การสังเคราะห์งานวิจัยที่เกี่ยวกับการเปรียบเทียบประสิทธิผลของการจัดการการเรียนรู้แบบกลับทางกับการเรียนการสอนแบบดั้งเดิมที่มีต่อการเรียนการสอนภาษาอังกฤษโดยการวิเคราะห์อภิมาน ระหว่างปี พ.ศ. 2557-2563[1]

Synthesis of Research on Comparison of Effectiveness of Flipped Learning and Traditional Teaching Method on English Language Teaching and Learning during 2014-2020 through Meta-analysis[1]

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บทคัดย่อ

งานวิจัยเชิงวิเคราะห์อภิมานมีวัตถุประสงค์ที่จะศึกษาประสิทธิผลของการจัดการเรียนรู้แบบใช้ห้องเรียนกลับทางกับการสอนแบบดั้งเดิมในประเด็นผลสัมฤทธิ์ด้านการสอบว่าการจัดการเรียนการสอนแบบห้องเรียนกลับทางมีประสิทธิผลมากกว่าการสอนแบบดั้งเดิมหรือไม่ ใน ทักษะการอ่าน การเขียน การฟัง การพูด ไวยากรณ์ คำศัพท์และความเข้าใจภาษาอังกฤษโดยใช้คะแนนสอบสัมฤทธิผล

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จัดแบ่งตัวแปรตามเป็นสองระดับ คือ การศึกษาในระดับต้นและการศึกษาในระดับสูง มีการเก็บรวบรวมข้อมูลจากงานวิจัย 211 งานระหว่างปี 2057-2063 ครอบคลุม 25 ประเทศ มีงานวิจัยที่ผ่านการคัดเลือก จำนวน 70 เรื่อง และมีข้อมูลนำไปประมวลผลทั้งหมด 81 รายการด้วยโปรแกรม RevMan 5.4.1 นำมาใช้วิเคราะห์แบบ Random-effects model settings (การอภิมานแบบกำหนดให้งานทุกชิ้นเท่าเทียมกันหมด) กำหนดให้ค่าแห่งความเชื่อมั่น 95% ($p < 0.05$) ผลการวิเคราะห์พบว่าการสอนแบบดั้งเดิมมีประสิทธิผลมากกว่าการจัดการเรียนการสอนแบบห้องเรียนกลับทางในทุกทักษะ แต่พบว่าไม่มีนัยสำคัญกับทักษะการฟังในทุกระดับของการศึกษาระดับต้น ไวยากรณ์ในการศึกษาระดับสูงและทักษะด้านคำศัพท์ในการเรียนรู้ระดับสูง งานวิจัยชิ้นนี้เป็นประโยชน์กับครูผู้สอนในการเลือกวิธีการจัดการเรียนการสอนให้เหมาะกับบริบทของตน ข้อเสนอแนะสำหรับงานวิจัยการวิเคราะห์เชิงอภิมานครั้งต่อไปคือการวิจัยกลุ่มข้อมูลที่ใหญ่ขึ้นในระดับระถมศึกษาและการเรียนรู้ภาษาในด้านอื่น ๆ

คำสำคัญ : การเรียนแบบกลับทาง, การวิเคราะห์เชิงอภิมาน, คะแนนสัมฤทธิผล, วิธีการสอนแบบดั้งเดิม, การวิเคราะห์เนื้อหา

Abstract

This meta-analysis study aims at finding whether Flipped Learning was more effective than traditional teaching method in English language teaching in seven skill areas of reading, writing, listening, speaking, grammar, vocabulary, and general English comprehension in achievement test scores, which were categorized into two variables: lower education and higher education. The study collected 211 academic studies on Flipped Learning published from 2014 to 2020 from 25 countries. Eighty-one data entries from 70 studies were obtained for the meta-analysis. RevMan 5.4.1 software was used to analyze the data under random-effects model settings with $p< 0.05$ and at 95% CI. In the comparison, the traditional teaching method was found more significantly effective than the Flipped Learning approach in all skill areas, but it was not significant in listening at lower education, grammar at higher

education, and vocabulary learning at higher education. The findings might help the teachers and educators to be able to choose the right teaching approaches for their contexts, and students would be aware that the traditional method was more effective for achievement test scores. Further, meta-analysis studies were suggested with larger data collection at the primary level, and other aspects of language learning.

Keywords : Flipped Learning, Meta-analysis, Achievement scores, Traditional teaching method, Content analysis

1. Introduction

Flipped Learning has become popular in English language teaching (Kostka & Lockwood, 2015: 2-4; Suranakkarin, 2017:1; Wang, An & Wright, 2018: 19-22; Hava, 2021: 389-390). Many educators believed that it was an effective teaching method for achievement test scores in English language teaching (Yıldırım, 2017: 38 & Alnuhayt, 2018: 241). However, other research findings also showed the ineffectiveness of this teaching method (Ramirez, Hinojosa & Rodriquez, 2014: 121-127; Egbert, Herman & Lee, 2015: 13-14; Yang, 2017: 12-13). English is an important language for international business, jobs, education, entertainment, traveling, and the Internet (Zazulak, 2017; Clement, 2019) in schools and universities (Sundari, 2017: 147). Despite such importance, Thai students suffered from low scores in English (Sripor, 2018). Educators have been trying to improve students' English scores by considering the Flipped Learning teaching approach (Yoon, 2013). However, Flipped Learning has negative feedbacks from scholars (Moran & Young, 2014: 177-180). Therefore, the present study analyzed achievement test scores from 70 previous studies in English teaching using the meta-analysis method to examine if Flipped Learning was more effective than the traditional teaching method. The findings of this study would benefit educators who are seeking

an effective teaching method in comparison to the traditional method, especially in English language teaching.

