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Developing Student Agency Through Feedback Seeking Practices in a CSCL environment

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Abstract: Despite significant theoretical advancement on student agency in feedback, most attention has been focused on students' actions toward the feedback received from teachers and peers. Current literature presents gaps in getting learners to seek feedback and understanding feedback seeking tendencies in K-12 learners. With the rapid technological advances and societal changes in the twenty-first century, it is increasingly vital for students to develop feedback seeking practices to constantly self-improve and keep up with the changing times. My research investigates the development of feedback seeking practices in primary school students within a CSCL environment. Design-based research would be conducted where a set of design principles derived from literature would be tested to derive insights into designs to facilitate student agency in feedback practices.

Keywords: Student agency, feedback seeking, design-based research, CSCL

1. Background

Feedback has been widely acknowledged as a vital component of effective learning (Hattie & Timperley, 2007); however, the role of feedback has yet to realize its true potential (Henderson et al., 2019). Though extensive studies examined how to increase students' receptiveness to non-solicited feedback (e.g. improving the timing and content of feedback), the field of feedback still faces the challenge of cultivating student agency in feedback practices, specifically in student-solicited feedback. Solicited feedback gathered from student-initiated feedback seeking practices remains relatively under-researched (Molloy et al., 2020). While more attention has been dedicated to recasting feedback from a teacher-led process to a learner-centred endeavour (Carless & Boud, 2018), existing efforts stopped short of envisioning learners as active seekers capable of initiating the feedback process (Joughin et al., 2021). This highlighted the challenge in designing learning environments to cultivate student agency in feedback seeking practices. With evidence from computer-supported learning (CSCL) literature supporting social and cognitive processes (Hertz-Lazarowitz & Bar-Natan, 2002), this study leverages the affordance of CSCL to create designs to cultivate agency in feedback practices.

2. Research goals

This study aims to investigate designs to cultivate student agency through FBS practices in primary school CSCL English classes. The objectives for this study come in four folds: (1) shed light on existing FBS practices in a primary school English class; (2) derive and test a set of design principles for cultivating FBS practices; (3) gather insights on how the design is enacted and (4) examine the effects of the enacted design. My research contributes to the investigation of designs to cultivate student agency amongst primary school learners, aiming to nurture student-initiated feedback practices. Findings from this study could contribute to understanding how FBS can be cultivated in a primary school classroom. Specifically, my research addresses the following research questions:

1. What are the existing feedback seeking practices in an upper primary English class?
2. What design principles enable the cultivation of feedback-seeking practices in learners?
3. How is the design implemented by the primary school English teachers?
4. What are the effects of the designed learning environment?

3. Literature review

Feedback seeking (FBS) behaviour originated in the field of organisational psychology and is defined as ‘‘a conscious devotion of effort towards determining the correctness and adequacy of behaviours for attaining valued end states’’ (Ashford & Cummings, 1983). FBS has extensive literature in business organisation studies and is recognised as a complex process involving the characteristics of the feedback seeker, perceived characteristics of the feedback provider, environmental factors and the feedback outcomes (Anseel et al., 2015). Over the last five years, an increase in interest in FBS within the education context has been observed. Through FBS, students are recast from passive receivers of non-solicited feedback to active seekers of feedback (Joughin et al., 2021). This revamps the paradigm of feedback from a formal teacher-led process to an informal practice that students can leverage to improve their learning (Joughin et al., 2021). While a wealth of empirical evidence has emerged in the fields of feedback seeking in organisational psychology, it is uncertain whether these findings might translate to the education setting.

Existing studies on FBS practices in education present a gap in implementation designs to cultivate FBS. Similar to the FBS studies in organisational psychology, most studies focused on uncovering the antecedents of feedback seeking. Examples of antecedents investigated in current literature include goal orientation (Leenknecht, Hompus & van der Schaaf, 2019), receptivity to critical feedback (Oktaria & Soemantri, 2018) and perceptions of feedback source (Pinasthika & Findyartini, 2022). In addition, existing studies generally occur in tertiary education, mainly in medicine (e.g., de Jong et al., 2017; Milan et al., 2011) and business management (e.g. Hwang & Francesco, 2010). The limited application to the K-12 context results in limited evidence-based pedagogical knowledge on cultivating FBS practices for younger learners.

