**PRISMA flow diagram for systematic review**

No. of records identified through database searching (e.g., PsycINFO, ProQuest) (*n* = 845)

No. of duplicates removed (*n* = 110)

**Identification**

No. of additional records identified through references (*n* = 4)

No. of records screening based on the titles, abstracts, and methods

(*n* = 739)

No. of records excluded

(*n* =389)

**Screening**

No. of full-text articles not meeting inclusion criteria (*n* = 329)

No. of full-text records assessed for eligibility (*n* =350)

Studies included in review

(*n* = 21)

**Included**

**Coding Protocol**

|  |  |
| --- | --- |
| Features | Descriptors |
| **Study identification** |  |
|  | Author | The author(s) of the publication |
|  | Title | Title of the publication |
|  | Year  | Year that journal article was published, or thesis defended |
|  | Publication Type | Type of the study that was published (i.e., journal, PhD thesis) |
| **Learner variables** |  |
|  | L1  | The first language of the participants |
|  | L2 | Target language in which participants encountered |
|  | Context | Foreign or second language learning environment (i.e., FL, SL) |
|  | Country/Region | The country where the research was conducted |
|  | Script  | Whether L1 and L2 share the same script (i.e., yes, no, mixed) |
|  | Institutional level | Elementary school, secondary school, high school, university, or language institute |
| **Treatment variables** |  |
|  | Mode of input | Listening, reading, mixed, or unreported |
|  | Material type | Academic discourse, non-academic discourse, mixed, or not reported |
| **Notetaking features** |
|  | Notetaking behavior | Allowed notetaking, required notetaking, or not reported |
|  | Num\_notetaking\_sessions | Number of notetaking sessions |
|  | Provision of notetaking instruction | Presence, or absence |
|  | Instruction\_length | Total length of instruction time in minutes |
|  | Type of notetaking strategy | Linear learning strategy, generative learning strategy, or both |
|  | Opportunity of review notes | Yes, no, or not reported |
| **Outcome features** |  |
|  | Target learning | Linguistic forms, listening comprehension, reading comprehension, writing |
|  | Test max score | Maximum score for the test |
|  | N | The total number of participants |
|  | n | Participant number in each group |
|  | Post\_mean | Learners’ learning outcome in the immediate posttest |
|  | Post\_SD | The standard deviation of the posttest scores |
| **Methodology** |  |
| Measurement type | Recognition, recall, writing, or not reported |
| Testing instrument | Meaning recall, form recall, multiple-choice, T/F question, etc. |
| **Study quality** | Report whether the study reported some aspects of study quality such as pretest, instrument reliability, etc. |

**Sensitivity Analyses**

 Following previous meta-analyses (e.g., Kim & Webb, 2022; Shintani et al., 2013), we first converted the effect sizes into z scores, and did not find any absolute value that was larger than 2.0. We then used the *meta* package in R software to identify outliers. As Harrer et al. (2021) suggested, this package provides measures such as DFFITS values, Cook’s distances, and Covariance ratio (see Harrer et al., 2021, for their definitions and equations) to detect outliers. Plots in Figure 1 revealed that one study (Walters & Bozkurt, 2009), which is marked with a red circle, is considered as a potential outlier. And subsequent analyses in second research question also identified it as the only potential outlier. However, because each study was independently conducted and included a different group of students and varying learning conditions, studies identified as outliers do not necessarily mean the study is an outlier that does not reflect normal language learning. Therefore, it is not appropriate to simply delete “outlier” studies from the analysis (see, e.g., Hunter & Schmidt, 2004, for arguments about how to treat outliers). We followed Viechtbauer and Cheung’s (2010) guidance and reran the whole analysis while excluding the studies identified as influential and compared the results to the results obtained when including all studies. The similar pattern in the magnitude of effect sizes revealed that the analyses could be interpreted as robust.

 We also examined the potential influence of publication bias—studies finding significant or large effects tend to be published—on the current data. Checking this bias is a critical procedure to examine the credibility of the overall effect sizes. We inspected the funnel plot (Figure 2) and conducted Egger’s test. The funnel plot indicated no apparent publication bias. Egger’s regression test (*t* = 1.84, *p* = .079) also ﻿indicated no substantial influences from publication bias on the findings.

**Figure 1**

*﻿Plot of the (a) studentized deleted residuals, (b) Cook’s distances, (c) DFFITS values, and (d) COVRATIO values for 19 effect sizes of posttests for the comparison of notetaking versus control.*



**Figure 2**

*Funnel Plot of studies involving notetaking and control groups*



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**Interrater Reliability**

**TABLE 1.**Interrater Reliability for Categorical Variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Fleiss’s κ  | *S* index | Number of coders |
| Publication type | 1 | 1 | 2 |
| L1 | .60 | .63 | 3 |
| L2 | 1 | 1 | 3 |
| Context | 1 | 1 | 2 |
| Region | .87 | .88 | 2 |
| Script  | 1 | 1 | 2 |
| Educational level | 1 | 1 | 2 |
| Mode of input | 1 | 1 | 2 |
| Material type | .60 | .60 | 3 |
| Measurement type | 1 | 1 | 2 |
| Learning target | .89 | .91 | 3 |
| Notetaking instruction | .93 | .94 | 3 |
| Instruction type | .94 | .96 | 3 |
| Notetaking behavior | 1 | 1 | 2 |
| Opportunity to review notes | .64 | .74 | 3 |

**TABLE 2.** Interrater Reliability for Continuous Variables

|  |  |  |
| --- | --- | --- |
| Variable | Intraclass correlation | Number of coders |
| Number of notetaking sessions | .99 | 2 |
| Notetaking instruction length | 1 | 2 |
| Test max score | 1 | 2 |
| N | 1 | 2 |
| n | 1 | 2 |
| Post\_mean | 1 | 2 |
| Post\_SD | 1 | 2 |

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