

LANGUAGE APTITUDE IN L2 VOCABULARY LEARNING THROUGH SUBTITLED TV SERIES: EVIDENCE FROM YOUNG LEARNERS

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Theoretical background

Subtitled TV series

- Not devised as EFL teaching materials
- Effective for FL learning (Vanderplank, 2016)
- L1 subtitles make input more comprehensible and ease the establishment of the form-meaning link (Danan, 2004; Talaván, 2012)
- Beneficial for low-level learners (Koolstra & Beentjes, 1999)
- Helpful in vocabulary acquisition and audiovisual comprehension (Peters & Webb, 2018; Rodgers & Webb, 2017, 2020)



Theoretical background

Vocabulary acquisition and (extensive) television viewing:

- **Lexical repetition** and **accumulation of background knowledge** (Webb & Rodgers, 2009)
- Research on **adult learners** exposed to **short clips / unrelated programs** (Montero Perez, 2019; Sydorenko, 2010)
- Some **extensive viewing** studies with positive results (Frumuselu et al., 2015; Pujadas & Muñoz, 2019; Rodgers & Webb, 2020)
- Learning differences depending on viewers' **proficiency** (Gesa & Miralpeix, 2022)

Very scarce research on **beginner learners**. However:

- Informal at-home TV viewing beneficial for **word identification** (Rice et al., 1990) and **translation tests** (Kuppens, 2010)
- Inconclusive results regarding the use of **subtitles** (Galimberti & Miralpeix, 2018; Teng, 2019)
- No study to date on extensive viewing and young beginner learners



Theoretical background

- Aptitude is **multicomponential** (MLAT, MLAT-E, MLAT-EC/ES, LLAMA, Hi-Lab...).
- Little research on how each subtest (i.e., aptitude component tapped by the test) influences language learning rate.

Phonemic coding ability

- The ability to identify and memorize new sounds or strings of sounds

Grammatical sensitivity

- The ability to understand how words function grammatically in sentences

Inductive language learning ability

- The ability to infer grammatical rules from language samples

Rote learning ability for FL materials

- The ability to learn a large number of semantic-symbol and/or sound-symbol associations in a short period of time

Carroll's (1981) aptitude components



Theoretical background

Part	MLAT-EC (Grades 3-7)	Construct
1	Hidden Words	Sound-symbol association <i>Vocabulary learning</i>
2	Words in Sentences	Grammatical sensitivity
3	Rhyming Words	Hearing and distinguishing speech sounds
4	Number Learning	Rote learning memory <i>Auditory comprehension</i> <i>Vocabulary learning</i>



Theoretical background

- Good general **L2 proficiency predictor**, but low predictive validity for vocabulary and L2 writing with some exceptions. (Li, 2016)
- Regarding **lexical variety** in writing, using HUNLAT or MLAT-EC/ES: **inconsistent results**. (Kormos & Trebits, 2012; Muñoz, 2014; Rosa & Muñoz, 2013; Suárez, 2014)
- Moderate significant correlations with **receptive and productive vocabulary** (5-9 years old, Greek learner's aptitude battery). (Alexiou, 2009)
- Positive significant correlations with **vocabulary recall and recognition**, using MLAT (Dahlen & Caldwell-Harris, 2013) and with L2 vocab-learning related skills besides L2 vocabulary measure. (Sparks, Patton, & Luebbers, 2019)
- Aptitude relevant for **word meaning learning** in captioned video viewing at (upper-)intermediate level (LLAMA). (Suárez & Gesa, 2019)



Research questions

In Grade 6 beginner EFL learners:

- 1) Does additional **extended exposure** to **L1 subtitled TV series** lead to significant **gains in vocabulary** learning, as compared to formal language instruction alone?
- 2) **When using L1 subtitled TV series**, how is **language aptitude** linked to any gains in vocabulary learning?



