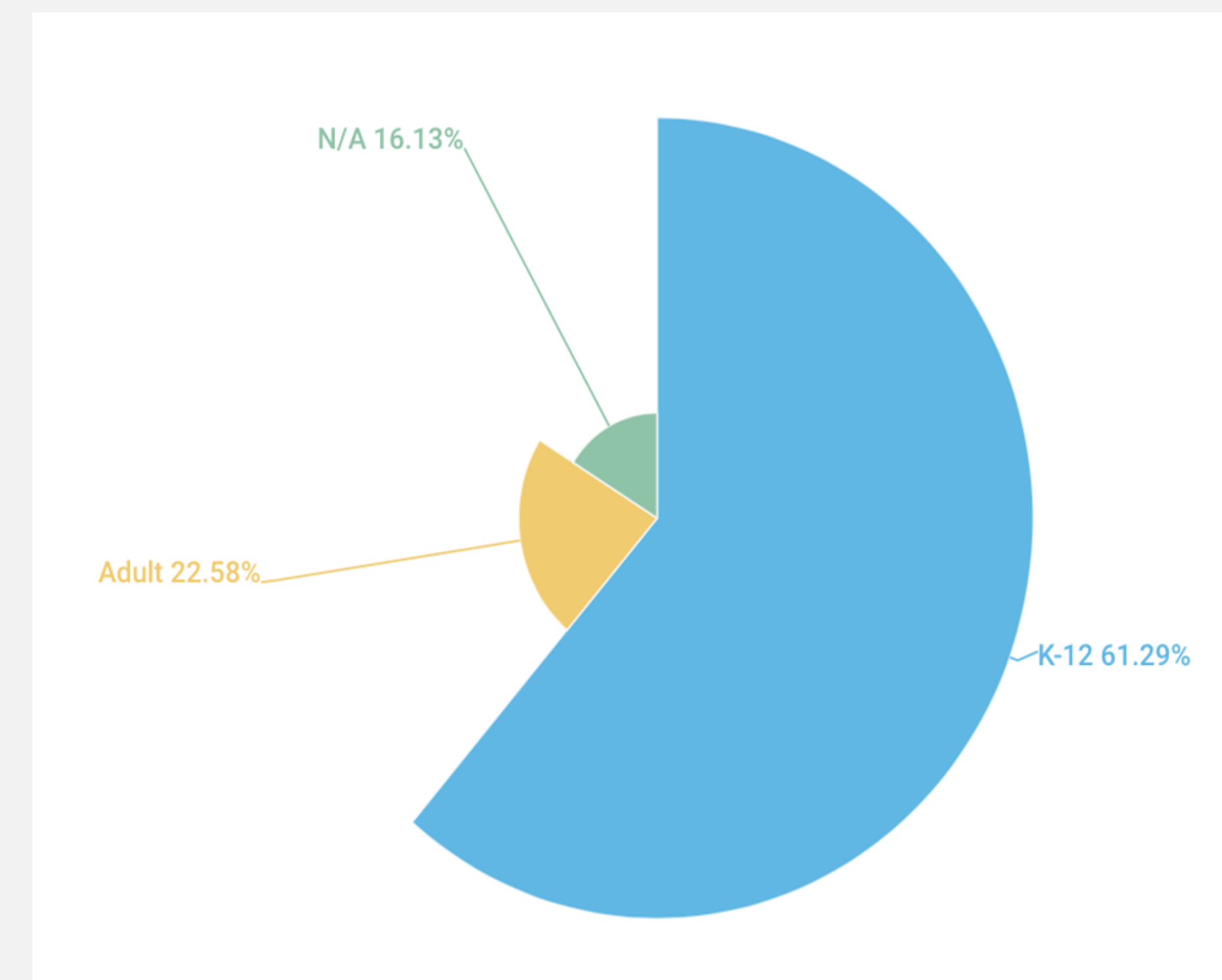
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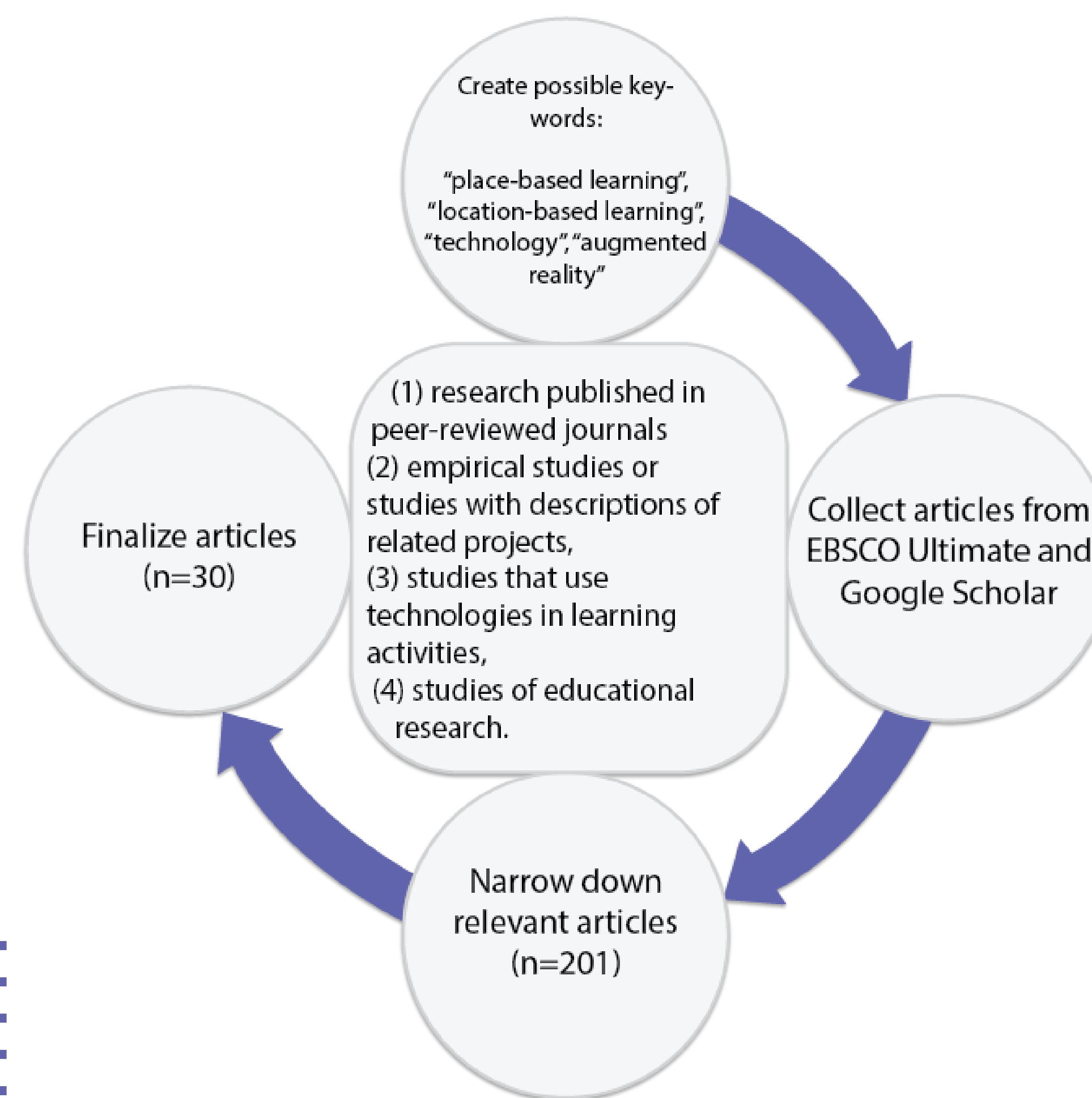


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