Student regulation in online learning groups

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Elevator pitch

Importance of regulation for student learning

From a social constructivist perspective, it is widely accepted that students benefit significantly from actively constructing their own understanding (Power, 2016). Self-regulated learning (SRL) is an active, constructive process where students set goals for their learning and then attempt to monitor, regulate, and control their cognitions, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment (Pintrich, 2000). Empirical evidence has shown that SRL is of great value for students' academic success (Hmelo-Silver et al., 2000). Moreover, SRL underpins the principles of networked learning designs, such as a focus on the perceived value of learning for the individual learner and critical reflexivity (NLEC, 2021) As a result, SRL is gaining attention, and teachers in various educational contexts strive to equip students with SRL skills to become adaptive learners and employees (Eccles & Wigfield, 2002). Pintrich's (2000) model of SRL suggests that students must deal with four phases and four areas for regulation. The four phases of regulation include forethought, planning and activation, monitoring, control, and reaction and reflection. The four areas for regulation include cognition (e.g., knowledge activation, knowledge of strategies), motivation and affect (e.g., achievement goals, achievement attributions, self-efficacy), behavior (e.g., time, effort), and context (resources, social context).

Social perspectives on student regulation

The theory of SRL has evolved to include social and interactive aspects of learning (Panadero, 2017). In networked learning contexts, this social perspective on SRL becomes highly relevant as learners view human relationships as central to their learning and position collective inquiry and meaning-making as key learning activities for professionalization (NLEC, 2021). In collaborative settings, group members must work together, establish common ground, and share their task perceptions, strategies, and goals. This is known as SSRL (Socially Shared Regulation of Learning), which merges individual and social processes (Järvelä & Hadwin, 2013). The SSRL model (see Figure 1) proposes three modes of regulation in collaborative settings: SRL (Self-Regulation), CoRL (Co-Regulation), and SSRL (Shared Regulation). SRL refers to the individual learner's regulatory actions, CoRL refers to the affordances and constraints that stimulate strategic planning, enactment, reflection, and adaptation, and SSRL occurs when deliberate, strategic, and transactive planning, task enactment, reflection, and adaptation are taken within a group.

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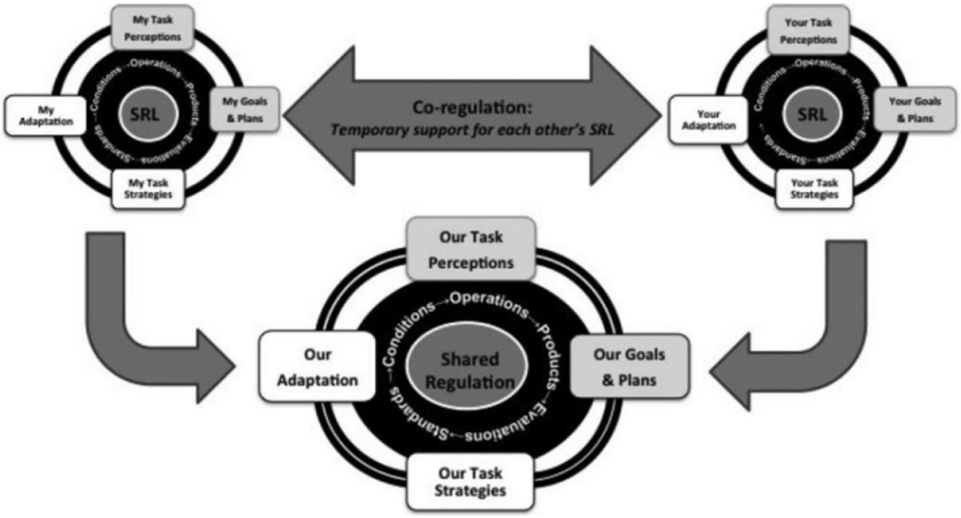

Figure 1: Socially Shared Regulation Model, adapted from Järvelä and Hadwin (2013)

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Students in online courses are responsible for their learning as they decide when, where, and how long to access the learning materials (McMahon & Oliver, 2001). Therefore, regulation of learning is essential when taking online courses (Wijekumar et al., 2006), and more attention to understanding student regulation in online higher education is crucial (Eggers et al., 2021). In informal learning contexts, such as networked learning, using digital technologies to support learning is a core regulation skill that shapes the students' learning behaviour (Rajagopal et al., 2020). The interest in student regulation of online learning goes along with the increasing attention to the social well-being of students in online learning settings, partially due to the recent COVID-19 pandemic (Vrieling-Teunter et al., 2021).

As in F2F learning settings, online learning is becoming increasingly collaborative (Kreijns et al., 2021). Because of its relevance for the learner benefits and conditions for learning (van Popta et al., 2017), we include a social perspective in our study besides the individual. However, communicating online differs from F2F because it interferes with physical cues, essential for social interaction and regulation (Vrieling-Teunter et al., 2022). Kreijns et al.'s model (2021; see Figure 2) overcomes social distancing in online learning groups. The model integrates social presence (i.e., the degree to which the other person is perceived as physically "real"), social space (i.e., trust building between peers), and sociability (i.e., the degree to which the virtual learning environment supports social presence and social space).