Participants

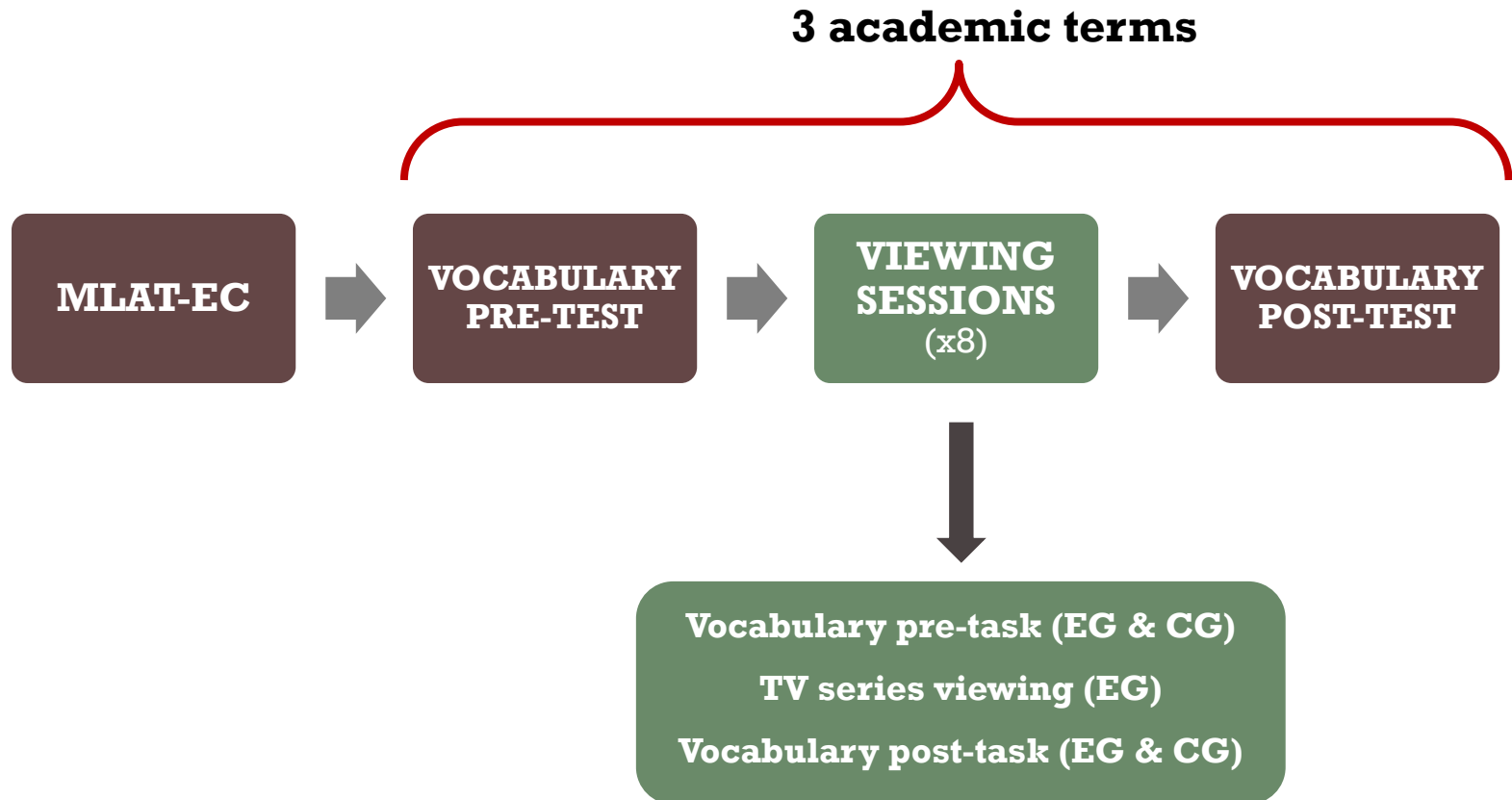
Experimental Group (EG)	Control Group (CG)
$n=22$	$n=18$

