



Designed based research at secondary school: striking the balance between an assessment program and students' reflection to improve writing in an EFL context
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Resumen: We present a design based research at secondary education where, for two academic years, we followed a practice-based, recursive method to experiment with learning diaries to improve EFL writing skills. After a teacher had developed an instructional design with a detailed assessment program for a 21 10th graders class, her students performed writing activities in a wiki and used learning diaries to reflect on their learning. The analysis of the first year led to reviewing the conditions of the assessment programme, and supported changes in her practices to improve students' performance and reflection on learning. These changes involved a redesign of the learning diary template and shifting teaching methods to improve feedback practices and student participation in the online environment.

Palabras clave: Design Based Research, Secondary Education, Learning Diaries, EFL, ICT

1. Objective:

The objectives of this paper are sharing the results of the pupils' evaluation of a Design-Based Research where we combined writing tasks and a compulsory learning diary in a wiki environment. Our expectations were that we could enhance writing instruction in English as a Foreign Language (EFL) through a careful instructional design and assessment programme. The analysis of the students' perceptions, combined with their actual productions, lead to introducing different changes in the assessment program and the design for the second year.

2. Theoretical framework:

Design-based research is a recent methodological approach that connects school practitioners with theory, offering them the possibility to enter the world of research, departing from their own reflective practice (Bell, 2004). We present a Design-Based Research at secondary school focusing on the use of learning diaries to promote a better learning of English as Foreign Language (EFL), and specifically improve their writing competence (Piper, 1989). This study was carried out at an urban school in Spain during two school years, following this practice-based, recursive method (Seeto& Herrington, 2006).

A secondary school English teacher engaged in research putting her assessment program to the test (Van der Vleuten & Schuwirth, 2005; xxx, 2013). The poor writing competence results of her students motivated the teacher. These results were in line with her context, as according to the results of the external exam of

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Catalan students at 10th grade for 2013, writing in English is the competence with lowest scores. In addition, the difference in results between schools with a high and a low socio-cultural level is the largest in English, when we consider this difference by subject. Socio-cultural aspects have a high impact on students reaching the threshold set by our education authorities for English (Consell Superior d'Avaluació del Sistema Educatiu, 2014).

Thus, the current state of English writing as a basic competence suggests a need for research, not only because teachers seem in need of guidance, but also to ensure our education system does not leave behind low socio-cultural students.

3. Metodología:

The teacher developed an instructional design for her classroom of 21 10th graders with a very detailed assessment program. The first year, the students performed writing activities in a wiki, which was public for the whole class (Nückles, Schwonke, Berthold, & Renkl, 2004). Additionally, they used a learning diary template to reflect on their own learning process. The analysis of the implementation in that first year allowed the teacher to review the conditions of her assessment program and the learning diary template. It also gave support to theoretically- and evidence-based changes in these practices, with the purpose of enhancing students' reflection on their own learning process.

For the second year, changes in the instructional design included a more careful guidance of the students' progress through task design. It also considered students helping each other and working together in small groups that were no longer public to the whole class. Finally, the teacher developed a new learning diary template

4. Discussion of Data, Evidence and Objects or Materials

The evidences collected for the study in the first and second year were a myriad of complementary data: all the students in class (N=21) responded to two evaluation questionnaires, one at the beginning of the study, and the second at the end of the school year regarding the experience during the second and third terms. The responses to the questionnaire were compared looking for significant differences ($p < 0.5$), using t-tests and f-test. The t-test showed significant differences in students' perception ($5.34 \cdot 10^{-6}$). The f-test also showed significant differences in variance ($3.6 \cdot 10^{-9}$). In addition, a group of six students, randomly selected according to their achievement level (2 high-achievers, 2 average-achievers and 2 low-achievers) responded to an interview, which was carried out by an external research assistant. These selected students also provided all their learning productions during the second term of the course, which were tracked down in the

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wiki space. Finally, the teacher herself wrote a classroom diary during the experience.

5. Results and/or conclusions

The evaluation questionnaires gathered students' perception of the instructional experience focusing on different aspects of the design, such as technical accessibility, chances to improve their writing, grammar and vocabulary; learning strategies, teacher's feedback, and finally an evaluation of the learning diary as a support activity for self-regulation along the course.

The student's perception of the design was not as positive as expected: the overall evaluation of the instrument was rather low (on a scale 1-10) (Table 1-3). However, t-tests showed there was significant improvement in the students' perception in four dimensions, and significant regression in one. f-test showed significant lower variance in four dimensions. There were also a number of individual items where there was significant improvement. All these variations provided very useful clues on how some aspects of the design could be improved. These results, together with the teacher's observation and the analysis of the student's productions, led the teacher to reconsider the learning diary template plus the conditions of realization. The goal of the second implementation of the study was to promote more reflective learning of the writing competence, diminishing the elements that were more negatively evaluated by the students the former year: group-reflection was introduced in groups of students, in order to give social support to the reflective learning. On the one hand, marking conditions were made more flexible adjusting assessment criteria to both students' and the teacher's expectations; on the other, assessment times were better delimited by setting clearer deadlines for pre-tasks (grammar, vocabulary and writing conventions intake), tasks (first draft of written assignments) and post-tasks (feedback supported re-drafting processes) (xxx, 2014).

