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Assessment of Physical Learning Environments in ECE: Interdisciplinary and Multivocal Innovation for Chilean Kindergartens

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Abstract : Physical learning environment (PLE) has been considered, after family and educators, as the third teacher. There have been conflicting and converging viewpoints on the role of the physical dimensions of places to learn, in facilitating educational innovation and quality. Despite the different approaches, PLE has been widely recognized as a key factor in the quality of the learning experience , and in the levels of learning achievement in ECE . The conceptual frameworks of the field assume that PLE consists of a complex web of factors that shape the overall conditions for learning, and that much more interdisciplinary and complementary methodologies of research and development are required. Although the relevance of PLE attracts a broad international consensus, in Chile it remains under-researched and weakly regulated by public policy. Gaining deeper contextual understanding and more thoughtfully-designed recommendations require the use of innovative assessment tools that cross cultural and disciplinary boundaries to produce new hybrid approaches and improvements. When considering a PLE-based change process for ECE improvement, a central question is what dimensions, variables and indicators could allow a comprehensive assessment of PLE in Chilean kindergartens? Based on a grounded theory social justice inquiry, we adopted a mixed method design, that enabled a multivocal and interdisciplinary construction of data. By using in-depth interviews, discussion groups, questionnaires, and documental analysis, we elicited the PLE discourses of politicians, early childhood practitioners, experts in architectural design and ergonomics, ECE stakeholders, and 3 to 5 year olds. A constant comparison method enabled the construction of the dimensions, variables and indicators through which PLE assessment is possible. Subsequently, the instrument was applied in a sample of 125 early childhood classrooms, to test reliability (internal consistency) and validity (content and construct). As a result, an interdisciplinary and multivocal tool for assessing physical learning environments was constructed and validated, for Chilean kindergartens. The tool is structured upon 7 dimensions (wellbeing, flexible, empowerment, inclusiveness, symbolically meaningful, pedagogically intentioned, institutional management) 19 variables and 105 indicators that are assessed through observation and registration on a mobile app. The overall reliability of the instrument is .938 while the consistency of each dimension varies between .773 (inclusive) and .946 (symbolically meaningful). The validation process through expert opinion and factorial analysis (chi-square test) has shown that the dimensions of the assessment tool reflect the factors of physical learning environments. The constructed assessment tool for kindergartens highlights the significance of the physical environment in early childhood educational settings. The relevance of the instrument relies in its interdisciplinary approach to PLE and in its capability to guide innovative learning environments, based on educational habitability. Though further analysis are required for concurrent validation and standardization, the tool has been considered by practitioners and ECE stakeholders as an intuitive, accessible and remarkable instrument to arise awareness on PLE and on equitable distribution of learning opportunities.

Keywords : Chilean kindergartens, early childhood education, physical learning environment, third teacher
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