



The roles of standard, bimodal, and reversed subtitles on English vocabulary learning

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Appendices

Appendix A A sample test item

Part 1

| Items | L2 prompt | Answer |
|---|-----------|------------|
| The feeling of wanting to do something แรงดึงใจให้ทำสิ่งใดสิ่งหนึ่ง | M _____ | Motivation |

Part 2

My _____ in studying is to make my parents happy.

A. prevention

B. motivation

C. celebration

D. declaration

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Appendix B Descriptive statistics and *t*-test results of pre-tests and immediate post-tests average mean scores

| Items | Standard Group | | | | | | | |
|-----------------------------------|----------------|-----------|----------------------|-----------|-------|----------|-----------|----------|
| | Pre-Tests | | Immediate Post-Tests | | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | | |
| Part 1: Form (20 items/10 pts) | 1.68 | 0.69 | 1.98 | 1.01 | -2.23 | 35 | .09 | |
| Part 2: Meaning (20 items/10 pts) | 2.63 | 0.68 | 8.61 | 0.17 | -1.67 | 35 | .00* | |
| Total (40 items/20 pts) | 4.31 | 1.06 | 10.59 | 1.16 | -1.57 | 35 | .00* | |
| Items | Bimodal Group | | | | | | | |
| | Pre-Tests | | Immediate Post-Tests | | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | | |
| Part 1: Form (20 items/10 pts) | 1.47 | 0.62 | 1.67 | 1.13 | -1.58 | 42 | .06 | |
| Part 2: Meaning (20 items/10 pts) | 2.95 | 0.85 | 8.82 | 0.13 | -1.63 | 42 | .00* | |
| Total (40 items/20 pts) | 4.42 | 0.33 | 10.49 | 2.26 | -1.08 | 42 | .04* | |
| Items | Reversed Group | | | | | | | |
| | Pre-Tests | | Immediate Post-Tests | | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | | |
| Part 1: Form (20 items/10 pts) | 1.42 | 0.48 | 4.89 | 1.21 | -1.19 | 37 | .02* | |
| Part 2: Meaning (20 items/10 pts) | 2.73 | 0.88 | 8.52 | 0.14 | -2.27 | 37 | .02* | |
| Total (40 items/20 pts) | 4.15 | 0.75 | 13.41 | 2.41 | -1.76 | 37 | .00* | |

**p* ≤ .05.

Appendix C A post-hoc test result of participants' average mean score or immediate vocabulary post-tests

| Immediate Post-Tests (Form) | Standard | Bimodal | Reversed |
|--------------------------------------|----------|----------|----------|
| | <i>p</i> | <i>p</i> | <i>p</i> |
| Standard | - | .12 | .04* |
| Bimodal | - | - | .03* |
| Reversed | - | - | - |
| Immediate Post-Tests (Meaning) | Standard | Bimodal | Reversed |
| | <i>p</i> | <i>p</i> | <i>p</i> |
| Standard | - | .01* | .27 |
| Bimodal | - | - | .04* |
| Reversed | - | - | - |
| Overall Immediate Post-Tests (Total) | Standard | Bimodal | Reversed |
| | <i>p</i> | <i>p</i> | <i>p</i> |
| Standard | - | .00* | .03* |
| Bimodal | - | - | .00* |
| Reversed | - | - | - |

**p* ≤ .05.

Appendix D Descriptive statistics results of the participants' average mean scores of comprehension tests

| Sections | Comprehension Test | |
|------------------|--------------------|-----------|
| | <i>M</i> | <i>SD</i> |
| Standard Section | 5.27 | 1.16 |
| Bimodal Section | 5.76 | 0.92 |
| Reversed Section | 5.95 | 0.99 |

Appendix E Participant 7, Standard, Interview

"I think what I have learned most from this way of vocabulary learning was not from subtitles since they were Thai. New vocabulary is learned from listening to the English audio to match with the actions on the screen. I can also understand the story line better with Thai subtitles and English audio."

Appendix F Participant 3, Bimodal, Interview

“When the spoken and written inputs were matched, I think it was really helpful in understanding how the words are really pronounced and their corresponding actions.”