1.1 Objectives

There were seven main objectives and each objective was further divided into two categories as (a) for lower education and (b) for higher education, thus totaling 14 objectives. They are as follows:

Objective 1

a. To generalize the effects of the Flipped Learning Approach on students' reading comprehension at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' reading comprehension at higher education.

Objective 2

a. To generalize the effects of the Flipped Learning Approach on students' writing skills at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' writing skills at higher education.

Objective 3

a. To generalize the effects of the Flipped Learning Approach on students' listening comprehension at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' listening comprehension at higher education.

Objective 4

a. To generalize the effects of the Flipped Learning Approach on students' speaking skills at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' speaking skills at higher education.

Objective 5

a. To generalize the effects of the Flipped Learning Approach on students' grammar comprehension at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' grammar comprehension at higher education.

Objective 6

a. To generalize the effects of the Flipped Learning Approach on students' vocabulary at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' vocabulary at higher education.

Objective 7

a. To generalize the effects of the Flipped Learning Approach on students' general English comprehension at lower education.

b. To generalize the effects of the Flipped Learning Approach on students' general English comprehension at higher education.

2. Literature Review

2.1 Flipped Learning

Flipped Learning is a learner-centered pedagogy using direct instruction that moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter (Hamdan, McKnight, McKnight & Arfstom, 2014: 8). It is a modernized teaching method that learning starts from home, basically before coming to the classroom (Abdelshaheed, 2017: 9). Such learning is more flexible (Yıldırım, 2017: 41), practical and

hands-on learning (Clark, Kaw, Lou, Scott & Besterfield-Sacre,M., 2018). The teaching method was considered more suitable in modern times (Hava, 2021: 389-390) and became popular in ESL teaching (Kostka & Brinks, 2015: 2-4).

2.2 Traditional Teaching Method

Traditional teaching is a face-to-face lecture by the teacher in the classroom, and students listen, take notes and the teacher assigns homework. This is a teacher-centered, and teacher-control method (Larsen Freeman & Anderson, 2011: 32-45). This method is considered as grammar-translation and reading literary texts (Hinkel, 2011: 558). This is considered an outdated teaching method (Vuong, Tan & Lee, 2018: 1504); however, it was regarded as a significantly effective method for achievement test scores (Dixon, 2017: 121-132).

2.3 Meta-analysis

Meta-analysis is a synthesis model of quantitative researches on the same problem that the research studies by using statistics to derive a more in-depth conclusion than an individual study can provide. Data for meta-analysis include standard indexes such as effect size index, co-efficient index, and characteristics of research. 'Unit of Analysis' refers to a study of hypothesis testing. Objectives consist of two aspects. First, the synthesis gives a conclusion about standard indexes. Secondly, the synthesis is aimed at examining the causal relationship between dependent variables and standard indexes (Wiratchai, 1999: 56).

2.4 Related Studies

Eighty-five related studies on Flipped Learning in English Language studies were reviewed. The findings showed a mixture of positive and negative results. It was considered effective for teaching- speaking, listening, reading, and writing skills (Leis & Brown, 2018: 64-66 and Zainuddin & Attaran; 2015; 668-669). Studies also reported its effectiveness in reading (Huang & Wang, 2016: 185-196 and Leis & Brown, 2016: 64-66), writing (Umutlu & Akpinar, 2017: 64-65 and Arifani, 2019: 10-12), speaking (Zhang, Du, Yuan & Zhang, 2016: 1344-1345; Wang & Wright, 2018: 23-28 and Abdullah, Hussin & Ismail, 2019:140-145), listening (Roth and Supasetseree, 2016), grammar (Pudin, 2017: 57 and Li, Wang, Wang & Jia, 2017), vocabulary skill (Kim, Kim, Khera & Getman, 2014: 37-39), and in general English comprehension (Mehring, 2015: 9 and Correa, 2015: 123-124). Meta-analysis studies (Aydin, Okmen & Sahin, 2021: 44-46; Birgili, Seggie & Oguz, 2021: 22-23, and Kozikoğlu, 2019: 859-864) found that this method was more effective in teaching English. However, other researches also found ineffectiveness of the method in teaching English grammar (Anwar, 2017:104-102) and speaking (Anwar & Pratama, 2016: 112-114) and even not suitable for ESL teaching (Egbert, Herman & Lee, 2015: 13-14) and no significant learning outcomes was seen over traditional method in teaching English (Suranakkarin, 2017:10-16 and Alhamami & Khan, 2019: 79-81). A meta-analysis of Dixon (2017:121-132) found the traditional method was more effective than Flipped Learning. Thus, there were conflicting mixed results. Therefore, meta-analysis method was used to ascertain the effectiveness of Flipped Learning,

3. Research Methodology

3.1 Research Design

This research was a meta-analysis in which the achievement test scores of English under Flipped Learning and traditional teaching methods were analyzed. In a meta-analysis, data were extracted from previous primary studies (Cohen, Manion & Morrison, 2007: 291-296). Literature review, selection of primary studies, data collection, data analysis steps were involved. Revman 5.4.1 software was used for data analysis.

