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Enhancing EFL classroom instruction via the FeedBook: effects on language development and communicative language use

Diana Pili-Moss[1], Torben Schmidt[2], Carolyn Blume[3], Lisa Middelanis[4], and Detmar Meurers[5]

Abstract. The present exploratory study investigated the efficacy of secondary face-to-face classroom-based English as a Foreign Language (EFL) instruction digitally supported by the FeedBook, an interactive computer assisted language learning web-based suite of exercises providing item-level scaffolded feedback. Seventy-seven native (L1) German seventh-grade students used the FeedBook during four two-week training periods (cycles, here we analyse Cycle 2 and 3). Classroom and FeedBook practice occurred in parallel, except for grammar constructions for which only FeedBook practice was provided (controls). At the end of Cycle 3, students engaged in a classroom-based communicative task for which the practised constructions were relevant. Custom-designed pre- and post-tests, administered via the FeedBook, assessed language accuracy in each cycle. Mixed-effect models revealed significant pre-/post-test accuracy gains independent of the learners' proficiency in English, but not in controls. Gains from digitally supported instruction were also positively related to accurate use of EFL grammar constructions in the communicative task. Overall, the results indicate learning benefits for face-to-face classroom-based instruction supported by the FeedBook, evidenced both in grammar tests and in communicative activities.

Keywords: digital EFL learning, linguistic skill transfer, ICALL feedback, communicative language teaching.

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1. Introduction

A large body of classroom-based research, both paper-based and digital, has highlighted the key role of practice in foreign language (L2) learning (DeKeyser, 2015; Pili-Moss, Brill-Schuetz, Faretta-Stutenberg, & Morgan-Short, 2020). In the present study, classroom-based instruction and practice inspired by task-based language teaching principles were combined with digital practice via the FeedBook, a web-based workbook providing scaffolded interactive feedback on linguistic forms and meaning. We will refer to such face-to-face classroom instruction complemented by individual practice using digital tools as 'hybrid' instruction.

The FeedBook is fully integrated with the curriculum and covers different grammar foci, vocabulary, different language skill areas (listening comprehension, reading comprehension), and exercise types (Meurers et al., 2019, pp. 164-165). Consistent with research findings highlighting the potential efficacy of digitally-mediated EFL instruction (Chong & Reinders, 2020; Schmidt & Strasser, 2022), previous FeedBook studies employing a pre-/post-test design have also found that the use of the platform contributed to a significant increase in language accuracy based on results from the post-tests, particularly when feedback was provided (Meurers et al., 2019).

Building on these findings, we not only looked at the efficacy of hybrid instruction as measured in post-test accuracy gains, but also explored relationships between test outcomes and proficient use of L2 English grammar constructions in a communicative task (i.e. a task designed to create communication conditions similar to those in immersive contexts) performed at the end of the instruction cycle. The research questions were formulated as follows.

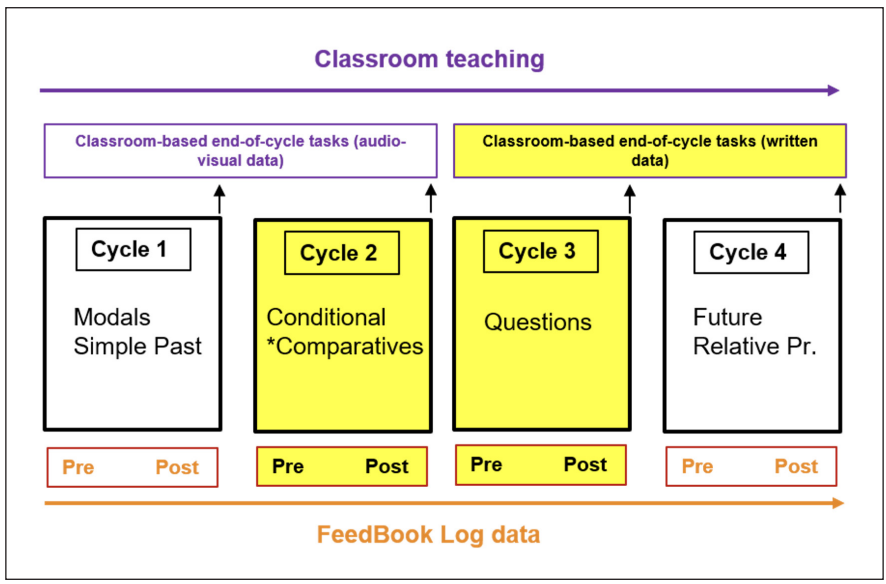
> RQ1. To what extent is face-to-face classroom instruction complemented by individual classroom-based practice using digital tools (i.e. hybrid instruction) related to significant language accuracy gains?
>
> RQ2. Are there any benefits for digital practice alone?
>
> RQ3. To what extent are language accuracy gains in hybrid instruction related to accurate use of grammar constructions in face-to-face classroom-based communicative activities?