Grade 6 Catalan / Spanish EFL learners

- Two intact classes: EG and CG
- Last year of primary school
- A1-A2 proficiency level
- 900 h formal instruction
- 11-12 years old
- VS: 1,530 words
- 18 boys / 22 girls

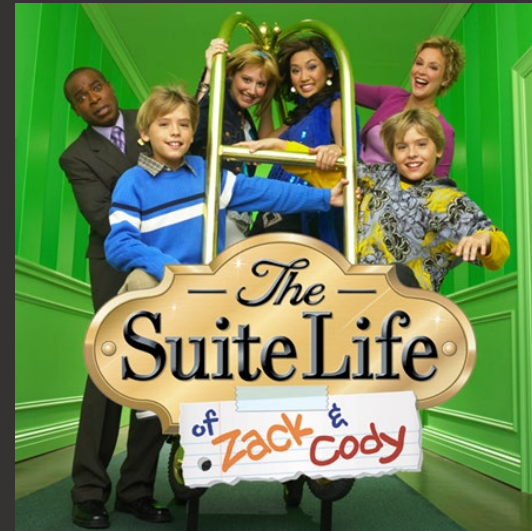


Procedure



TV series

- ***The Suite Life of Zack and Cody*** (16 episodes) (Terms 1 and 2) & ***Wizards of Waverly Place*** (8 episodes) (Term 3)
- **95% lexical coverage:** 2K and 3K levels; **98%:** 6K level
- English audio and **Spanish subtitles** (VS: 1,530 words -Webb & Rodgers, 2009-)
- **24 episodes** (21 min. 30 sec. each) → **8h 36 min.** of multimodal input exposure
- 5 target words / episode → **40** TWs / term and **120** TWs in total



Instruments

TESTS

VOCABULARY PRE- & POST-TEST

40 TWs

Beginning / end of each term

Form and meaning recall

1. A continuación escucharás veinte palabras. Escríbelas en inglés y tradúcelas al castellano o catalán. Si de alguna palabra conoces más de un significado, escríbelo. Escucharás cada palabra un total de dos veces.

Palabras

	Inglés	Castellano - Catalán
1		
2		
3		
4		
5		



Instruments

TASKS

VOCABULARY PRE-TASK

Pre-teaching of TWs
Focus-on-forms approach
Different types of exercises

"Footloser"

1. Find the words that match the definitions. The number of letters that each word has is given next to its definition.

L T I J G J C H J **A** E F
C H C Q H W P **T** C N H U
E Q Q K K Q S H F K R D
A Z H **C** W E I I G L S O
S Z V I T K C R Z E R J
D Z M N T P U S K V I F
V G O R K V G T G I A Y
P **C** U T R J O Y A O R T
W **H** D S T W B Y C C Q F
F M J D J V T R V D H L
R T V N C Q I B T M A S
V O T O X I F Z C B H E

Definitions

A) Part of the body that connects the foot to the leg (5 letters) A _____
B) A competition where people try to win something (7 letters) C _____
C) Wanting to drink (7 letters) T _____
D) To cause physical pain (4 letters) H _____
E) To have to return money that you borrowed (3 letters) O _____

VOCABULARY POST-TASK

5 TWs
Immediate learning of TWs
Form recall and meaning recognition

"Footloser"

1. Escucharás cinco palabras en inglés. Cada palabra se va a repetir dos veces. Escribe cada palabra en los espacios en blanco (1, 2, 3...) y di qué significan (opción a, b, c...). Si no sabes qué quiere decir alguna palabra, elige la opción (f) 'No lo sé'.

1) _____ 4) _____

a) Intacto a) Retener
b) Jurado b) Acontecimiento
c) Tío c) Concurso
d) Tobillo d) Protestar
e) Codo e) Talento
f) No lo sé f) No lo sé

2) _____ 5) _____

a) Caja a) Hacer daño
b) Hambriento b) Corazón
c) Sediento c) Criticar
d) Primeramente d) Masaje
e) Magia e) Aire
f) No lo sé f) No lo sé

3) _____

a) Deber
b) Obligar
c) Reir
d) Extraño
e) Arco
f) No lo sé



Instruments

MLAT-EC Part 1: Hidden Words

bakka A) és dolça B) part de la cara C) fa llet D) amb arrugues

vakka → *vaca* (cow) C) makes milk

MLAT-EC Part 2: Words in Sentences

Em vaig tallar el DIT amb un ganivet.