3.2 Research Population and Samples

The population of this study was 70 previous primary studies sorted out of 211 total studies in language teaching. Eighty-one data were derived for data encoding. A total of N=3158 learners in Flipped Learning and a total of N=3092 learners in the traditional method took part in all the primary studies. As the study was conducted, the researcher did not teach a classroom lesson, so bias in opinion and attitude could be avoided. Studies included in the study are shown in Appendix A.

3.3 Data Collection

The primary studies were collected from online database sources such as Google Scholar, Semantic Scholar, Education Resource Information Center (ERIC), ProQuest, EBSCO, ResearchGate, and Wiley Online library, websites of journals and institutions, and online publishers. Primary studies were research articles, theses, and dissertations from Master and Ph.D. degree, conference papers including published and unpublished documents. Flipped Learning and traditional studies in teaching English having mean achievement test scores, standard deviations of the scores, participant numbers were collected. only qualified studies were sorted out during data processing. Primary studies were conducted during (year) 2014 to 2020 in 25 countries.

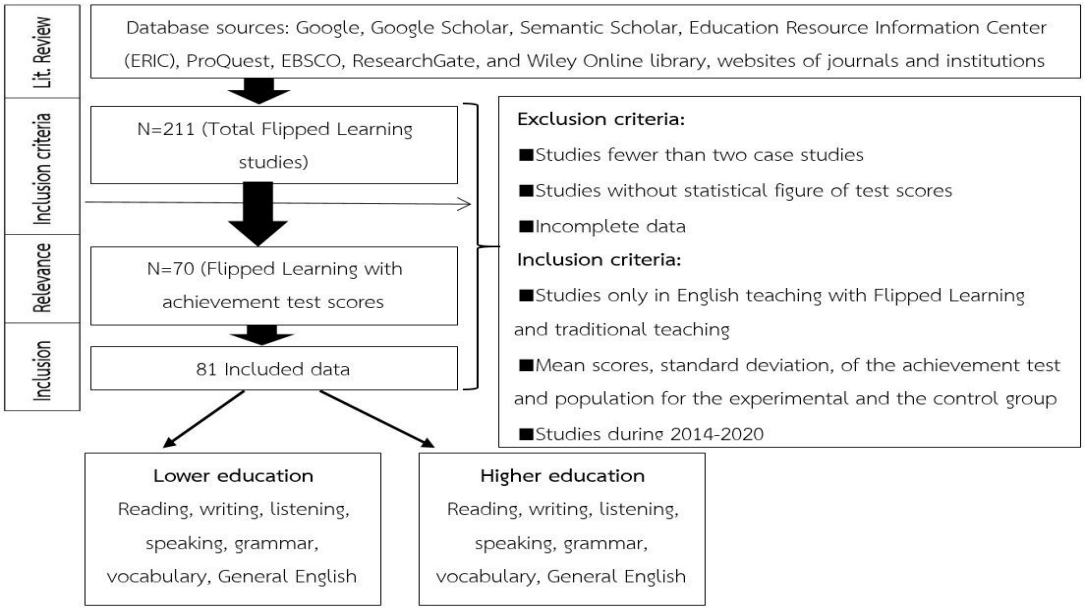

Figure 1 : Data collection and sample processing (source model: (Karagöl & Esen, 2019)

Data Inclusion Criteria

Primary studies in English teaching with Flipped Learning and traditional teaching having mean scores, the standard deviation of the achievement test, and population for the experimental and the control group were included The primary studies were conducted during 2014-2020.

3.4 Data Analysis

Data were grouped into seven skills such as reading comprehension, writing skills, listening comprehension, speaking skills, grammar comprehension, vocabulary, and general English comprehension. Each skill was divided into two variables as lower education and higher education. Data were analyzed by using Revman 5.4.1 software. The random-effects model setting was used for data analysis with $p < 0.05$ and at 95% CI. The Flipped Learning was assigned as the experimental group and the traditional method was assigned as the control group in the data entry.

3.5 Research Findings

The traditional method was more effective than the Flipped Learning approach in all skills such as reading, writing, listening, speaking, grammar, vocabulary, and general English comprehension.

Finding for objective 1a & 1b -Reading Comprehension

Objective 1a & 1b, in reading comprehension (Figure 2), the traditional method was significantly more effective for lower education ($Z = 3.39$, $p < 0.0007$) and higher education ($Z = 3.44$, $p < 0.0006$) at 95% CI. The black diamond boxes did not touch the no-effect line in the forest plot. Three studies for lower and five studies for higher education were analyzed.

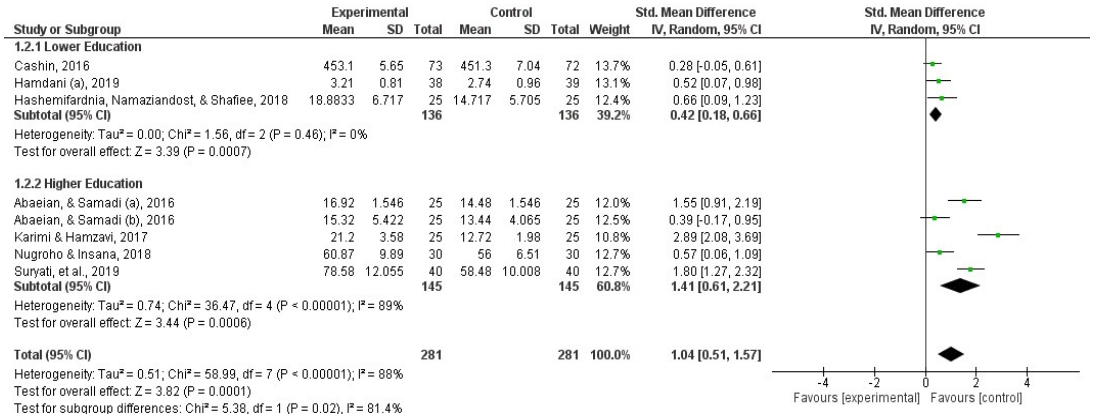

Figure 2 : The total effect of the Flipped Learning Approach on students' reading comprehension achievement for lower and higher education (Forest plot)

