

Leveraging collaborative work for game-based language learning

Dirk Hansen¹, Carlee Arnett², and Ferran Suñer³

Abstract. Over the past few years, language teaching has progressively evolved from teacher-fronted classroom settings to more complex, learner-centered scenarios, allowing learners to explore authentic contents, work collaboratively, and create sophisticated and socially relevant products. In addition, these processes foster language learning, increase learner engagement, and support the acquisition of competences such as critical thinking and democratic competence. In spite of these positive results, previous research has not always suggested efficient ways to properly manage classroom interaction and potentially enhance learning outcomes. Against this backdrop, this paper explores the potential of cooperation scripts as a means to leverage collaborative work and classroom interaction in complex learning scenarios. In this paper, we report on the first phase of an intervention study that was conducted with 17 university learners of German at the B2-C1 level. Survey results show that most of the students found the addition of the cooperation script to be beneficial when engaging in a complex, game-based scenario.

Keywords: language learning, games, social media.

1. Introduction

The conception of this study was based on three core assumptions. First, students are best served by student-centered learning scenarios; second, a multimedia approach to learning has been shown to enhance learner engagement and outcomes; and lastly, we argue that the use of a cooperation script can leverage the potential of student-centered, media-based language learning.

1. Université catholique de Louvain, Louvain, Belgium; dirk.hansen@uclouvain.be

2. University of California, Davis, California; clarnett@ucdavis.edu; <https://orcid.org/0000-0002-7190-0220>

3. Université catholique de Louvain, Louvain, Belgium; ferran.suner@uclouvain.be

How to cite this article: Hansen, D., Arnett, C., & Suñer, F. (2019). Leveraging collaborative work for game-based language learning. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouësny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 169-173). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.1004>

There is a plethora of research on the benefits of student-centered learning in the second language classroom in a variety of languages (cf. Swain, 2006; Lantolf & Thorne, 2007). Therefore, socially based classroom activities that support cognitive development and learning are likely to be effective. Any number of activities would work well, but we chose Actionbound⁴ (AB) for the extra benefit of the multimedia learning environment.

There are many studies on the benefits of using various types of media in the classroom (cf. Roche & Suñer, 2016). In this study, we intended to focus on the production phase in which students create something using the language they already know. The idea is that by engaging students in certain scenarios they will activate their language knowledge and in the virtual environment produce more accurate structures and a broader vocabulary. With AB, a website that can be used to create a mobile tour or scavenger hunt, students can create as a final product a game (Bound) that can be used by others. In order to route users in the Bound to the correct locations, students need to give directions and create a quiz or informational paragraph for each stop. In the case of German, the task is best done with the imperative and two-way prepositions. The task is complex and AB was new to the students, so we decided to use a cooperation script to guide their work.

In order to derive the most benefit from pair and small group activities, cooperation scripts can be given to the students to guide their discussion. In theory, cooperation scripts prevent learners from spending too much time in social interactions while learning collaboratively. In other words, cooperation scripts help learners organize their discussion quickly and guide them through the learning process so they can focus on learning and not how to structure their learning. We used a social cooperation script to help learners sequence interactions in the group. Although educational research has consistently provided evidence for the usefulness of cooperation scripts in classroom settings (Vogel, Wecker, Kollar, & Fischer, 2017), language teaching does not seem to use them.

2. Method

In this paper, we are concerned with the survey the students took about the use of the cooperation script. Participants in the study were 17 learners of German in an advanced German class at the University of California, Davis.

4. www.actionbound.com

The first session with AB consisted of explaining what the app does and how one can use it. Students also downloaded the app on their phone, which is how you use or test the app, and their computer, which is how you create a Bound. These tasks include writing an informational paragraph, developing a quiz with short answers, multiple choice, or loading a picture as the answers and using the phone's GPS to find a specific place. In order to make this fun, the app has a scoring system for quizzes, missions, and tournaments.

The next step was to give the students the first cooperation script which told them how to assign tasks to their group members and what they needed to create in their Bound. The design of the cooperation script was inspired by those used in the study by [Stegmann, Weinberger, and Fischer \(2007\)](#). They also were instructed to first choose a topic and location, before they started creating their Bound. Students made trial tasks in AB in order to see what was possible with the app. Over the course of two sessions, the class spent four hours creating their Bounds, which mostly used the quiz and mission features.

In the next session, the survey was administered by having the students fill it out during class. There were seven questions, six of which were on a Likert scale and one of which had a choice of three answers. The questions are given in Table 1 below.

3. Survey results

The post-test survey had six questions where the students could check one of six levels of a Likert scale, with completely disagree on the left and completely agree on the right. Question 7 gave the students three answers to choose from concerning the reasons why they liked using the cooperation scripts. Answers from three participants were discarded because they did not complete all data points in the tests. [Table 1](#) below shows the results for the first six questions.

The first question asked students if *the AB app was difficult to manage*, and the students were fairly unified in their assessment that the app was easy to use. The second question asked participants whether they *liked working in a group*, and most of the students did. The third question asked if the *checklists were helpful*. Most students agreed in some form (9/13) and the SD shows that the students are fairly uniform in their assessment. The fourth question asked if the *AB graphics helped create the task*. The mean was 3.5, but the SD was 3.2, showing a wider distribution than the other questions. The fifth question asked if *the way the questions were*

asked in AB was clear, and the students again showed uniformity in their answers. The sixth question asked if the explanations in AB were sufficient, and the students were positive in their responses.

