Motivating Computational Weaving: Intersections of Goals and Environmental Aspects to Deepen Engagement

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Weaving played a crucial role in the history of computer science and has recently been rediscovered as an interest-driven alternative for computer science education. While personal interests and peer engagement can deepen disciplinary learning, we know little about the motivational processes that support youth to engage with computational concepts through weaving. Following a sociocultural approach to motivation, this qualitative research analyzes video data of a middle school weaving. We iteratively coded students' goals and environmental aspects to understand how they drove student motivation to keep going. We found two dominant processes of motivations for computational weaving: (a) peer engagement supported goal accomplishment, and (b) material choice drove pattern variation. We discuss implications for facilitation of weaving for CS learning.