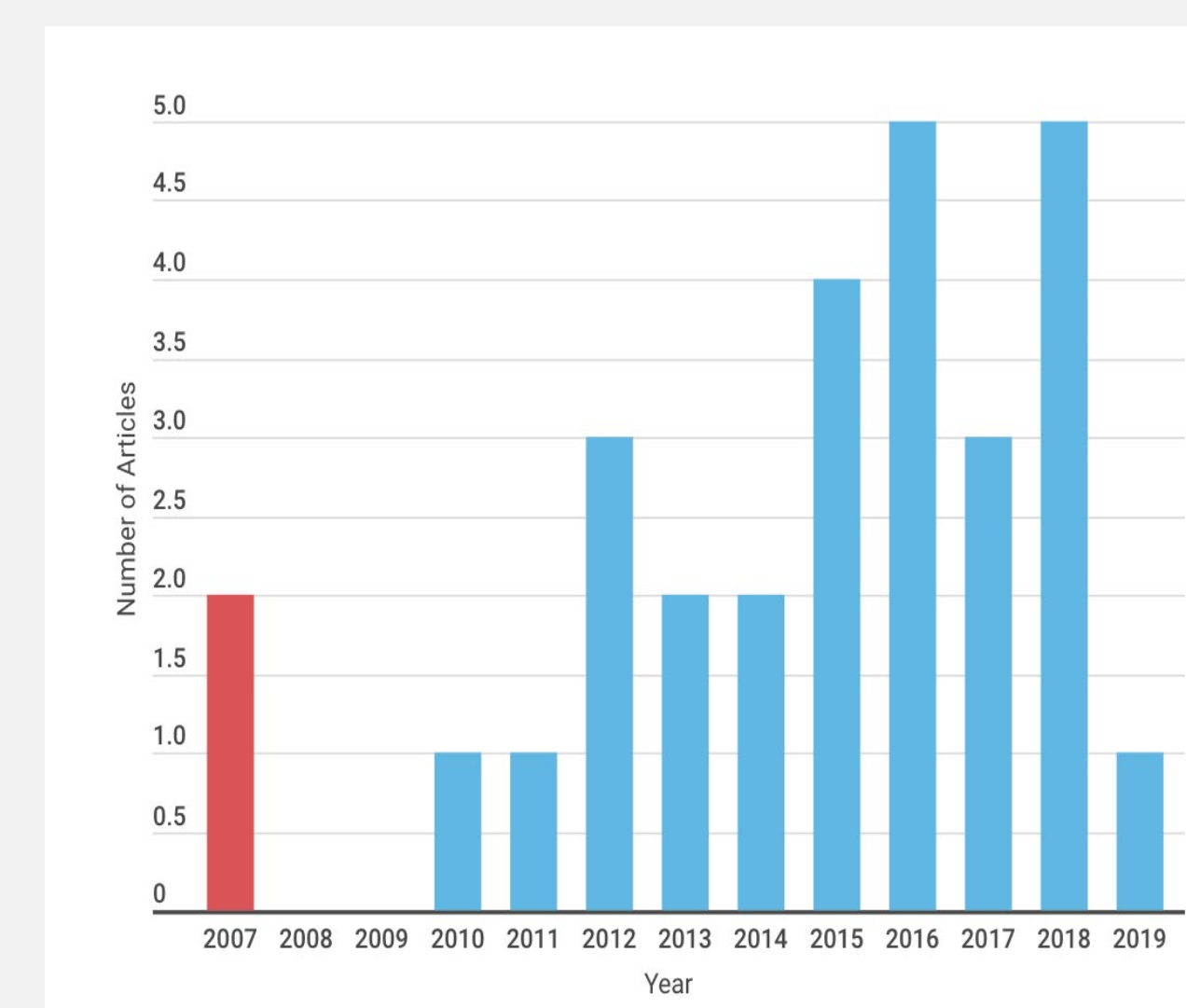
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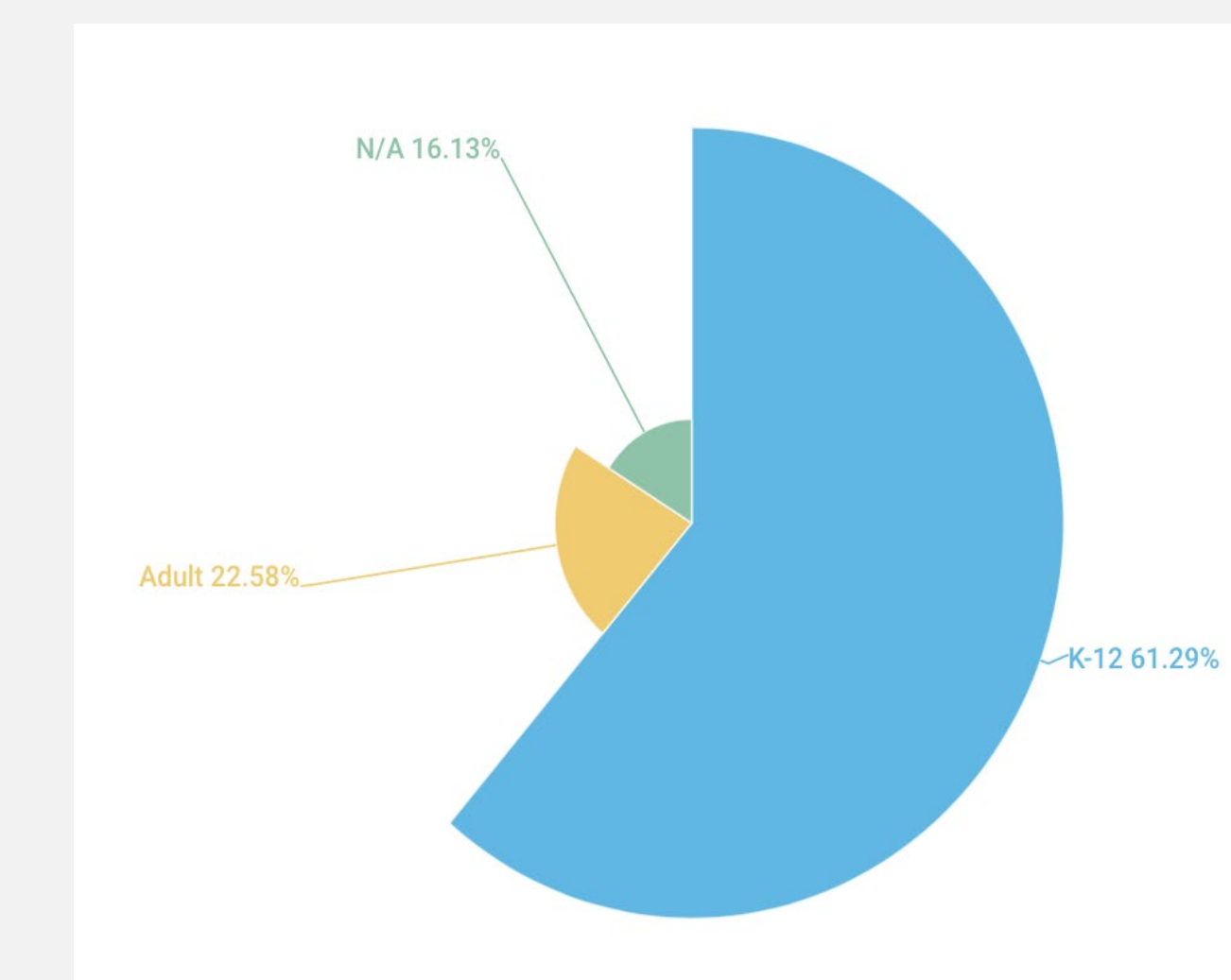
