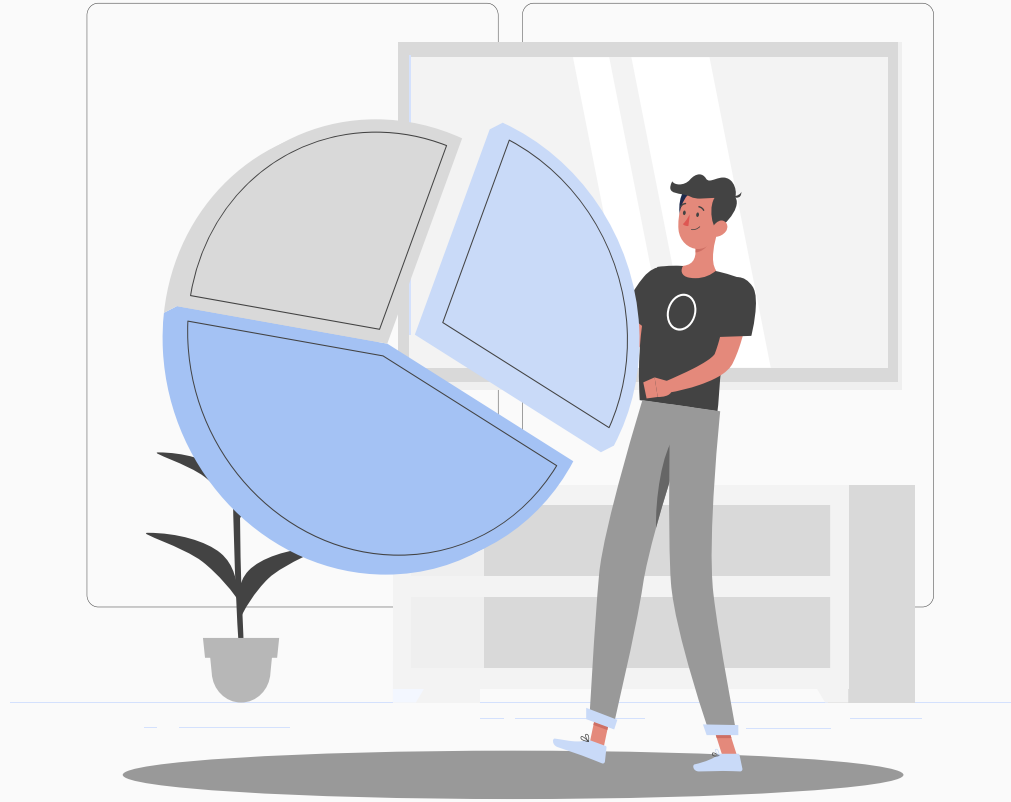


PERCEIVED EFFICACY OF CONTENT AND LANGUAGE INTEGRATED LEARNING ACROSS ACADEMIC SUBJECTS

Daniel Savage



01

**INTRODUCTION &
RESEARCH OBJECTIVES**

02

RESEARCH DESIGN

03

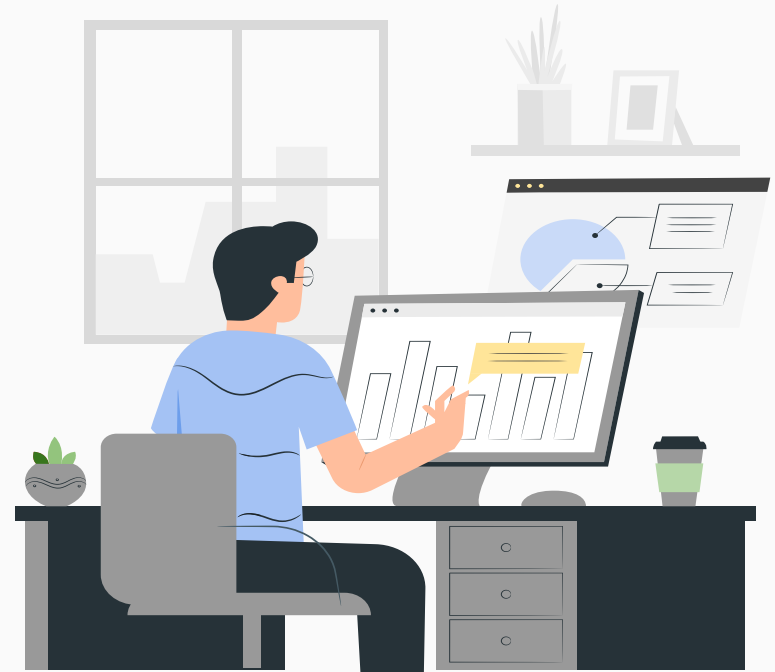
**STATISTICAL ANALYSIS
& RESULTS**

04

**DISCUSSION &
IMPLICATIONS**

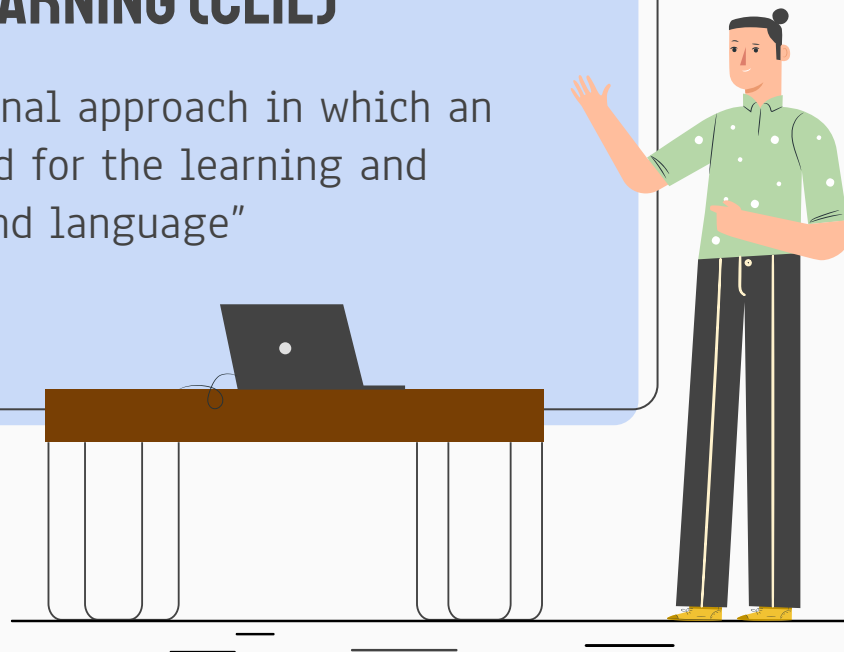


01.
INTRODUCTION
AND RESEARCH
OBJECTIVES



CONTENT AND LANGUAGE INTEGRATED LEARNING (CLIL)

is “a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language”
(Coyle et al., 2010)





Social Studies, English Literature, Science, Mathematics, and more, all through combinations of English- and Korean-medium Instruction

Including both native-Korean and native-English speaking instructors

A LIMITED SAMPLE OF RESEARCH ON CLIL EFFICACY

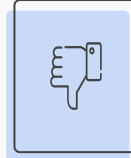
LASAGABASTER (2008)

- Four secondary schools in Basque area of Spain, comparing CLIL vs. non-CLIL groups second language skills (covering the 4 skills)
- Found a broad advantage for the CLIL learners on second language (L2) skills



JOE & LEE (2013)

- Pre- and post-test measures of Korean medical learners' comprehension of Korean and English lectures
- Found that comprehension levels did not differ, though learners *perceived* their comprehension of English-medium lectures to be lower