Finding for objective 2a & 2b -Writing Skills

Objective 2a & 2b, in writing skills (Figure 3), the traditional method was significantly more effective for lower education ($Z = 2.64$, $p < 0.008$) and higher education ($Z = 3.96$, $p < 0.0001$) at 95% CI than Flipped Learning at 95% CI. Four studies for lower and nine studies for higher education were analyzed. Both diamond boxes did not touch the no-effect line in the forest plot.

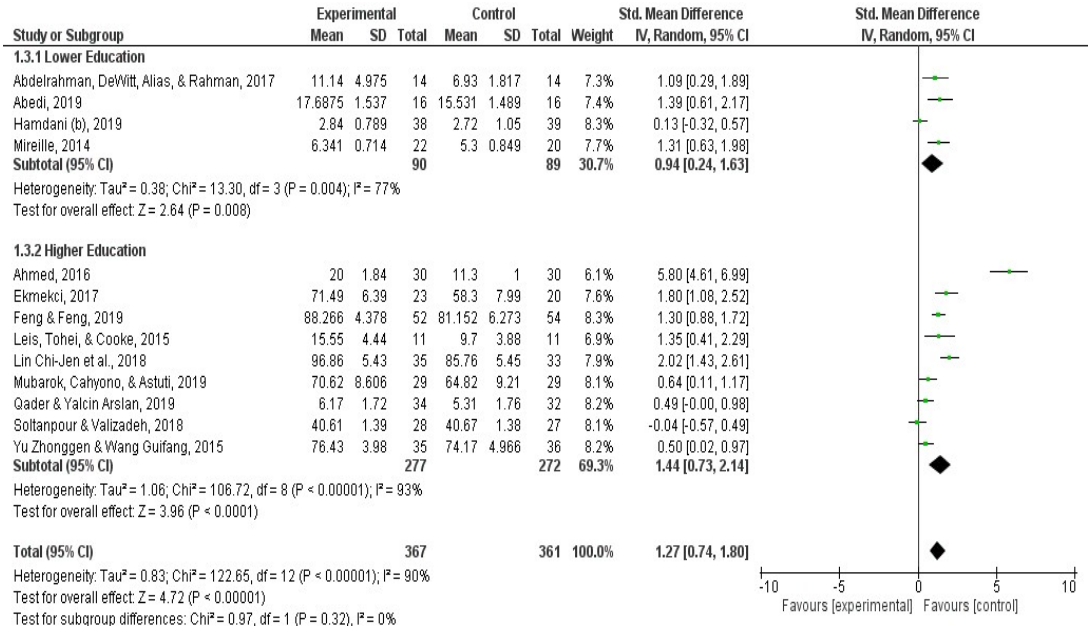

Figure 3 : The total effect of Flipped Learning Approach on students' writing comprehension achievement learning at the lower and higher education (Forest plot)

Finding for objective 3a -Listening Comprehension

Objective 3a, in listening comprehension (Figure 4) at lower education,

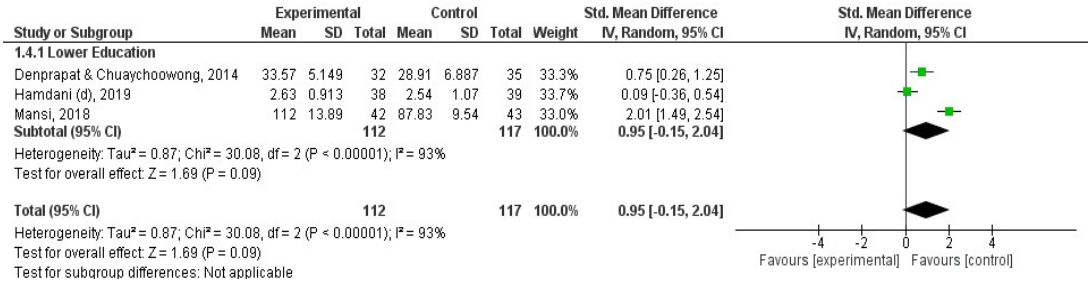

Figure 4: The total effect of Flipped Learning Approach on students' listening comprehension achievement at lower and higher education level (Forest plot)

the traditional method was slightly more effective but not significant at 95% CI, ($Z = 1.69$, $p > 0.09$) as the diamond box touched the no-effect line in the forest plot. Listening comprehension in higher education could not analyze due to a lack of data available.

Finding for Objective 4a &4b -Speaking Skills

Objective 4a & 4b for speaking skills (Figure 5), the traditional method was significantly more effective than Flipped Learning for both levels.

For lower education, traditional method was more significant (Z = 2.31, p < 0.02) and higher education as well (Z = 3.83, p < 0.0001) at 95% CI. Both diamond boxes did not touch the no-effect line in the forest plot.

