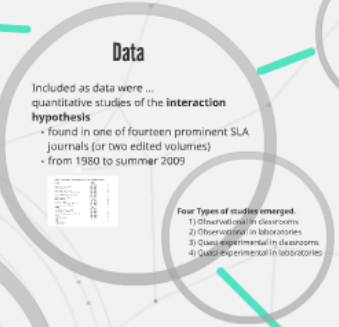
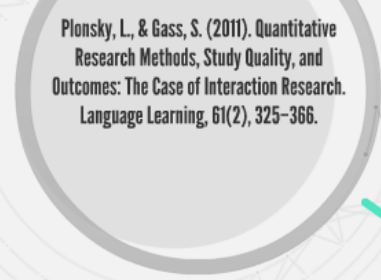


Research Question	Findings
Research Question 1	Table 4.5
Research Question 2	Table 4
Research Question 3	Table 3
Research Question 4	Figure 1, Table 1

Research Question	Findings
Research Question 1	Table 4.5
Research Question 2	Table 4
Research Question 3	Table 3
Research Question 4	Figure 1, Table 1



Discussion

Strengths and Weaknesses

- S** -- 80% of experimental studies used delayed posttests.
- S** -- 64% of studies reported reliability estimates.
- W** -- 21% of quasi-experimental studies did not pretest.
- W** -- 32% of laboratory studies used random assignments.
- W** -- Power in interactionist research is 0.56 (recommended minimum is 0.80).
- W** -- Power analyses are rare, indicating small samples and possible ignorance about statistical power.
- W** -- Inconsistencies in reporting practices such as exact and relative *p*-values, means without standard deviations, and *t* tests or ANOVAs without *t* or *f* values, which means readers cannot extract an effect size.

Study Quality and Outcomes

Experimental = Observational
Classroom = Laboratory

Two features that predict greater effect sizes: Delayed posttests and Random assignment

Changes Over Time

- Design**
 - increases in pretests, delayed posttests, the use of random group assignment, and comparison groups
- Reporting**
 - increase in the percentage of reports that include means, standard deviations, *t* values, and exact *p*-values, all of which can be used to calculate an effect size
- Outcomes**
 - decrease in effect sizes over time

Directions for Future Research

- Researchers must report . . .
- exact *p*-values to accompany the results of all statistical tests
 - standard deviations along with all means
 - confidence intervals
 - effect sizes

Impetuous for the Research (p. 328)

- The presence of weaknesses in SLA research (Byrnes, 2008)
- A possible relationship between different methodological/reporting practices and study outcomes (Prentice & Miller, 1992; Upsy & Wilson, 1993)
- Reviews of individual applied linguistics journals have found a lack of perceived importance of rigorous methods (Egbert, 2007; Magman, 2007; Smith & Lafford, 2009)

Coding (p. 336)

All features coded as binary (except effect size)

Identification: Author, Year, Journal Title
Design: Quasi-experimental, Pretest, Delayed posttest, Comparison group, Classroom, Random assignment
Analysis: Correlation, Chi-square, *t*-test, ANOVA, MANOVA, ANCOVA, Factor analysis, Regression
Reporting: Exact *p*-values, Relative *p*-values, Means, Standard deviations, Mean of means, Relative standard of error, Relative *t*-value, Confidence intervals, Effect size, Effect size calculation
Outcomes: Effect sizes

174 articles were coded with 97.9% average inter-rater reliability.

Findings

- Research Question #1: Table 4-5
- Research Question #2: Table 6
- Research Question #3: Table 7
- Research Question #4: Figure 1-4, Table 8

Plonsky, L., & Gass, S. (2011). Quantitative Research Methods, Study Quality, and Outcomes: The Case of Interaction Research. *Language Learning*, 61(2), 325–366.

Data

Included as data were . . . quantitative studies of the **Interaction hypothesis**

- found in one of fourteen prominent SLA journals (or two edited volumes)
- from 1980 to summer 2009

Interaction Hypothesis

"Interactionist research holds that acquisition results from the combination processes that happen during L2 interaction: grammar comprehension as well as English proficiency" (p. 326)

Four Types of studies emerged.