Five design principles were distilled based on the implementation-based research conducted on FBS in education to serve as guidelines to inform implementation designs (Bell et al., 2013). The design principles are learning culture, agency, conception, discernment and reflexivity.

Table 1. *Initial set of design principles for FBS.*

Design principles	Description
Learning culture	Provide a safe and non-judgmental learning environment. Create a learning culture that embraces feedback solicitation.
Agency	Provide opportunities for student-initiated feedback seeking. Provide prompts to guide students in self-assessing and improving.
Conception	Broaden students’ understanding of feedback beyond formal learning and non-solicited feedback.
Reflexivity	Encourage student reflections and allow revisions to students’ work.
Discernment	Encourage solicitation of critical feedback.

Learning culture. Literature suggests that a safe and non-judgemental learning culture that embraces FBS is vital to helping students develop FBS practices. Multiple studies have shown that learning cultures influence the likelihood for learners to engage in FBS. For instance, the teachers developed a supportive learning culture by collectively discussing the role of feedback to normalise FBS practices. Through the discourse, the students formed a more mutually supportive learning community that embraces the purpose of FBS in learning.

Agency. Existing FBS designs facilitate FBS by providing opportunities for student initiated FBS and prompts to develop student agency in self-assessment processes. For instance, students were given more avenues to seek feedback through self-assessment exercises (e.g., gathering feedback forms (de Jong et al., 2017)) and asynchronous discussion forums (Hwang & Arbaugh, 2006; Hwang &

Francesco, 2010). Fletcher's (2018) study guided students to be more agentic using planning templates with scaffolds to guide students towards developing student autonomy and FBS practices.

Conception. The design principle of conception suggests that it is vital to broaden students' understanding of feedback. Examples include introducing feedback not just in formal learning but informal learning (Gaunt et al., 2018), familiarising students with both solicited and non-solicited feedback (Milan et al., 2011) and different sources of feedback (e.g., peers, resources, family).

Reflexivity. Literature suggests that reflections and revisions are essential to develop FBS practices. Reflection allows students to examine their progress and recalibrate their prior conceptions, prompting learners to seek feedback to improve in their learning endeavours (Diefes-Dux & Cruz Castro, 2022). Opportunities for students to revise their work also promote FBS practices as learners seek feedback to make improvements in their revision attempts (Cutumisu et al., 2019)

Discernment. The discernment design principle suggests that students should solicit critical feedback. In Cutumisu et al.'s (2019) study, students that chose the option to seek critical feedback had more positive learning outcomes relative to students who sought positive feedback.

4. Methodology

This study adopts a design-based research (DBR) methodology (Easterday et al., 2018) that will last three cycles. The study begins with teacher interviews, student focus group discussions and a 4-week baseline study to examine the existing FBS practices in the primary school English class. Insights gathered from the interviews and baseline study will help conceive and improve the implementation designs for the upcoming cycles. The subsequent cycles for the DBR will last for five weeks each. The first cycle aims to assess if the conjectures of the existing literature are valid within the primary school context. Results from Cycle 1 will help inform the design of cycle 2. Cycle 2 will add conjectures related to the Discernment design principle, which have yet to be validated in existing literature (denoted by dotted arrows in Figure 1). Lastly, the results from cycle 2 will inform the design of cycle 3.