El meu germà s'oblidà les **claus** a casa.

MLAT-EC Part 3: Finding Rhymes

flabiol A) pèsol B) Oriol C) flascó D) avió



Instruments

MLAT-EC Part 4: Number Learning

Units

- co = u (1)
- vein = dos (2)
- ras = tres (3)

Tens

- silca = deu (10)
- vinca = vint (20)
- rasca = trenta (30)

rasca
30



ras
3



trenta-
tres
33



Vocabulary gains

Relative gains formula applied (Horst et al., 1998; Shefelbine, 1990):

$$\frac{N \text{ of forms or meanings learned}}{N \text{ of items} - N \text{ of forms or meanings known}} \times 100$$

- Controlling for items known on the pre-tests.
- More fine-grained measure of lexical knowledge.
- Consistent with previous research on the topic (Peters & Webb, 2018; Pujadas, 2019; Rodgers & Webb, 2020).



Analyses

- **RQ1**

Independent samples *t*-tests and Mann-Whitney *U* tests

- **Targets:** Relative gains for form
Relative gains for meaning
- **Factors:** Condition (EG vs. CG)

- **RQ2**

Generalized Linear Mixed Models (GLMMs) (EG only -*n*=22-)

- **Targets:** Relative gains for form
Relative gains for meaning
- **Fixed effects:** MLAT-EC parts and total score
Time (T1, T2, T3)



Research questions

In Grade 6 beginner EFL learners:

- 1) Does additional **extended exposure** to **L1 subtitled TV series** lead to significant **gains in vocabulary** learning, as compared to formal language instruction alone?
- 2) When using L1 subtitled TV series, how is language aptitude linked to any gains in vocabulary learning?



Results - RQ1

RELATIVE GAINS (in %)