2. Methods

2.1. Participants and study design

Seventy-seven seventh graders (level A2 of the CEFR; native German learners of L2 English; 41 females, 36 males; three intact classes) from one inner-city secondary school in Northern Germany participated in the study. Data were collected over the course of a school year from September 2021 to June 2022, during which students received regular classroom-based EFL instruction in English (three 45-minute classes a week). Students additionally engaged in individual classroom-based grammar practice through the FeedBook (Meurers et al., 2019), a web-based workbook providing a suite of grammar exercises with scaffolded interactive feedback on linguistic forms and meaning, over four two-week practice cycles (about 2.5 hours per week) focusing on a set of grammar constructions (Figure 1).

Figure 1. Overall study design with data subset analysed in the present study (yellow)



For the purposes of the present study, only pre-/post-test data from Cycle 2 (conditionals and comparatives) and Cycle 3 (direct questions) were used, as well as data from the written task at the end of Cycle 3 (supplementary materials S1).

2.2. Measures and data analysis

At the beginning and at the end of each cycle, students completed custom-designed pre- and post-tests administered via the FeedBook (30 fill-in-the-gap sentences each) assessing accuracy in the relevant grammar constructions. In Cycle 2, one construction (conditionals) was taught and practised face-to-face in the classroom, as well as practised on the FeedBook, whereas the other (comparatives) was only practised on the FeedBook. Language proficiency in the written task at the end of Cycle 3 was measured by creating a composite index obtained by standardising and averaging four components: (1) number of questions produced, (2) number of correct questions using the past tense, (3) number of correct questions using the *do*/*does*/*did* auxiliaries, and (4) number of incorrect questions (a negative index). The main inferential analysis employed mixed-effects models controlling for random effects of participants, test items, and the class group the students belonged to on intercepts, as well as multiple regression. A two-level categorical variable identifying test type (pre-test/post-test) was the main predictor, whereas students' L2 English proficiency was used as a covariate in all analyses. Descriptive statistics relative to test scores in Cycle 2 and 3 are reported in Table S2.1a (supplementary materials S2), whereas Table S2.1b reports students' mean scores in English and proficiency in the Cycle 3 target task.

3. Results

To answer RQ1 and RQ2, data from Cycle 2 were analysed to explore pre-/post-test accuracy gains in three different cases: overall for Cycle 2 (Table S2.2, supplementary materials S2), only for items testing the conditional tense, and only for test items testing the comparative (Table 1). To answer RQ3, a regression model was used with accuracy gains in Cycle 3 as a main predictor and proficiency in English questions in the classroom-based task as the outcome variable (Table S2.3; supplementary materials S2).

