

**CoDiLE (Context Diagram of Learning Experience):
A Method for Analyzing Individuals' Learning Experience in Science Centers**

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The purpose of this study was to develop a 'context diagram of learning experience (CoDiLE)' for analyzing learning experiences in science centers and to explore its applicability. When visitors interact with exhibits, contextual factors are linked to one another and to both cognitive and affective learning. Emphasizing the role of context, learning experience in science centers was defined as all events related to links among contextual factors or between those contextual factors and cognitive and affective learning. The CoDiLE has three distinctive features: (1) it illustrates the contextual factors within three context categories (personal, sociocultural, and physical) that may affect, positively or negatively, visitors' perceived learning with science exhibits; (2) it shows how contextual factors are linked and how the factors are linked to perceived cognitive or affective learning with science exhibits; and (3) it synthetically represents a visitor's learning experience related to a specific science exhibit. To develop the CoDiLE, nine contextual factors, which could affect visitors' learning experiences when viewing or interacting with science exhibits, were identified: that is, Prior knowledge; Prior interests; Choice and control; Within group social mediation; Mediation by other visitors; Mediation by staff; Contents of exhibit; Design of exhibits; and finally, Exhibition room Environment. The applicability of the CoDiLE was explored through a case study of three middle school students who visited three science centers in Seoul, Korea. Based on the assembled CoDiLEs, it appeared that each student showed distinct contextual factor linkage patterns. In addition, contextual factors were either positive or negative depending on their links rather than on their presumed characteristics. The CoDiLE appears useful for investigating individual learning experience processes associated with various contextual factors, and provides a new method to understand and analyze learning experiences, particularly at science centers.