Digital games and young learners' reading skills in L1 and L2: The role of feedback

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1. Introduction

➢ **Linguistic feedback**: information given to language learners to inform them about their performance and progress (Hattie & Timperley, 2007).

➢ Role of feedback in language learning: fundamental in raising achievement

➢ Differential focus of feedback:
 ❑ **Task-level feedback**: intended to support surface-level learning (e.g. "*you got five right answers*").
 ❑ **Process-level feedback**: intended to support deeper-level learning related to understanding (e.g. "*remember that the same spelling can be pronounced in different ways in English*").
 ❑ **Self-level feedback**: intended to praise the learner, as a reward (e.g. "*well done! Congratulations!*").

2. Objectives

➢ A qualitative exploration of the following:

 ❑ Given the growing importance of digital games and tools for language learning, what is **the main focus of feedback** in present-day popular digital games designed to develop literacy skills among young learners?

 ❑ Is the same type of feedback available in games designed for L1 readers and games designed for older L2 readers?

 ❑ What are the teachers' perspectives/expectations regarding feedback? What are the learners' perspectives?

3. Method

a) Participants:
➢ 10 Spanish children acquiring reading skills in their L1. Age range: 7-8 years old.
➢ 10 Spanish children learning English as a foreign language. Age range: 9-10 years old.
➢ 2 Spanish primary school teachers.
➢ 2 EFL primary school teachers.

b) Tools:
➢ 4 digital games to foster reading skills in Spanish.
➢ 4 digital games to foster reading skills in EFL.
➢ The games chosen targeted the following features:
 ❑ *Phonology* (Little Smart Planet mini-games for Spanish; Reading Eggs mini-games for EFL).
 ❑ *Word recognition* (Little Smart Planet mini-games for Spanish; Reading Eggs mini-games for EFL).
 ❑ *Morphology* (Little Smart Planet mini-games for Spanish; Reading Eggs mini-games for EFL).
 ❑ *Syntax* ("Aprender a leer" for Spanish; Little Smart Planet mini-game for EFL).

c) Procedure:

➢ Feedback available from the 8 different mini-games was coded by the researchers using the coding and feedback types in Table 1 (adapted from Benton et al., 2018).

➢ Students were recorded in a playing session with the researcher using the games. After, they were interviewed regarding the games, the type of feedback they had received, and their feeling of learning and achievement.

➢ A follow-up session was held with the teachers: they were shown the recordings of the playing sessions, and they were interviewed in connection to the students' errors and the type of feedback provided to them.

Table 1: Types of feedback used for the coding of the games.

Outcome feedback	Knowledge of result	States that the answer is correct/incorrect
	Knowledge of correct result	Provides the correct answer
	Try-Again (unlimited)	Allows unlimited attempts with the same content
	Try-Again (limited)	Allows limited attempts with the same content (in terms of options or time)
	Try-Again (new content)	Allows player to try again with same mechanics but different content
	Error Flagging	Highlights where the error was made
Elaborative feedback	Topic Specific	Provides additional information about specific literacy concept
	Response Specific	Explains why answer is correct/incorrect
	Informational	Gives information about how to work out correct answer or advance general understanding
	Hints, prompts, cues	Guides player to correct answer (without providing answer)
Punishments	Removal	Temporary removal of rewards (re-gainable through game play)
	Loss	Loss of lives/points (not re-gainable)

4. Results

Table 2: Feedback coding results for the Spanish and EFL games.

Name of mini-game & target literacy feature		Outcome feedback						Elaborative feedback				Punish-ments	
		Knowledge of result	Knowledge of correct result	Try-Again (unlimited)	Try-Again (limited)	Try-Again (new content)	Error Flagging	Topic specific	Response specific	Informational	Hints, prompts, cues	Removal	Loss
L1 Spanish games	Palabra correcta – LSP (phonology)	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✓
	Las sílabas – LSP (word recognition)	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✓
	Substantivos y Adjetivos – LSP (morphology)	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✓
	Aprender a leer (syntax)	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
EFL games	Eggspress Stadium-Vocab. (phonology)	✓	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓
	Eggspress Stadium-Spelling (word recognition)	✓	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓
	Eggspress Stadium-Usage (morphology)	✓	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓
	English sentences – LSP (syntax)	✓	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	✓

5. Discussion

➢ All the games under examination focus on **outcome feedback**, or task-level feedback, which only supports surface-level learning.

➢ **Elaborative feedback**, which is intended to support deeper-level learning, was practically absent from all the games. Only a few included short "tòpic specific" feedback regarding the literacy feature they targeted. This was presented at the end of the game, on a final screen.

➢ Most **L1 Spanish novice readers** ignored the limited elaborative feedback provided in some of the games, as they mainly focused on outcome feedback and knowledge of results.

➢ While outcome feedback and self-level feedback (in the form of punishments) was important to **L2 older readers** to enhance motivation, this group of participants mostly missed some kind of elaborative feedback to guide them in their learning process.

➢ The **teachers** interviewed also agreed that some sort of ellaborative feedback (especially response-specific feedback as well as hints, prompts and cues) is essential in any new digital game design. This would promote deeper-level learning and understanding beyond the mere trial and error approach promoted in most present-day games.

References:
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