

## Quantifying Processes of Relating Skills in Learning: The Map of Dialogical Inquiry

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**Abstract :** The Map of Dialogical Inquiry provides a conceptual basis of learning processes. According to the Map, dialogical inquiry motivates complex thinking, dialogue, reflection, and learner agency. For instance, classrooms that incorporated dialogical inquiry enabled learners to construct more meaning in their learning, to engage in self-reflection, and to challenge their ideas with different perspectives. While the Map contributes to the psychology of learning, its qualitative approach makes it hard to track and compare learning processes over time for both teachers and learners. Qualitative approach typically relies on open-ended responses, which can be time-consuming and resource-intensive. With these concerns, the present research aimed to develop and validate a quantifiable measure for the Map. Specifically, the Map of Dialogical Inquiry reflects the eight different learning processes and perspectives employed during a learner's experience. With a focus on interpersonal and emotional learning processes, the purpose of the present study is to construct and validate a scale to measure the "Relating" aspect of learning. According to the Map, the Relating aspect of learning contains four conceptual components: using intuition and empathy, seeking personal meaning, building relationships and meaning with others, and likes stories and metaphors. All components have been shown to benefit learning in past research. This research began with a literature review with the goal of identifying relevant scales in the literature. These scales were used as a basis for item development, guided by the four conceptual dimensions in the "Relating" aspect of learning, resulting in a pool of 47 preliminary items. Then, all items were administered to 200 American participants via an online survey along with other scales of learning. Dimensionality, reliability, and validity of the "Relating" scale was assessed. Data were submitted to a confirmatory factor analysis (CFA), revealing four distinct components and items. Items with lower factor loadings were removed in an iterative manner, resulting in 34 items in the final scale. CFA also revealed that the "Relating" scale was a four-factor model, following its four distinct components as described in the Map of Dialogical Inquiry. In sum, this research was able to develop a quantitative scale for the "Relating" aspect of the Map of Dialogical Inquiry. By representing learning as numbers, users, such as educators and learners, can better track, evaluate, and compare learning processes over time in an efficient manner. More broadly, this scale may also be used as a learning tool in lifelong learning.

**Keywords :** lifelong learning, scale development, dialogical inquiry, relating, social and emotional learning, socio-affective intuition, empathy, narrative identity, perspective taking, self-disclosure

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