Table 1. Pre-/post-test accuracy models: C2 conditional and C2 comparative

					Wald CI (95%)		
	Fixed effects	**β**	**SE**	**z**	**lower**	**upper**	***p***
Conditional°	(Intercept)	0.89	0.41	2.16	0.83	1.71	.031*
	Pre-test	-1.37	0.30	-4.48	-1.95	-0.76	<.001***
	Eng_Prof	-0.45	0.12	-3.79	-0.68	-0.22	<.001***

Comparative+	(Intercept)	2.08	0.88	2.35	0.34	3.81	.019*
	Pre-test	-1.40	0.85	-1.65	-3.06	0.26	.099
	Eng_Prof	-0.84	0.22	-3.87	-1.26	-0.41	<.001***

Note. *p <.05; ***p <.001. °N of observations=2,826. +N of observations=1,352.

4. Discussion and conclusion

The first two research questions asked to what extent classroom-based, face-to-face instruction that is supported by the FeedBook is related to a positive development in EFL language outcomes (RQ1), and whether accuracy gains also emerge for grammar constructions for which only FeedBook practice was provided (RQ2). The analysis showed that for both overall C2 scores and for items testing the conditional alone, post-test scores were significantly higher than pre-test scores. Furthermore, these results were obtained after controlling for differences in L2 English proficiency. This indicates robust positive effects of the combination of classroom-based, face-to-face instruction and FeedBook practice for all students, independent of ability.

The second linguistic target covered in Cycle 2 (comparatives) was practised only digitally on the FeedBook. In this case, the analysis (Table 1) showed that pre-/post-test gains did not emerge as statistically significant, when controlled for English proficiency. This suggests that English proficiency was the main factor driving accuracy in this case, rather than an effect of stand-alone digital instruction. Note that this was the case although the time dedicated to FeedBook practice was substantial and exceeded the time spent in face-to-face instruction.

The third research question explored the relationship between language accuracy gains in questions (Cycle 3) and accurate use of questions in a written classroom-based communicative task. The results of a regression model (Table S2.3; supplementary materials S2) show that stronger improvements in the accuracy of questions in tests were significantly related to a greater ability to apply the acquired knowledge in communicative tasks, and that the relationship obtained was independent of the students' proficiency in English.

Overall, our findings highlight clear positive advantages for the combination of traditional, classroom-based face-to-face instruction with classroom-based individual practice using digital tools, which did not emerge if the latter was not aligned with curriculum topics covered face-to-face in the classroom.

Moreover, the benefits emerged for all pupils independent of their proficiency in L2 English, suggesting that integrating classroom-based face-to-face instruction with classroom-based individual digital practice has the potential to become an inclusive educational strategy which may prove particularly effective with mixed-ability groups.

5. Supplementary materials

S1: https://research-publishing.box.com/s/5i0y6xrllk3r5e6y3p4mfmxp5irpxpcw

S2: https://research-publishing.box.com/s/qetzwbt74y7w8k3noyxpn80i5z3pi6hf

References

Chong, S. W., & Reinders, H. (2020). Technology-mediated task-based language teaching: a qualitative research synthesis. *Language Learning & Technology*, *24*(3), 70-86. http://hdl.handle.net/10125/44739

DeKeyser, R. M. (2015). Skill acquisition theory. In B. VanPatten & J. Williams (Eds), *Theories in second language acquisition: an introduction* (pp. 94-112). Lawrence Erlbaum Associates.

Meurers, D., Kuthy, K. D., Nuxoll, F., Rudzewitz, B., & Ziai, R. (2019). Scaling up intervention studies to investigate real-life foreign language learning in school. *Annual Review of Applied Linguistics*, *39*, 161-188. https://doi.org/10.1017/S0267190519000126

Pili-Moss, D., Brill-Schuetz, K. A., Faretta-Stutenberg, M., & Morgan-Short, K. (2020). Contributions of declarative and procedural memory to accuracy and automatization during second language practice. *Bilingualism: Language and Cognition*, *23*(3), 639-651. https://doi.org/10.1017/S1366728919000543

Schmidt, T., & Strasser, T. (2022). Artificial intelligence in foreign language learning and teaching: a CALL for intelligent practice. *Anglistik: International Journal of English Studies, 33*(1), 165-184. https://doi.org/10.33675/ANGL/2022/1/14

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