Appendix G Participant 2, Reversed, Interview

“First, I thought it was strange to learn English this way when the audio was in Thai, but as time passed by, I think I learnt a lot more new vocabulary than I thought I would. I didn’t have to pay attention to the audio to understand what they were saying, so I paid more attention to the texts.”

Appendix H Descriptive statistics and t-test results of average mean scores of immediate and delayed post-tests

| Items | Standard Group | | | | | | |
|---------------------------|----------------------|-----------|--------------------|-----------|----------|-----------|----------|
| | Immediate Post-Tests | | Delayed Post-Tests | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | |
| Form (20 items/10 pts) | 1.98 | 1.01 | 1.04 | 1.56 | -1.31 | 35 | .04* |
| Meaning (20 items/10 pts) | 8.61 | 0.17 | 7.68 | 1.24 | -2.45 | 35 | .00* |
| Total (40 items/20 pts) | 10.59 | 1.16 | 8.72 | 2.13 | -7.19 | 35 | .03* |
| Items | Bimodal Group | | | | | | |
| | Immediate Post-Tests | | Delayed Post-Tests | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | |
| Form (20 items/10 pts) | 1.67 | 1.13 | 1.02 | 2.01 | -3.34 | 42 | .03* |
| Meaning (20 items/10 pts) | 9.82 | 0.13 | 8.75 | 0.17 | 2.28 | 42 | .02* |
| Total (40 items/20 pts) | 11.49 | 2.26 | 9.77 | 1.23 | -2.04 | 42 | .02* |
| Items | Reversed Group | | | | | | |
| | Immediate Post-Tests | | Delayed Post-Tests | | <i>t</i> | <i>df</i> | <i>p</i> |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | |
| Form (20 items/10 pts) | 4.89 | 1.21 | 4.73 | 2.98 | 2.36 | 37 | .54 |
| Meaning (20 items/10 pts) | 8.52 | 0.14 | 8.37 | 0.14 | 13.75 | 37 | .27 |
| Total (40 items/20 pts) | 13.41 | 2.41 | 13.10 | 1.92 | 11.18 | 37 | .38 |

**p* ≤ .05.

Appendix I A post-hoc test result of participants’ average mean score of delayed post-tests

| Delayed Post-Tests (Word Form) | Standard | | Bimodal | Reversed |
|------------------------------------|----------|--|----------|----------|
| | <i>p</i> | | <i>p</i> | <i>p</i> |
| Standard | - | | .00* | .00* |
| Bimodal | - | | - | .00* |
| Reversed | - | | - | - |
| Delayed Post-Tests (Word Meaning) | Standard | | Bimodal | Reversed |
| | <i>p</i> | | <i>p</i> | <i>p</i> |
| Standard | - | | .00* | .00* |
| Bimodal | - | | - | .01* |
| Reversed | - | | - | - |
| Overall Delayed Post-Tests (Total) | Standard | | Bimodal | Reversed |
| | <i>p</i> | | <i>p</i> | <i>p</i> |
| Standard | - | | .00* | .00* |
| Bimodal | - | | - | .02* |
| Reversed | - | | - | - |

**p* ≤ .05.

Appendix J Participant 10, Standard subtitle, Interview

“The subtitles in L1 really help me with understanding the content and the audio in L2 helps me with learning how those translation phrases in subtitles are really used. I think sometime translation is not word by word but meaning as a whole. So, I am not sure about word-by-word acquisition and how long I can retain those words.”

Appendix L Participant 9, Reversed subtitle, Interview

“I think the reason why I remembered the word for a long time is because when I watched the video, I really paid attention to the video and subtitles. Although I didn’t know that I had to learn new words, I felt comfortable watching it. This feeling increased my motivation, confidence in learning, and engagement in watching. Somehow, I learned new words without knowing it.”

Appendix K Participant 1, Bimodal subtitle, Interview

“My English proficiency was not that high from the start. So, it affected me when I watched the video. I cannot read the subtitles in time. It affects my understanding of the word presented.”