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The need for quantitative studies in understanding and advancing early childhood education for sustainability practices

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Abstract

Early Childhood Education for Sustainability (ECEfS) has gained significant momentum in recent years, recognizing the essential role of early education in fostering sustainable mindsets and practices. This paper articulates the need for quantitative research methodologies in ECEfS, building on existing literature and emphasizing the importance of empirical evidence in policy and practice.

Quantitative studies in early childhood education for sustainability practices

ECEfS transcends conventional teaching methods by embedding sustainable values and practices into the core of early education. As noted by UNESCO (2008) and Pramling Samuelsson and Kaga (2008), ECEfS aims to cultivate a lifelong commitment to sustainability among young children. Recognising its importance, UNESCO has stressed the integration of sustainability into early childhood education as a crucial strategy for achieving the Sustainable Development Goals (SDGs) (UNESCO, 2015). Countries like Australia and Sweden have already prioritized this integration within their preschool curricula (AGDE, 2022; Skolverket, 2018). Such a concerted effort aims to instil sustainability competencies early among young children (Pramling Samuelsson, 2011), laying the groundwork for sustainable futures. To achieve the best possible outcomes in ECEfS, it is vital to develop a thorough grasp of the policy and curriculum materials relevant to this domain (Li et al., 2019; Pamuk et al., 2021).

However, more than the mere inclusion of sustainability in the curriculum is required to ensure the delivery of high-quality ECEfS practices (Borg & Samuelsson, 2022). The role of preschool teachers is paramount in effectively delivering ECEfS practices, as highlighted by Dyment et al. (2014) and Inoue (2016). While the OMEP Environmental Rating Scale for Sustainable Development in Early Childhood (ERS-SDEC) was implemented in several countries to investigate progress in ECEfS practices, there is still a need for research to better define and evaluate these practices, as underlined by Siraj-Blatchford et al. (2016) and Kahriman et al. (2019).

In a recent systematic review, Guler-Yildiz et al. (2021) noted that preschool teachers' ECEfS practices tend to focus on the environmental pillar of sustainability, although other pillars are now gaining recognition. It is worth noting that much of the existing ECEfS research has relied on qualitative methodologies, such as interviews and observations, to gain insights into preschool teachers' practices. While these methods have significantly contributed to a deeper understanding of ECEfS practices, there remains a notable gap in research concerning the definition of these practices and the factors influencing them from a holistic perspective, including social and economic pillars.

I argue that quantitative research methodologies are crucial in constructing a thorough understanding of Early Childhood Education for Sustainability (ECEfS). These methodologies enable the quantification of variables associated with preschool teachers' competencies and their influence on ECEfS practices (Harrison & Wang, 2018). By transforming these variables into numerical data, quantitative approaches allow for statistical analysis to reveal patterns, cause-effect relationships, correlations, trends and norms (Martin & Bridgmon, 2012). Such research is especially beneficial for comparative studies, including those involving cross-cultural comparisons or different time periods. Quantitative research offers empirical evidence that is vital for policymakers and educators to

make informed decisions (Burns & Schuller, 2007). It enables the evaluation of the impact of various ECEfS practices and interventions, thus providing an objective approach to assessing program outcomes. Statistical analyses aid in determining the statistical significance of findings, suggesting whether observed changes or relationships are likely due to more than just chance (Fraenkel et al., 2018). This adds a level of rigor and reliability to ECEfS research. Reliable measurement of progress when implementing sustainability practices is crucial to promote the transparency of these efforts (Kahriman et al., 2019).

Conclusion

In conclusion, the significance of ECEfS is well-established within the literature. However, there appears to be a noticeable incongruity in the practices adopted by preschool teachers, with a primary focus on environmental education, as evidenced by various research studies. This highlights the pressing need for the development of concrete, valid, and reliable indicators that can effectively demonstrate the components and impact of ECEfS practices empirically. The implementation of such measures will aid in improving the effectiveness of ECEfS practices. The scarcity of quantitative research in this area underscores the need for further exploration to guide informed decision-making in promoting ECEfS.

While qualitative research offers valuable insights into individual experiences and perspectives, quantitative research complements this by providing systematic, measurable data. Exploratory and descriptive quantitative approaches are deemed to advance insights into ECEfS practices. By developing a better understanding of the factors influencing preschool teachers' ECEfS practices, we can work towards building a more sustainable future for all, as teachers hold the potential to significantly influence children's knowledge and attitudes towards sustainability.

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