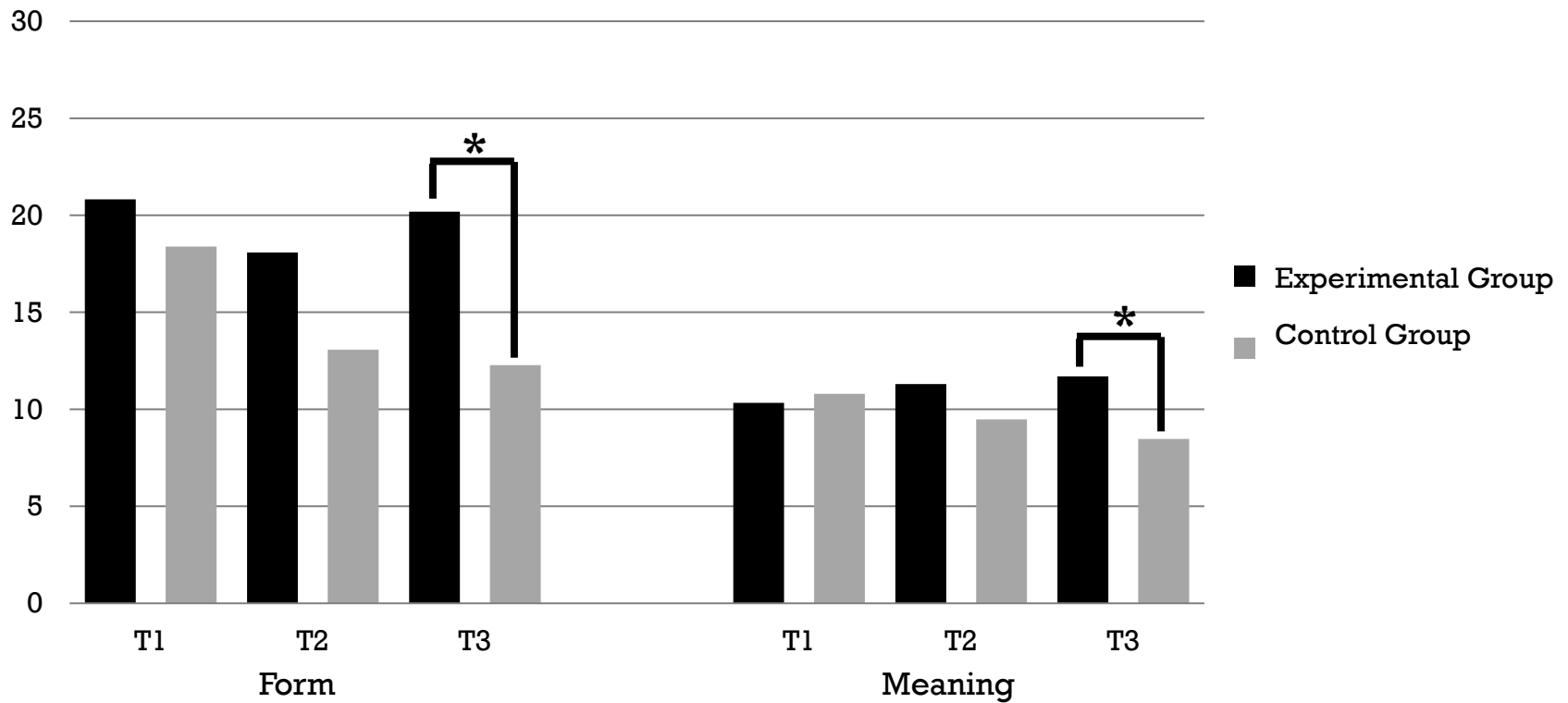
Term	Aspect	EG		CG	
		Mean	SD	Mean	SD
T1	Form	20.82	10.75	18.39	10.42
	Meaning	10.33	8.35	10.80	10.62
T2	Form	18.08	10.49	13.07	7.30
	Meaning	11.30	6.22	9.48	9.35
T3	Form	20.19	11.43	12.28	8.59
	Meaning	11.70	7.05	8.47	5.95

Significant improvement from pre- to post-test by both experimental conditions, for both lexical aspects and in all terms ($p=.000$ in most cases)



Results - RQ1

Relative gains (in %)



Research questions

In Grade 6 beginner EFL learners:

- 1) Does additional extended exposure to L1 subtitled TV series lead to significant gains in vocabulary learning, as compared to formal language instruction alone?
- 2) In such conditions, how is **language aptitude** linked to any gains in vocabulary learning?



Results - RQ2

MLAT-EC

MLAT-EC	EG	CG	All
Part 1: Hidden Words (in %)	<i>M</i> =77.88 (15.65)	<i>M</i> =75.56 (17.90)	<i>M</i> =76.83 (16.52)
Part 2: Words in Sentences (in %)	<i>M</i> =62.12 (23.89)	<i>M</i> =75 (22.02)	<i>M</i> =67.92 (26.38)
Part 3: Finding Rhymes (in %)	<i>M</i> =75.96 (21.13)	<i>M</i> =83.92 (9.88)	<i>M</i> =79.54 (17.30)
Part 4: Number Learning (in %)	<i>M</i> =75.63 (26.92)	<i>M</i> =73.33 (25.78)	<i>M</i> =74.60 (26.11)
TOTAL (in %)	<i>M</i> =72.98 (17.94)	<i>M</i> =77.55 (12.82)	<i>M</i> =75.04 (15.82)

* SD in brackets

No significant differences in MLAT scores from Mann-Whitney *U* tests.