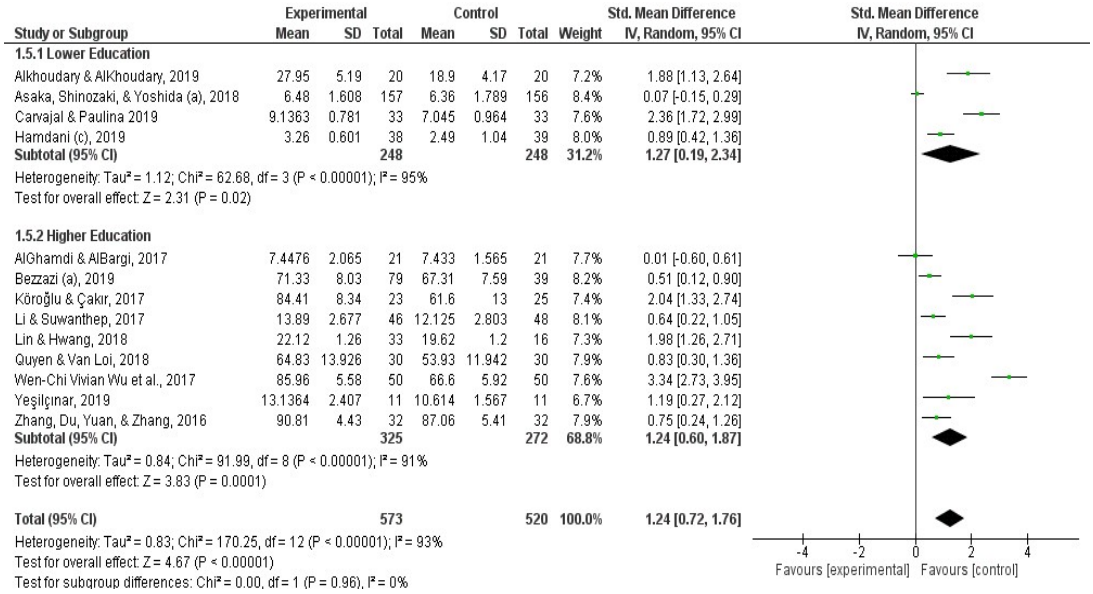

Figure 5 : The total effect of Flipped Learning Approach on students' speaking skills at the lower and higher education level (Forest plot)

Four studies for lower education and nine studies for higher education were analyzed.

Finding for objective 5a & 5b -Grammar Comprehension

Objective 5a and 5b in grammar comprehension (Figure 6), the traditional method was significantly more effective (Z = 2.23, p < 0.03) for lower education that analyzed four studies at 95% CI. For higher education, the traditional method was slightly more effective but the result was not significant as the diamond box touched the no-effect line at 95% CL (Z = 0.83, p < 0.40).

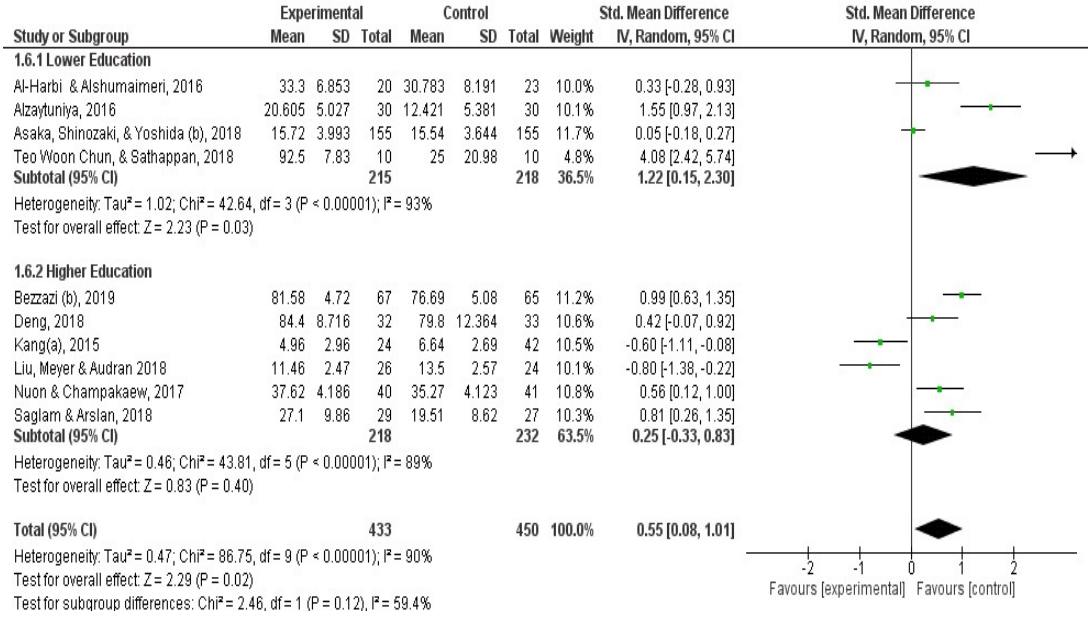

Figure 6 : The total effect of Flipped Learning Approach on students' grammar comprehension achievement at the lower and higher education (Forest plot)

Finding for objective 6a & 6b -Vocabulary

Objective 6a and 6b in vocabulary (Figure 7), the traditional method was significantly more effective for lower education at 95% CI, ($Z = 2.10$, $p < 0.04$). At higher education, the traditional method was slightly effective without any significance at 95% CI, ($Z = 0.83$, $p < 0.40$) because the diamond box touches the no-effect line.