Two primary 5 English classes (80 students) from a Singapore government school would participate in this study. The two classes' English teachers will co-design the implementation design with the researcher. Primary 5 students (age 10 – 11) are selected as the students are beginning to learn composition writing, which allows greater opportunities for student agency since students will be working more independently to produce their stories. Students from both classes will engage in English composition writing lessons where they conceptualise their composition ideas and use *Knowledge Forum* as a supportive technology to collaborate and improve each other's composition ideas. Students will also reflect on their progress, seek feedback and make revisions to their composition drafts.

Figure 1 shows the initial conjecture map conceptualised through the design principles gathered from the literature review of FBS practices in education. The refined conjecture map frames the analysis for this DBR (Chen & Wu, 2019; Sandoval, 2014). Data analysis will emphasize the mediating processes and the outcomes of the implementation as denoted in Figure 1.

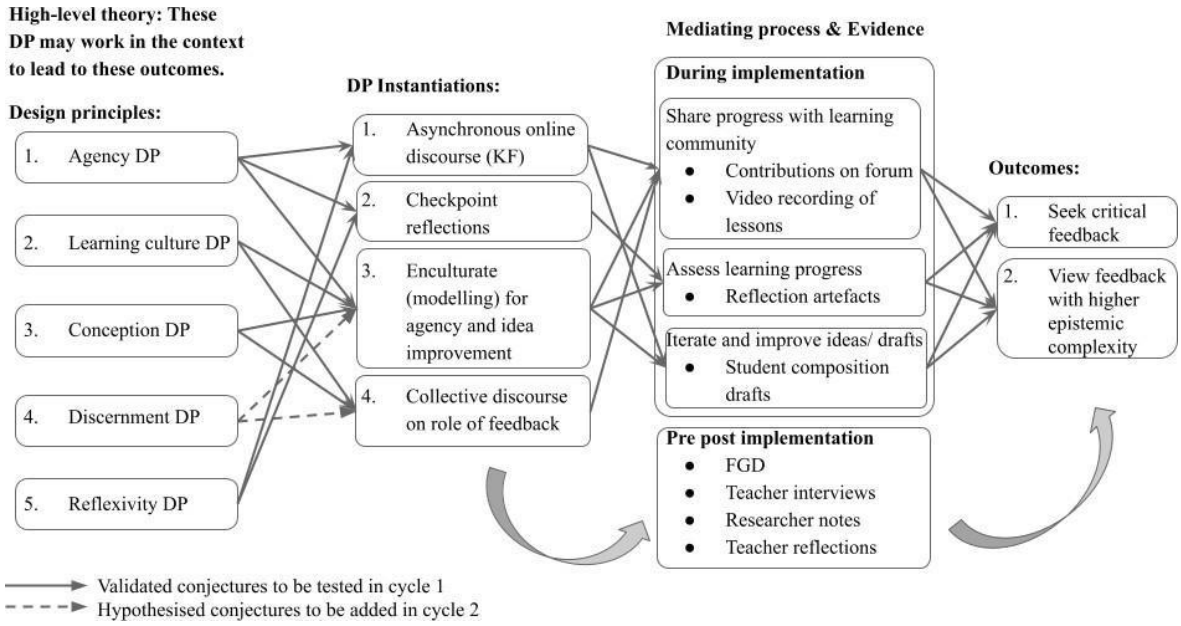

Figure 1. Initial conjecture map for the implementation.

References

RE: Letter of Support for Ms LEE Min

Ms Lee Min joined the NIE PhD programme in Aug 2021. Since then, she has completed the coursework component of the programme and is currently planning to defend her proposal for the qualifying examination of the programme. This paper captures some key ideas and conceptualization of her intended study. She aims to complete her PhD study by Aug 2025.

Ms Lee is keen to pursue her study on developing students' agency through feedback-seeking practices in a computer-supported collaborative learning (CSCL) environment. This focus of research fits the interest of the ICCE community. Following Sandoval (2014) clarification of design-based research, she has started using a conjecture map to frame the analysis of the learning environment for design-based research.

I fully support Ms Lee's participation in ICCE and I believe she can benefit from the experts' feedback from this community.

Yours faithfully

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