BRUTON 2011A, 2011B

- Critical evaluation of previously published positive CLIL research
- Particularly concerned about selection-bias in CLIL programs which may attract more motivated, second-language oriented, academically high performing learners

FERNANDEZ-SANJURJO ET AL. (2017)

- Eighteen primary schools in Spain, compared learners in CLIL and non-CLIL schools; the programs had no content or language ability admission criteria - much less likely to be affected by selection bias
- Tested science knowledge through Spanish, finding a slight but consistent advantage for the non-CLIL learners

RESEARCH

There has been a good volume of research on CLIL efficacy, though research within the Korean context is sparse

REVIEWS

For those interested in much more detail on recent CLIL efficacy research, two strong reviews are Graham et al. (2018) and Goris et al. (2019)

Both found the research to be positive on balance, but not sufficient to declare the approach unequivocally effective

MAIN PILLARS OF THE STUDY DESIGN

MOST CLIL
PROGRAMS RUN
**MULTIPLE ACADEMIC
SUBJECTS** THROUGH
THE TARGET L2

SOME SUBJECTS
COULD BE MORE
EFFECTIVELY
TAUGHT THROUGH
THE L2

THE DEGREE TO WHICH
LEARNERS PERCEIVE A
PEDAGOGICAL APPROACH AS
EFFECTIVE CAN IMPACT
THEIR LEARNING AND THE
SUCCESS OF THE PROGRAM



STUDY OBJECTIVES



THEREFORE, THIS STUDY INVESTIGATED POTENTIAL DIFFERENCES IN **PERCEIVED EFFICACY** OF ENGLISH-MEDIUM CLIL FOR BOTH CONTENT AND LANGUAGE LEARNING **ACROSS ACADEMIC SUBJECTS**

02. RESEARCH DESIGN



TARGET SCHOOL

THE SCHOOL

A specialized public secondary school in Korea

Learners from around the country can apply, though a majority come from the local metropolitan area

THE PROGRAM

The CLIL program is run school-wide

Focuses on social studies subjects and, to a lesser extent, foreign languages

Bilingual: English- and Korean-medium instruction

ACADEMIC SUBJECTS

Learners study a variety of subjects

This study used 6 categories: Economics, Politics & Law, History & Geography, English Literature, Science, and Mathematics

THE PARTICIPANTS - DEMOGRAPHICS

Counts and Percentages of Current and Former Student Participants by Sex

Sex	Current Students	Former Students	Total
Female	53 (43.1)	47 (38.2)	100 (81.3)
Male	17 (13.8)	6 (4.9)	23 (18.7)
Total	70 (56.9)	53 (43.1)	123

Current students were restricted to 2nd and 3rd grades; 38% of the current students were in 2nd grade and 62% were in 3rd grade at the time of the study

Of the **former students**, 57% had exited the program within 2 years of the time of the study; the others extending back to as many as 6 years before

The target school's student population skews to approximately 80% female, and this is reflected in the study sample

RESEARCH PROJECT DESIGN



QUANTITATIVE SURVEY METHOD

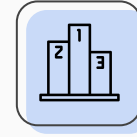
LIKERT SCALES

- Main Measures:
- Efficacy for Content Learning
 - Efficacy for L2 Learning
 - Difficulty



PARTICIPANTS RANKED THEIR PERCEPTIONS OF ENGLISH-MEDIUM STUDY FOR 6 SUBJECT CATEGORIES:

Economics, Politics & Law, History & Geography, English Literature, Science, and Mathematics



PRODUCED ORDINAL DATA

LEADING TO NONPARAMETRIC INFERENCE STATISTICAL ANALYSIS

Not at all effective /
효과적이지 않다

1

2

3

4

Very effective /
매우 효과적

5

I have NOT studied this subject in English in high school

Economics (경제)

Not at all difficult /
어렵지 않다

1

2

3

4

Very difficult /
매우 어렵다

5

I have NOT studied this subject in English in high school

Economics (경제)