6. Contributions and Scientific importance of this work:

This Design Based Research shows both scientific and educative relevance. On the scientific side, it gives support for theoretically- and also evidence-based changes in the teaching practices, with the purpose of enhancing students' reflection on their own learning process.

On the educative side, it reflects that the current state of English writing as a basic competence suggests a need for research, not only because teachers seem in need of guidance, but also to ensure low socio-cultural students are not left behind.

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The findings open many questions that need to be considered. Firstly, secondary students need to feel safe when it comes to exposing their writing and might feel uncomfortable if they sense their classmates are peeping on their productions. It is clear that vicarious learning can help scaffolding students' learning. However, before students make sense of these advantages, precious time may be lost. Furthermore, a design that involves reflection, even if that reflection is about language, needs some space and "privacy" and maybe clearer instructions on what to reflect about. For this reason, more research is needed to find some sort of compromise solution that combines sustainable guidance from the teacher, enough privacy and sufficient interaction among students.

Table 1. Students' evaluative responses in final questionnaire

please, tell us our appraisal of...	students																										Aver.	St.Dev.
	C01	C02	C03	C04	C05	C06	C07	C08	C09	C11	C12	C13	C14	C15	C16	C17	C18	C22	C23	C25	C26							
The English course this term	6	5	4	6	8	4	5	6	7	8	6	6	8	7	5	6	6	7	8	6	7	6,24	1,22					
Connecting to the web is easy	8	10	10	10	10	5	7	10	10	10	10	8	10	10	10	8	6	9	10	8	7	8,86	1,56					
Using the WIKI space is easy	4	5	6	8	6	1	5	5	7	4	5	4	8	8	6	9	6	7	10	1	7	5,81	2,29					
The WIKI helps me learn English	8	5	4	6	7	1	5	6	7	4	7	7	7	8	7	7	5	7	2	2	5	5,57	2,01					
It's fun to see others' work on the WIKI	6	10	2	5	5	1	6	4	8	3	4	1	5	7	2	5	6	6	6	6	5	4,90	2,23					
It's interesting to see others' work on the WIKI	8	5	2	5	7	1	6	5	8	3	5	1	5	6	8	5	6	7	8	8	7	5,52	2,23					
Seeing others' work helps me improve my English	9	10	4	9	8	4	6	7	10	5	10	8	6	1	8	6	7	7	10	7	7	7,10	2,32					
I like to see what other classmates do on the WIKI	9	4	2	8	8	3	5	5	10	4	10	7	5	4	7	1	7	6	10	9	6	6,19	2,66					
Seeing my work on the WIKI might be fun for my classmates	7	1	5	6	5	1	5	6	9	4	4	1	5	8	7	5	6	6	9	6	6	5,33	2,27					
Seeing my work on the WIKI might be interesting for my classmates	7	1	4	5	5	5	4	4	7	3	4	1	7	10	6	8	5	5	7	7	6	5,29	2,17					
Seeing my work on the WIKI might help my classmates learn English	9	1	5	5	5	5	4	2	7	3	7	7	7	10	7	8	5	5	10	6	8	6,00	2,39					
I like my classmates seeing what I do on the WIKI	9	1	1	4	5	4	4	5	10	5	6	5	5	1	5	1	6	5	7	5	4	4,67	2,37					
Explaining the use of words helps me learn grammar	8	5	7	8	8	5	6	7	8	6	6	7	9	8	6	6	5	7	10	8	7	7,00	1,34					
Putting examples helps me learn grammar	8	5	6	7	9	4	6	8	8	6	7	6	8	9	5	6	5	6	9	6	7	6,70	1,45					
The teacher's feedback helps me learn grammar	8	5	7	6	8	3	5	8	10	7	5	1	8	9	7	8	6	7	8	7	8	6,71	2,05					
Making the corrections according to the feedback helps me learn grammar	7	5	8	7	7	4	5	8	10	7	6	6	8	10	4	9	6	7	9	5	7	6,90	1,76					

Table 2. Students' evaluative responses in final questionnaire (continuation)