- 1) Observational in classrooms
- 2) Observational in laboratories
- 3) Quasi-experimental in classrooms
- 4) Quasi-experimental in laboratories

Question #3: Table 7

Table 7. Multiple regression analysis of effect size based on design type and quality

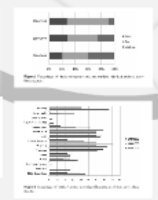
Variable	Mean	SD	B (SE)	beta	95% CI	Collinearity
Design	Observational	24	0.51	0.45	0.25-0.76	0.001
Design	Experimental	41	0.52	0.51	0.17-0.86	0.001
Quality	Character	42	0.38	0.30	0.15-0.50	0.001
Quality	Sub	50	0.48	0.31	0.15-0.50	0.001

Note. All effect sizes approached the lower threshold that requires a minimum number of studies or research participants.

Study in Second Language Acquisition	198-200	24
Review	198-200	11
ESOL Research	198-200	12
Total	198-200	134

Table values.

Question #4: Figures 1-4, Table



Plonsky, L., & Gass, S. (2011). Quantitative Research Methods, Study Quality, and Outcomes: The Case of Interaction Research. Language Learning, 61(2), 325–366.



Impetuous for the Research (p. 328)

- The presence of weaknesses in SLA research (Byrnes, 2008)
 - A possible relationship between different methodological/reporting practices and study outcomes (Prentice & Miller, 1992; Lipsey & Wilson, 1993)
 - Reviews of individual applied linguistics journals have found a lack of perceived importance of rigorous methods (Egbert, 2007; Magnan, 2007; Smith & Lafford, 2009)

Data

Included as data were ...
quantitative studies of the **interaction hypothesis**

- found in one of fourteen prominent SLA journals (or two edited volumes)
- from 1980 to summer 2009

Table 1 Sources, years of issues searched, and number of interactionist studies

Source	Year(s)	K
<i>Applied Language Learning</i>	1990-2009	2
<i>Applied Linguistics</i>	1980-2009	15
<i>Applied Psycholinguistics</i>	1980-2009	0
<i>Bilingualism: Language and Cognition</i>	1998-2009	0
<i>Canadian Modern Language Review</i>	1980-2009	1
<i>Foreign Language Annals</i>	1980-2009	3
<i>Class & Media*</i>	1985	6
<i>Language Learning</i>	1980-2009	29
<i>Language Learning & Technology</i>	1997-2009	14
<i>Language Teaching Research</i>	1997-2009	14
<i>MLA*</i>	2007	15
<i>The Modern Language Annual</i>	1980-2009	17
<i>Second Language Research</i>	1985-2009	1
<i>Studies in Second Language Acquisition</i>	1980-2009	34
<i>Syllabus</i>	1980-2009	13
<i>TSLH Quarterly</i>	1980-2009	12
Total		154

*Edited volume.

Four Types of studies emerged.

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- 2) Observational in laboratories
- 3) Quasi-experimental in classrooms
- 4) Quasi-experimental in laboratories

Data

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<i>Bilingualism: Language and Cognition</i>	1998–2009	0
<i>Canadian Modern Language Review</i>	1980–2009	1
<i>Foreign Language Annals</i>	1980–2009	3
Gass & Madden*	1985	6
<i>Language Learning</i>	1980–2009	29
<i>Language Learning & Technology</i>	1997–2009	14
<i>Language Teaching Research</i>	1997–2009	14
Mackey*	2007	15
<i>The Modern Language Journal</i>	1980–2009	17
<i>Second Language Research</i>	1985–2009	1
<i>Studies in Second Language Acquisition</i>	1980–2009	34
<i>System</i>	1980–2009	13
<i>TESOL Quarterly</i>	1980–2009	12
Total		174

*Edited volume.

Four Types of studies emerge

- 1) Observational in classroom
- 2) Observational in laboratory