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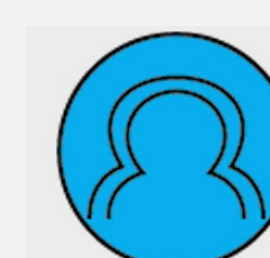
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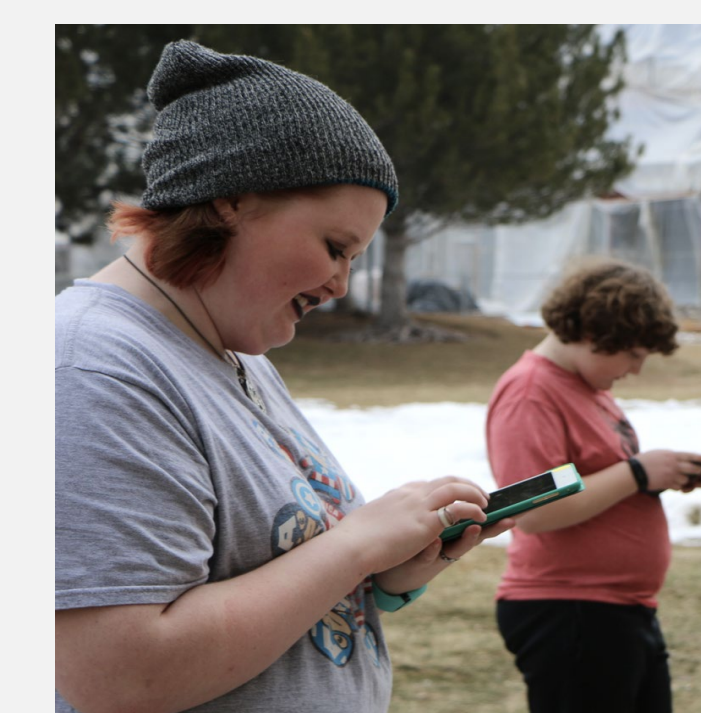
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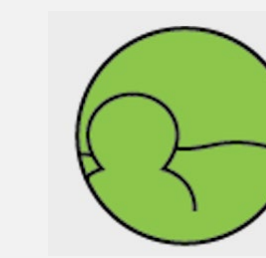
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