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please, tell us our appraisal of...	C01	C02	C03	C04	C05	C06	C07	C08	C09	C11	C12	C13	C14	C15	C16	C17	C18	C22	C23	C25	C26	Aver.	St.Dev.
Making words lists helps me learn vocabulary	9	5	8	9	10	1	5	5	8	5	1	6	1	9	5	5	5	7	9	9	7	6,14	2,76
Writing saple sentences helps me learn vocabulary	8	5	7	6	9	1	5	6	8	4	2	5	1	6	6	1	5	6	9	7	5	5,33	2,44
The teacher's feedback helps me improve my writing	8	5	6	6	8	1	5	8	10	10	7	7	5	10	7	8	5	7	9	5	7	6,86	2,15
Making the corrections according to the feedback helps me learn vocabulary	9	5	5	6	7	2	5	8	10	7	5	7	5	9	4	9	5	7	9	6	5	6,43	2,04
Marking mistakes with yellow background is a useful feedback	7	5	5	7	10	3	5	10	10	10	6	1	10	9	7	10	4	7	10	7	5	7,05	2,69
Crossing out mistakes is a useful feedback	6	5	6	5	9	3	5	10	8	10	5	1	10	7	6	9	4	7	8	7	5	6,48	2,40
Adding words in bold is a useful feedback	6	5	7	8	8	5	5	10	10	9	7	1	10	8	5	7	4	7	9	7	5	6,81	2,27
Links to web resources is a useful feedback	8	6	5	7	8	5	5	10	10	9	7	5	8	5	6	6	4	7	9	8	5	6,81	1,81
Suggesting websites is a useful feedback	9	7	5	6	7	6	5	8	10	9	7	6	8	5	7	5	4	7	9	6	7	6,81	1,60
Sidecoments is a useful feedback	9	6	6	7	9	1	5	8	8	10	6	5	9	10	8	10	4	8	9	6	6	7,14	2,29
The teacher was a learning resource for me	7	9	7	6	8	5	2	10	9	10	7	8	9	7	6	8	7	8	8	2	7	7,14	2,13
Other classmates were learning resources for me	7	10	8	7	5	5	4	10	10	6	7	7	6	3	5	3	6	6	9	8	7	6,62	2,09
The digital text book was a learning resource for me	4	7	6	5	8	6	4	8	10	3	1	1	7	5	4	1	5	5	6	4	0	4,76	2,59
The exercise workbook was a learning resource for me	8	7	9	8	8	7	5	9	10	3	8	8	10	5	8	5	7	7	9	8	7	7,43	1,75
The readers were a learning resource for me	8	1	4	3	8	7	3	5	10	4	2	1	7	9	3	1	1	5	0	2	5	4,24	2,96
The movies in class were a learning resource for me	7	5	3	8	8	4	5	7	10	4	5	4	9	10	5	8	6	7	10	8	5	6,57	2,18
Internet was a learning resource for me	8	10	8	9	6	7	6	8	10	8	6	7	9	10	7	9	6	7	9	9	6	7,86	1,42

Table 3. Students' evaluative responses in final questionnaire (continuation)

please, tell us our appraisal of...	C01	C02	C03	C04	C05	C06	C07	C08	C09	C11	C12	C13	C14	C15	C16	C17	C18	C22	C23	C25	C26	Aver.	St.Dev.
I learn better when I can write about things that matter to me	9	10	3	9	10	8	7	7	10	9	10	9	7	10	8	8	4	7	10	5	8	8,00	2,02
The teacher's feedback is good	9	5	5	5	8	1	4	8	8	8	5	6	9	9	7	10	6	9	5	5	6	6,57	2,20
The teacher's feedback is clear	7	5	5	6	9	2	4	8	8	9	6	3	9	9	6	9	6	7	7	6	5	6,48	2,04
The learning diary is useful to learn English	6	1	3	7	8	3	5	5	8	5	6	7	6	8	5	6	5	7	7	1	6	5,48	2,04
The learning diary is useful to pass my English course	1	1	2	7	7	3	2	7	10	3	4	5	4	10	6	5	5	8	0	1	6	4,62	2,92
I worked enough in my learning diary	7	5	7	8	10	1	4	7	6	6	7	5	9	10	4	9	6	8	8	10	7	6,86	2,26
I have been working on my learning diary only at teacher's commands	3	1	4	5	8	1	4	6	6	3	0	1	1	1	3	10	6	6	6	9	7	4,33	2,90
I worked on the learning diary at my own rhythm	10	10	8	7	10	5	5	8	10	7	10	8	9	10	3	8	6	8	10	10	8	8,10	2,02
Understanding my own errors helps me improve my English	10	5	5	6	9	5	5	6	10	6	7	7	9	10	5	9	6	6	10	6	7	7,10	1,92
I learn by correcting my errors	8	5	5	6	9	5	5	7	10	5	7	6	9	10	5	10	6	6	10	6	6	6,95	1,94
The evaluation criteria of the WIKI help me learn English	7	1	6	5	8	1	4	8	5	3	5	7	9	8	7	5	5	6	9	5	5	5,67	2,24
Doing the learning diary is fun	4	1	7	5	6	1	1	6	5	2	1	1	5	6	2	1	3	6	0	1	6	3,33	2,35
Doing the learning diary is interesting	4	1	4	5	7	1	1	7	10	4	2	1	5	9	3	1	3	6	7	1	7	4,24	2,84
Doing the learning motivates me to learn English	8	1	5	4	6	1	2	7	8	3	6	6,5	5	5	5	5	3	6	0	1	3	4,31	2,37

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7. References

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