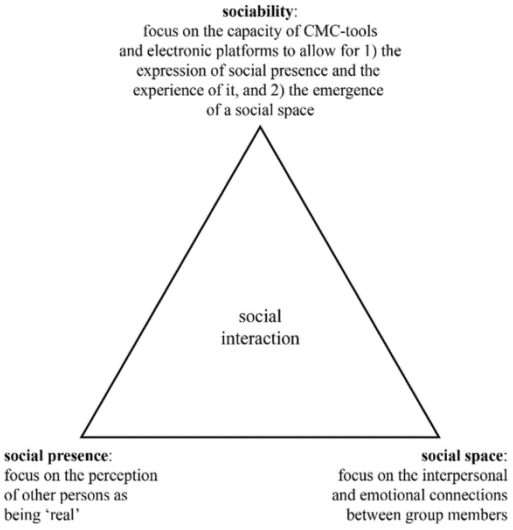

Figure 2: The Social Presence, Sociability, and Social Space Triangle, adapted from Kreijns et al. (2021)

Goal of the present study

Although much research has been done on student regulation in F2F settings, more needs to be known about the concept in online learning groups such as networks (Vrieling-Teunter et al., 2022). Therefore, we are conducting an exploratory study to establish the status quo in this area. During the NLC 2024 round table, we will share our findings and discuss the optimal conditions for students' regulation of learning in online learning groups. Because of our background in higher education, the guiding question is: how can we foster student regulation in online learning groups within higher education?
From previous research, we make use of some (preliminary) theoretical frameworks covering concepts that fit our guiding question:

- The model of Järvelä and Hadwin (2013; see Figure 1).
- The model of Kreijns et al. (2021; see Figure 2).
- Design principles of networked learning (NLEC, 2021).

How to engage the participants in the discussion?

During the roundtable, the following (preliminary) questions are guiding:

- How can we improve the sociability of online learning environments to stimulate student regulation in online learning groups?
- Which techniques can we apply to enhance students' social presence/social space in online learning groups during regulation?
- How can we support the 'teacher as designer' in facilitating student regulation in online learning groups?

In the discussion, we use the three frameworks to indicate the level at which we focus in the conversation to arrive at a new conceptual model regarding the regulation of learning in online learning groups. We note the findings in the respective frameworks, together with the audience, which we display as posters.

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Author details

Hosts of round table

Emmy Vrieling is Associate Professor of Teachers' Professional Development in Social Learning and Regulation of Learning at the Open Universiteit (the Netherlands). Her work concentrates on exploring social learning configurations as well as (socially shared) regulation of learning processes that facilitate professional development in educational institutes (https://orcid.org/0000-0003-3479-7831). Her research addresses social learning, social presence, social media, (socially shared) regulation of learning,social learning configurations, metacognition, and motivation. She has published and presented her research in national and international research journals, books and conferences. Emmy is also Staff Member of the Dutch InteruniversityCenter for Educational Research and Editorial Board Member of the DutchAssociation for Teacher Educators.
Kamakshi Rajagopal is an independent researcher in instructional design and technology and has extensive experience in educational design research, working together with teachers and educators in primary, secondary and higher education. A linguist specialized in computational linguistics (KULeuven, 2004), she has designed and developed several practical web-based tools and instruments to support learning activities in professional settings. Her research focus is on the design of and learning in socially-oriented technology-enhanced learning environments (https://orcid.org/0000-0002-9001-5964). She also works on teacher continuous professional development. She is a Programme Manager at the European Association of Distance Teaching Universities (EADTU), and is also establishing herself as a freelance consultant on learning and development in industry.

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Joshua Weidlich is a Postdoctoral Researcher at the Educational Technologies & Learning Analytics group at DIPF – Leibniz Centerfor Research and Information in Education (https://orcid.org/0000-0002-1926-5127). He completed his PhD in 2021 at Fern Universität in Hagen on the topic of social presence in online distance learning environments. Aside from this his interests lie broadly at the intersection of education and psychology, with a particular focus on the mediating role of technology and technological environments. Further, he conducts research on Feedback Literacy, Causal Inference from observational research, and computer-supported collaborative learning.
Maartje Henderikx is an Assistant Professor at the department of (online) Social Learning at the Open Universiteit (the Netherlands) (https://orcid.org/0000-0002-8508-0745). She is interested in learning and performance in online learning environments: how can learning success be defined from different perspectives, how do people learn and how can they be facilitated in their learning, what role can technology play? Online collaborative learning is the main context in which her research takes place. Her research addresses social presence, intention and behavior of learners, barriers to learning, peer feedback and motivation. She has published and presented her research in national and international research journals, books and conferences.
Karel Kreijns is full professor (em.) at the Faculty of Educational Sciences of the Open Universiteit of the Netherlands. His primary research interest is in the domain of technology enhanced collaborative learning (CSCL) with a particular focus on the role of social presence in mediated communication and collaboration

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