03. STATISTICAL ANALYSIS & RESULTS



INITIAL TESTS FOR DIFFERENCES

Three Friedman's two-way analysis of variance by ranks tests to compare participants' rankings for the six academic subject categories

All three indicated significant differences existed across subjects, though this test cannot indicate *where* those differences are found

Perception Ratings by Subject Category - Friedman's Test Results

	Content Learning Efficacy	Language Learning Efficacy	Difficulty
<i>N</i>	108	109	107
Chi-square (χ^2)	232.5	258.3	29.3
<i>df</i>	5	5	5
<i>p</i> -value	< .001	< .001	< .001

IDENTIFYING SPECIFIC DIFFERENCES

WILCOXON POST-HOC TESTS

To identify specific differences across academic subjects, Wilcoxon tests were conducted for all individual pairs of subject categories

PAIRWISE COMPARISONS

Six categories can be paired 15 ways
Therefore 15 pairwise comparisons were conducted for content learning, language learning, and difficulty

P-VALUE CUTOFF

A Bonferroni correction was applied, reducing the cutoff for statistical significance from .05 to .003

(Kuzon et al., 1996)

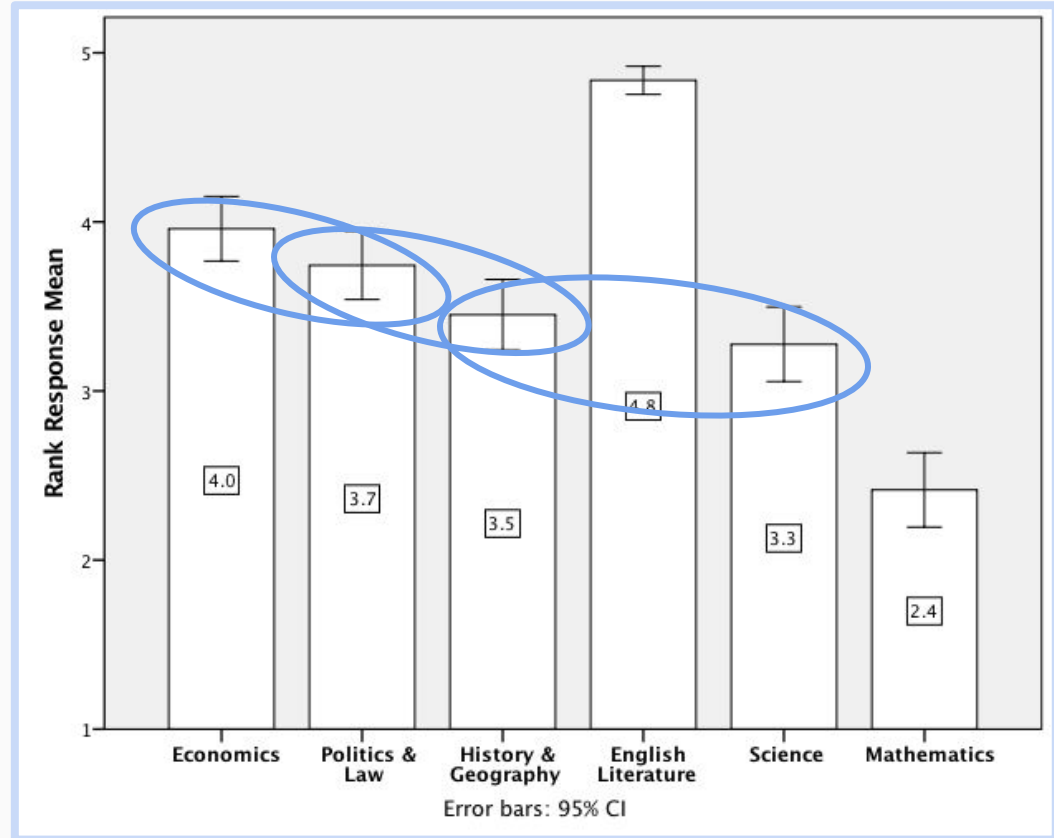
All statistically different
except:

- Economics = Politics & Law
- Politics & Law = History and Geography
- History & Geography = Science

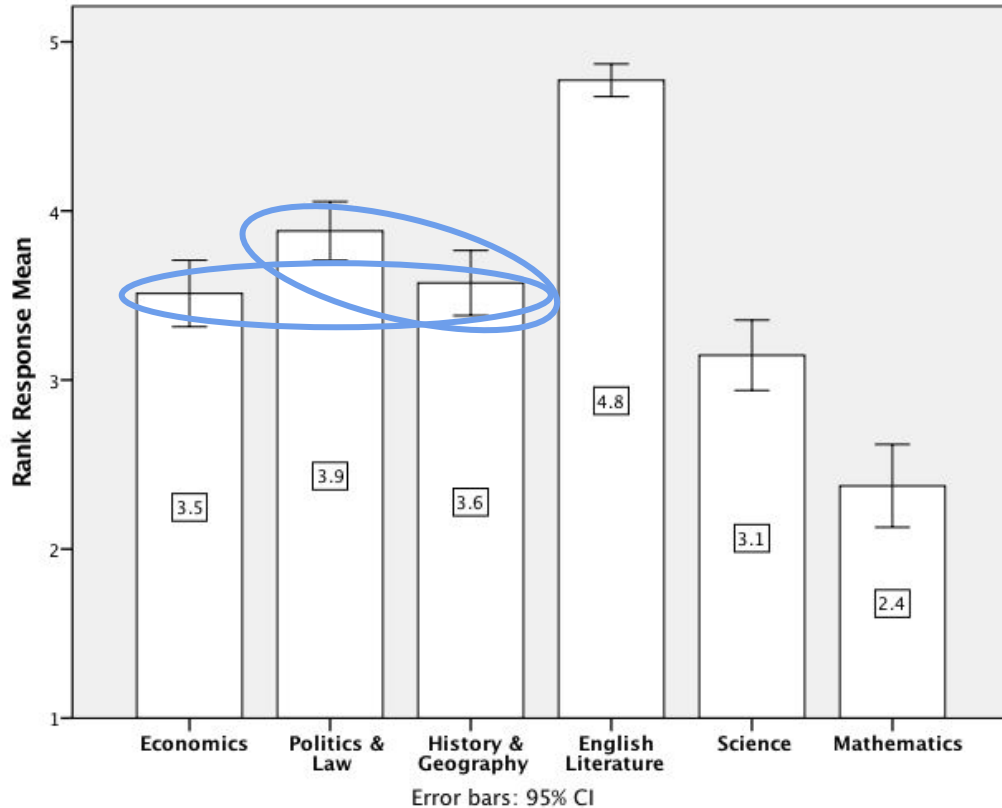
Math ranked as least effective,
English Lit as most effective

Note: Means do not apply to ordinal data as they do to interval data; means are provided graphically here only to assist with interpretation of the nonparametric statistical results

RESULTS - CONTENT LEARNING



RESULTS - LANGUAGE LEARNING



All statistically different except:

- Economics = History and Geography
- Politics & Law = History & Geography

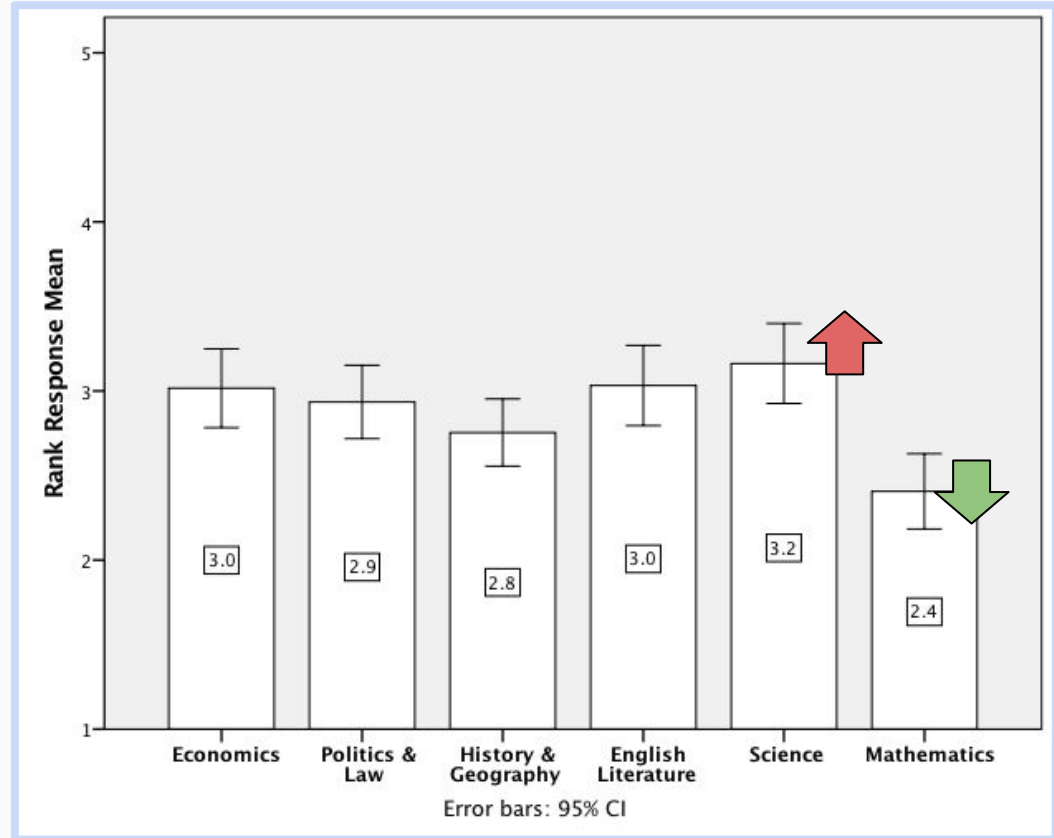
Again Math ranked as least effective, English Lit as most effective

RESULTS - DIFFICULTY

For difficulty, very few statistically significant differences, except:

- Math was seen to be easier than Economics, Politics & Law, English Lit, and Science
- Science was seen as more difficult than History & Geography

Remaining pairs were not statistically different



BRIEF SUMMARY OF THE RESULTS

Results indicated many differences in perceived English-medium CLIL efficacy across subjects, but few differences in perceived difficulty

The same four broad tiers of perceived efficacy emerged for content and language learning:

English Literature
Social Studies
Science
Mathematics

Consistent similar ratings for the three social studies categories may support treating them as a single category in future research

04 DISCUSSION & IMPLICATIONS



ABSTRACTION - DIFFICULTY CONNECTION

ATTENTION TOWARDS HOW CLIL IS TAUGHT

**ACADEMIC SUBJECT SELECTION IN CLIL
PROGRAMS**

ABSTRACTION - DIFFICULTY CONNECTION

Swain (1996) - suggestion that more abstract subjects might be more difficult and therefore less effective through CLIL

Results of this study - science and math seen as less effective....

