Going Beyond Hooked Participants: The Nibble-and-Drop Framework for Classifying Citizen Science Participation

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Abstract

Many citizen science (CS) programs engage participants who consistently contribute to research. Consequently, much research has focused on actively participating CS participants. However, the relationship between participant retention and different degrees of participation throughout the program remains understudied. To address this gap, we introduce the Nibble-and-Drop framework, a model for classifying CS participation. The framework identifies four stages: Initial-Drop, Nibble-Drop, Hooked-Drop, and Hooked. Each stage represents a different level of participant engagement, from casual contributors to highly dedicated volunteers. By understanding these stages, CS programs can tailor interventions to improve participant engagement and retention.
The Virtuous Cycle of Affect, Engagement and Learning

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Introduction to the Virtuous Cycle

What leads a person to get better at something, to improve understanding or knowledge, to develop skills or abilities? Scholars have pondered these questions for decades to better understand how people learn.1 Much of the conversation about learning, understandably, has been focused on formal education (K-16).2,3,4 In formal education contexts learning outcomes mostly refer to knowledge, understanding and abilities. Outcomes related to so-called 21st Century Skills, dispositional outcomes related to interest, motivation, growth mindset, or self-efficacy, and behavioral outcomes related to engagement with learning experience, are increasingly valued by organizations. Consequently, educational programs, primarily those in out-of-school settings, address these either in addition to cognitive learning outcomes or, less commonly, as replacement.6