The last question asked participants to choose from three options to complete the sentence *I liked using the checklists because....* The first option *I have learned and understood the tasks better* was chosen by half of the 12 respondents. The second option, *the cooperation with other students was easier*, was chosen by less than half of the respondents (5/13), and this suggests that the students had to spend time clarifying among themselves the tasks on the checklist. The last option, *I was more motivated to work* was chosen by only one respondent, which suggests that these students were not motivated by visual acknowledgments of task completion.

Table 1. Student responses

Questions	Strongly Disagree	Disagree	Rather Disagree	Rather Agree	Agree	Strongly Agree	Mean	SD
The AB app was difficult to manage	5	4	1	2	n/a	2	2.8	1.4
I liked working in a group	1	n/a	2	n/a	4	6	3.25	1.9
I found the checklists helped me	1	n/a	n/a	3	3	6	3.5	1.7
The graphics in AB helped you create the task	n/a	2	n/a	2	9	1	3.5	3.2
The way the questions were asked in AB was clear	n/a	1	n/a	2	8	3	3.0	1.8
The explanations on the app AB were sufficient and understandable	1	1	1	2	6	3	2.3	1.7

4. Conclusion

Overall, the results show a positive picture of the implemented pedagogical intervention with regard to the usefulness and appropriateness of the materials used. This is an important first step toward the integration of cooperation scripts into language teaching, and more specifically in game-based language learning. However, further studies should investigate whether these predominantly positive learning experiences reported here go along with an increase in learning gains and higher task engagement, especially when compared with classroom settings without cooperation scripts. Research into this issue is already in progress.

References

- Lantolf, J., & Thorne, S. L. (2007). Sociocultural theory and second language learning. In B. van Patten and J. Williams (Eds), *Theories in second language acquisition* (pp. 201-224). Lawrence Erlbaum.
- Roche, J., & Suñer, F. (2016). Metaphors and grammar teaching. *Yearbook of the German Cognitive Linguistics Association*, 4(1), 89-112. <https://doi.org/10.1515/gcla-2016-0008>
- Stegmann, K., Weinberger, A., & Fischer, F. (2007). Facilitating argumentative knowledge construction with computer-supported collaboration scripts. *International Journal of Computer-Supported Collaborative Learning*, 2(4), 421-447. <https://doi.org/10.1007/s11412-007-9028-y>
- Swain, M. (2006). Languageing, agency and collaboration in advanced second language proficiency. In H. Byrnes (Ed.), *Advanced language learning: the contribution of Halliday and Vygotsky* (pp. 95-108). Continuum. <https://doi.org/10.5040/9781474212113.ch-004>
- Vogel, F., Wecker, C., Kollar, I., & Fischer, F. (2017). Socio-cognitive scaffolding with computer-supported collaboration scripts: a meta-analysis. *Educational Psychology Review*, 29(3), 477-511. <https://doi.org/10.1007/s10648-016-9361-7>



Published by Research-publishing.net, a not-for-profit association
Contact: info@research-publishing.net

© 2019 by Editors (collective work)
© 2019 by Authors (individual work)

CALL and complexity – short papers from EUROCALL 2019
Edited by Fanny Meunier, Julie Van de Vyver, Linda Bradley, and Sylvie Thouéshny

Publication date: 2019/12/09

Rights: the whole volume is published under the Attribution-NonCommercial-NoDerivatives International (CC BY-NC-ND) licence; **individual articles may have a different licence.** Under the CC BY-NC-ND licence, the volume is freely available online (<https://doi.org/10.14705/rpnet.2019.38.9782490057542>) for anybody to read, download, copy, and redistribute provided that the author(s), editorial team, and publisher are properly cited. Commercial use and derivative works are, however, not permitted.

Disclaimer: Research-publishing.net does not take any responsibility for the content of the pages written by the authors of this book. The authors have recognised that the work described was not published before, or that it was not under consideration for publication elsewhere. While the information in this book is believed to be true and accurate on the date of its going to press, neither the editorial team nor the publisher can accept any legal responsibility for any errors or omissions. The publisher makes no warranty, expressed or implied, with respect to the material contained herein. While Research-publishing.net is committed to publishing works of integrity, the words are the authors' alone.

Trademark notice: product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Copyrighted material: every effort has been made by the editorial team to trace copyright holders and to obtain their permission for the use of copyrighted material in this book. In the event of errors or omissions, please notify the publisher of any corrections that will need to be incorporated in future editions of this book.

Typeset by Research-publishing.net
Cover theme by © 2019 Frédéric Verolleman
Cover layout by © 2019 Raphaël Savina (raphael@savina.net)

Fonts used are licensed under a SIL Open Font License

ISBN13: 978-2-490057-54-2 (Ebook, PDF, colour)

ISBN13: 978-2-490057-55-9 (Ebook, EPUB, colour)

ISBN13: 978-2-490057-53-5 (Paperback - Print on demand, black and white)

Print on demand technology is a high-quality, innovative and ecological printing method; with which the book is never 'out of stock' or 'out of print'.

British Library Cataloguing-in-Publication Data.
A cataloguing record for this book is available from the British Library.

Legal deposit, France: Bibliothèque Nationale de France - Dépôt légal: décembre 2019.