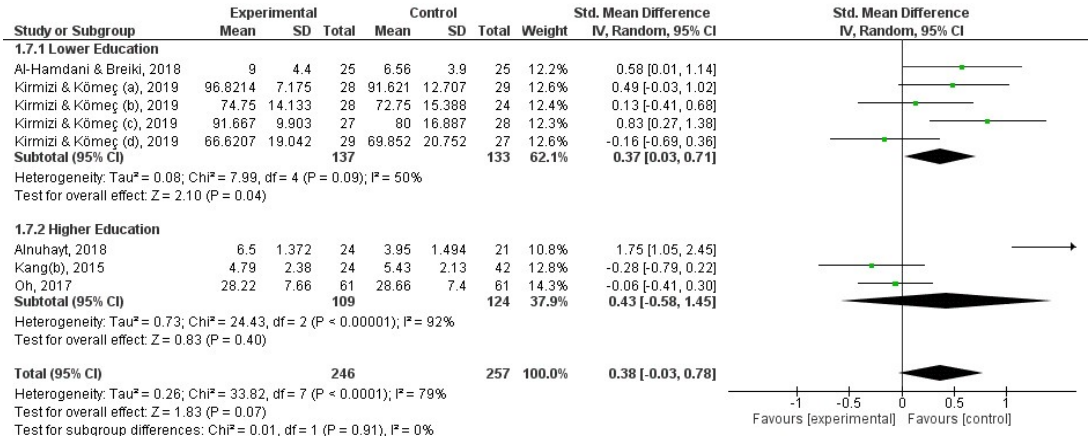

Figure 7 : The total effect of Flipped Learning Approach on students' vocabulary at lower and higher education (Forest plot)

Finding for Objective 7a & 7b -General English Comprehension at Lower Education

Objective 7a and 7b in general English comprehension (Figure 8), the traditional method was significantly more effective at lower with effect at 95% CI (Z = 2.98, p < 0.003) and higher education.

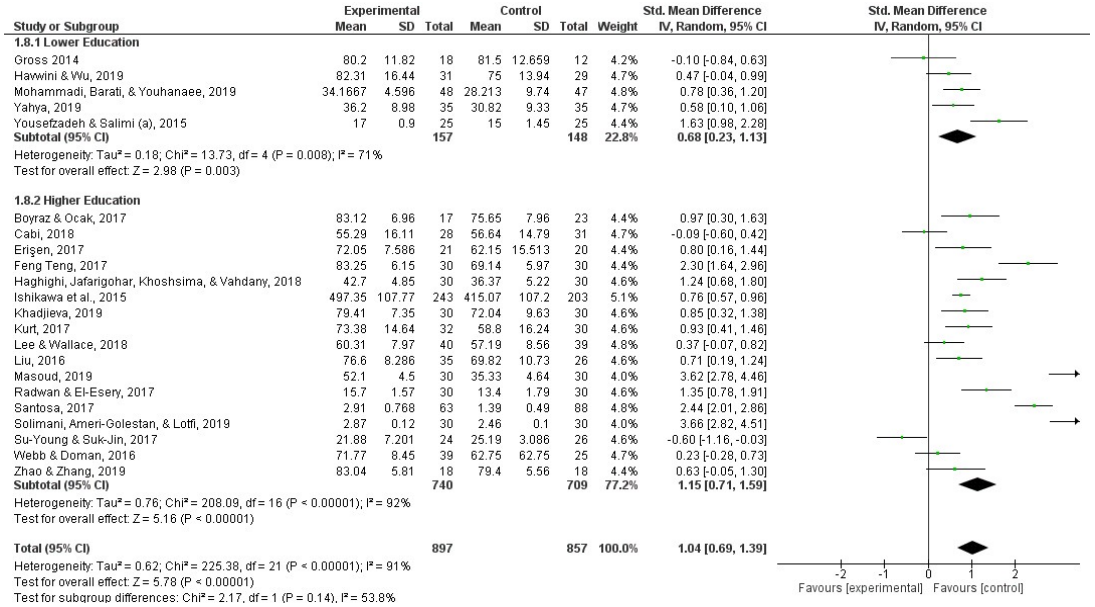

Figure 8: The total effect of Flipped Learning Approach on students' General English comprehension achievement at the lower and higher education level (Forest plot)

For lower education, five studies were analyzed and the traditional method was significantly more effective at 95% CI (Z = 2.98, p < 0.003) than the Flipped Learning. Similarly, for higher education too, the traditional method was more significantly effective at 95% CI, (Z = 5.16, p < 0.00001). approach as the diamond box did not touch the no-effect line.

4. Conclusion, Discussion, and Implication

4.1 Conclusion

The traditional teaching method was overall more effective than Flipped Learning in achievement test scores in all language skills areas -reading, writing, listening, speaking, grammar, vocabulary, and general English comprehension skills. However, listening at lower education, grammar at higher education, and vocabulary at higher education tend to be as effective as the traditional method. Supported by these findings, teachers, and learners could use the Flipped Learning method for Listening as it allows the repeated practice; for vocabulary, as it enhances visual with multimedia, and grammar with a more elaborate example from online learning materials.