But, complicated by difficulty - math seen as less effective, but also easier through L2

Therefore any abstraction - difficulty relationships will be more complex

Additional research needed to uncover reasons for differences in perceived efficacy

ATTENTION TOWARDS HOW CLIL IS TAUGHT

A lot of early CLIL research - CLIL as effective or not, insufficient attention paid to specifics of implementation like subject selection

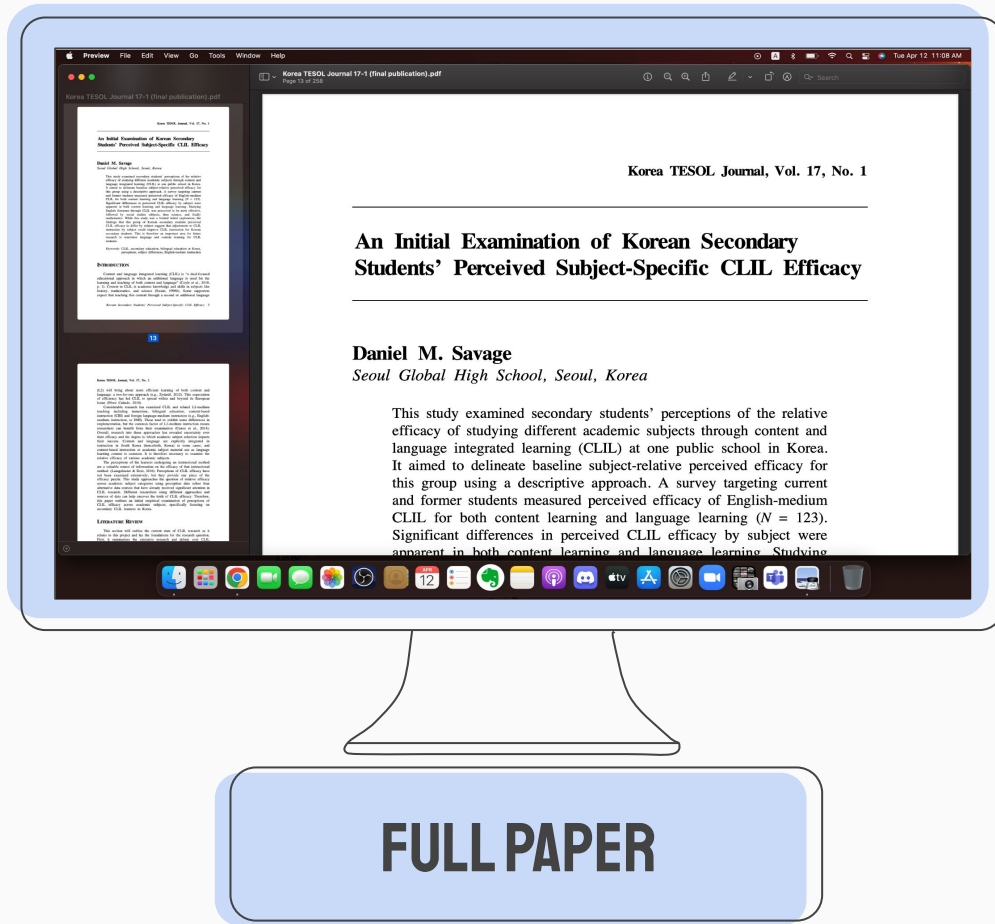
More recent attention towards specifics like collaboration between teachers (Pavon Vazquez, 2018), national differences in implementation (Goris et al. 2013), etc.

This study follows this trend, suggesting that the selection of academic subjects is likely to affect student learning and program success.

ACADEMIC SUBJECT SELECTION IN CLIL PROGRAMS

The reported perceptions of this sample of students cannot be generalized beyond the school student population of the time.

Additional research is necessary to see whether this holds true for other public CLIL programs within Korea, for other contexts within Korea including at the post-secondary level, and for contexts beyond Korea. Additionally, as this was a limited initial study, research including qualitative and longitudinal approaches is necessary before major changes are made to subject selection within CLIL programs. Additional details on the many limitations of this study and potential avenues for future research can be found in the full version of the paper:



Savage, D. (2021). An initial examination of Korean secondary students' perceived subject-specific CLIL efficacy. *Korea TESOL Journal*, 17(1), 3-40.

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THANK YOU

Does anyone have any questions?

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