Results - RQ2

TW FORM & APTITUDE

- Significant main effect for **Part 1 Hidden Words**
 $F(1, 60)=4.583, p=.036$
- Significant main effect for **Part 2 Words in Sentences**
 $F(1, 60)=7.828, p=.007$
- Significant main effect for **Part 4 Number Learning**
 $F(1, 60)=5.631, p=.021$
- Significant main effect for **MLAT-EC Total**
 $F(1,60)=7.051, p=.010$
- No significant interaction MLAT-EC Parts/Total * Time

TW MEANING & APTITUDE

- Significant main effect for **Part 1 Hidden Words**
 $F(1, 60)=4.020, p=.049$
- No significant interaction MLAT-EC Parts/Total * Time



Discussion - Vocabulary

- **Explicit vocabulary instruction** accounted for most part of the results, despite the fact that the EG had more exposure to the TWs.
- Pre-teaching of TWs beneficial for both groups: familiar activities and attention resources allocated to learning the target vocabulary whereas video viewing was a novel activity → too cognitively demanding?
- Additional TV exposure may have been helpful to **consolidate** partially known vocabulary, but not to learn new one.
- TV viewing was **not detrimental for vocabulary learning** (CG > EG) (Brünken et al., 2002).
- TV viewing **benefits also for younger beginner learners**, even if gains are limited (19.7% TW forms and 11.1% meanings). (Gesa, 2019; Koolstra & Beentjes, 1999; Kuppens, 2010; Rice et al. 1990)



Discussion - Vocabulary

- **Accumulation of input** and **familiarity** with the dynamics of the intervention diminished probabilities of cognitive overload; hence more benefits towards the end of the year.
- **Sustained exposure** to audiovisual material seems to benefit vocabulary learning.
 - Higher gains towards the end of the academic year
 - Training effects and familiarity with tests and tasks
 - Use of certain learning strategies to learn the target vocabulary (e.g., feedback)
 - Accumulation of type of input (2h 50 min. –T1– vs. 8h 30 min. –T3–)
- **L1 subtitles** could have facilitated learning and visual pre-tasks could have favoured meaning learning.
- More exposure and **vocabulary recycling** needed to acquire a higher number of TWs.
- If no **intentional focus** on the target vocabulary, learning gains would have been minimal.



Discussion - Lg aptitude

- **Aptitude** relevant for **form** learning → ≠ (upper-)intermediate level learners
- Aptitude was **not** significant for **meaning** learning (except Part 1) → marginal significance
- **Test parts** related to **vocab learning** have an influence (except Part 3 form) → type of input exposure
- Learners may have approached the learning task in a rather **explicit** way limiting themselves to memorization of forms: could not probably draw on **deeper learning mechanisms** and **strategies**
- Form vs meaning: there was **more cognitive / attentional involvement** for form → language aptitude came into play
- Meaning learning task too challenging to handle: **cognitive overload**



Pedagogical implications

- Need to **adapt the materials** to learners' proficiency level (e.g., by choosing TV series aimed at children) and aptitude profile (ATI).
- Advisable to accompany videos with a set of focused and active learning **tasks** (~~unguided viewing~~):
 - **Warming-up tasks** before viewing to introduce the vocabulary
 - **Consolidation tasks** after viewing to revise the vocabulary and receive feedback
- **Extensive viewing** as an option to provide extra input (~~single viewing session~~). (Webb, 2015)
- Extensive viewing **cannot replace formal vocabulary instruction**; should be seen as a complement to enhance and reinforce language acquisition. (Schmitt, 2008)



Limitations

- **Longitudinal study:** sample attrition
- **Classroom context:** limited extensive viewing, different teachers involved, possible demotivation in the CG?
- **Input materials:** different TV series, sometimes restricted TW choice
- **Post-task effect:** drawing learners' attention to the TWs and affecting their processing
- **No additional control groups** watching videos without subtitles

Further research

- Other **language skills:** grammar, segmentation abilities, aural comprehension, pronunciation, etc.
- Within-group **variability** (e.g. role of vocabulary size)
- Effects of other **IDs** (e.g. working memory)
- Comparing **subtitles vs. no subtitles**
- **Focused vs. non-focused** learning





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**THANK
YOU!**

BEDANKT!