4.2 Discussion

First, in reading comprehension, the traditional method was more significantly effective for both lower and higher education than the Flipped Learning. These findings were in contrast to the findings of Huang & Wang (2016: 185-196); Zainuddin & Attaran (2015; 668-669) and Kaydet & Ozkan (2019: 60-61). However, the present findings were similar to the findings of Egbert, Herman & Lee (2015:13-14) and Alhamami and Khan, (2019: 79-81). Secondly, in writing skills, the traditional method was significantly more effective than the Flipped Learning for both lower and higher education. This finding was contrary to the findings of Umutlu & Akpinar (2017: 64-65) and Arifani (2019: 10-12). Thirdly, in listening comprehension at lower education, the traditional method was slightly more effective than the Flipped Learning approach but it was not significant. This finding was in contrast to the findings of Roth and Suppasetseree (2016), Zainuddin & Attaran (2015; 668-669) and Kaydet & Ozkan (2019: 60-61). Fourthly, in speaking skills, the traditional method was significantly more effective at both levels of education which were in contrast

to the findings of Wang & Wright (2018: 23-28) and Abdullah, Hussin & Ismail (2019:140-145) However, these findings were in alignment with the findings of Anwar and Pratama (2016). Fifthly, in grammar comprehension at lower education, the traditional method was significantly more effective than the Flipped Learning but at higher education, it was not significant even though the traditional method was slightly more effective. The finding again was contrary to the findings of Pudin (2017: 57) and Li, Wang, Wang & Jia (2017: 258-259. But the present finding was again similar to the findings of Anwar (2017:112-114). Sixthly, in vocabulary skills, the traditional method was significantly more effective than the Flipped Learning at lower education, but at higher education, the traditional method was slightly more effective than the Flipped Learning approach without any significance. This was also in contrast to the findings of Zhang, Du, Yuan & Zhang (2016:1344-1345). Seventhly, in general English, the traditional method was significantly more effective at lower as well as at higher education, that the findings were again, in contrast to the findings of Mehring (2015: 9) and Correa (2015: 123-124).

In previous studies, achievement test scores were better in the traditional method (Dixon, 2017:121-132; Song,2019:1398-1405).The reasons for lower achievement test scores with Flipped Learning were indicated from the literature review that this method was still new and not adapted well as a teaching method (Xinying, 2017: ;Suranakkharin, 2017:13-16 ; Li, Wang, Wang & Jia, 2017 : 254, 259).

Despite the lower score, Flipped Learning was good in the affective domain area of language learning (Alnuhayt, 2018: 238-240). It reduces learners' anxiety (Tiahrt & Porter, 2016: 88-89; Shi, 2017: 3-5).

4.3 Implications

• Teachers and learners could focus on traditional teaching methods if the learning goal is achievement test scores.

• The Flipped Learning approach could be useful as a complementary teaching strategy and could be more useful for listening and speaking as the method is a more practical, hands-on learning approach.

4.4 Suggestions

1. Further meta-analysis studies are suggested on similar research with larger data collection for more accurate and stronger generalization.

2. Meta-analysis for listening at higher education is suggested as the present study could not find enough data.

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Appendix A

Table 1. List of Primary Studies Included in the Meta-analysis

							Flipped Learning			Traditional method		
No.	Year	Country	Researcher	Document-Type	Participant Ed.Level	English Skill	Mean	Std.dev.	Pop.	Mean	Std.dev.	Pop.
							$\bar{x}$	SD	n	$\bar{x}$	SD	n
1	2014	Thailand	Denprapat & Chuaych	Article	Grade 7 (Lower secon	Speaking & Listening(EFL)	33.57	5.149	32	28.91	6.887	35
2	2014	Dubai	Mireille	Thesis (M.ed.TESC	Grade 12	Writing/ESL	6.341	0.7136	22	5.3	0.8491	20
3	2014	USA	Gross	Thesis (M.Sc)	Grade 12	General (English)	80.2	11.820	18	81.500	12.659	12
4	2015	Japan	Ishikawa et al., 2015	Article/conf	Univ	TOEIC(EFL)	497.35	107.77	243	415.07	107.2	203
5	2015	S.Korea	Kang(a)	Article	univ	Grammar (Eng)	4.96	2.96	24	6.64	2.69	42
6	2015	Japan	Leis, Tohei, & Cooke	Article	univ	Writing (Eng)	15.55	4.44	11	9.7	3.88	11
7	2015	USA	Prefume	Dissertation (Ed.D)	univ	Speaking (Japanese)	39.63	8.92	19	40.15	8.42	20
8	2015	China	Yu Zhonggen, & Wang	Article	univ	Writing (Eng)	76.43	3.98	35	74.17	4.966	36
9	2015	Iran	Yousefzadeh & Salimi (a	Article	Secondary school	General(Eng)	17	0.9	25	15	1.45	25
10	2016	Iran	Abaeian, & Samadi (a)	Article	Institute/Higher	Reading (EFL)-Intermediate	16.92	0.321	25	14.48	0.321	25
11	2016	S.Arabia	Ahmed	Article	univ	Writing (EFL)	20	1.84	30	11.3	1	30
12	2016	S.Arabia	Al-Harbi, & Alshumaim	Article	Secondary school	Grammar (EFL)	34.2	4.708	20	34.17	4.979	23
13	2016	Gaza	Alzaytuniya	Thesis (M.ed)	Grade 10	Grammar (EFL)	20.605	5.027	30	12.421	5.381	30
14	2016	USA	Cashin	Dissertation (Ed.D)	Grade 4	Reading (ELA)	453.10	5.65	82	451.30	7.04	81
15	2016	China	Liu	Article/Conference	univ	General(Eng)-Eng for esp pur	76.6	8.286	35	69.82	10.73	26
16	2016	China	Zhang, Du, Yuan, & Zh	Article	Univ	Speaking (EFL)	90.81	4.430	32	87.060	5.410	32
17	2016	USA/Maca	Webb, & Doman	Article	univ	General (ESL-EFL)	71.77	8.45	39	62.75	9.74	25
18	2017	Sudan	Abdelrahman, DeWitt, A	Article	Secondary 1	Writing (ESL)	11.14	4.975	14	6.93	1.817	14
19	2017	S.Arabia	AlGhamdi & AlBargi	Article	Institute/Higher	Speaking(EFL)	7.4476	2.06534	21	7.4333	1.56503	21
20	2017	Turkey	Boyraz, & Ocak	Article	univ	General (EFL)-retention	83.12	6.96	17	75.65	7.96	23
21	2017	Turkey	Ekmekci	Article	univ	Writing (EFL)	71.49	6.46	23	58.3	7.99	20
22	2017	Egypt	Radwan, & El-Esery	Article	Higher institute	General (EFL)	15.7	1.57	30	13.4	1.79	30
23	2017	Turkey	Erişen	Article	univ	General (EFL)-retention	72.05	7.586	21	62.15	15.513	20
24	2017	Hong Kong	Feng Teng	Article	univ	General (EFL)-academic perfo	83.25	6.15	30	69.14	5.97	30
25	2017	Indonesia	Santosa	Article	Univ	General (EFL)	2.91	0.768	63	1.390	0.490	88
26	2017	Iran	Karimi & Hamzavi	Article	Institute/higher	Reading (EFL)	21.20	3.58	25	12.72	1.98	25
27	2017	Turkey	Kurt	Article	univ	General (Eng)	73.38	14.64	32	58.8	16.24	30
28	2017	Turkey	Köroğlu, & Çakır	Article	univ	Speaking-ELT	84.41	8.34	23	61.6	13	25
29	2017	Thailand	Li & Suwanthep	Article	univ	Speaking (EFL)	11.083	2.667	46	12.125	2.803	48
30	2017	Korea	Oh	Article	College	Vocabulary (EFL)	28.22	7.66	61	28.66	7.4	61
31	2017	Cambodia	Nuon, & Champakaew	Article	univ	Grammar (Eng)	37.62	4.186	40	35.27	4.123	41
32	2017	S.Korea	Su-Young, & Suk-Jin	Article	univ	General (English)	21.88	7.201	24	25.19	3.086	26
33	2017	Taiwan	Wen- Chi Vivian Wu et a	Article	univ	Speaking (EFL)	85.96	5.58	50	66.6	5.92	50
34	2018	Oman	Al-Hamdani & Breiki	Article	Grade 9	Vocabulary(EFL)	9	4.4	25	6.56	3.9	25
35	2018	S.Arabia	Alnuhayt	Article	univ	Vocabulary (EFL)	6.5	1.373	24	3.95	1.493	21
36	2018	Japan	Asaka, Shinozaki, & Yos	Article/conf	Grade 7	Grammar (EFL)	15.72	3.993	155	15.54	3.644	155
37	2018	Japan	Asaka, Shinozaki, & Yos	Article/conf	Grade 7	Grammar (EFL)	6.48	1.608	157	6.36	1.789	156
38	2018	USA	Cabi	Article	univ	General (Eng)	55.29	16.11	28	56.64	14.79	31
39	2018	China	Deng	Article	Univ	EFL translation	84.4	8.716	32	79.8	12.364	33
40	2018	Iran	Haghighi, Jafarigohar, K	Article	univ	General (EFL)-compedence	42.7	4.85	30	36.37	5.22	30
41	2018	Iran	Hashemifardnia, Namaz	Article	Junior high school	Reading (EFL)-Intermediate	18.8833	6.71727	25	14.7167	5.70486	25
42	2018	S.Korea	Lee, & Wallace	Article	univ	General (EFL)-communicative	60.31	7.97	40	57.19	8.56	39
43	2018	Taiwan	Lin Chi-Jen, Hwang Gwo	Article	univ	Writing (EFL)	96.86	5.43	35	85.76	5.45	33
44	2018	Taiwan	Lin, & Hwang	Article	univ	Speaking (EFL)	22.12	1.26	33	19.62	1.2	16
45	2018	France	Liu, Meyer, & Audran	Article	Univ (Engineer Inst)	Grammar (EFL)	11.46	2.47	26	13.5	2.57	24
46	2018	S.Arabia	Mansi	Article	Grade 10	Listening (Eng)	112	13.89	42	87.83	9.54	43
47	2018	Vietnam	Quyen, & Van Loi	Article	univ/undergraduate	Speaking (EFL)	64.83	13.926	30	53.93	11.942	30
48	2018	Turkey	Saglam, & Arslan	Article (M.A Thesis-	univ	Grammar (Eng)	27.1	9.86	29	19.51	8.62	27
49	2018	Indonesia	Nugroho, & Insana	Article	univ	Reading (EFL)-Intermediate	60.87	9.89	30	56	6.51	30
50	2018	Malaysia	Teo Woon Chun, & Sath	Article	Primary (Grade 4)	Grammar (ESL)-adj	92.5	7.83	10	25	20.98	10
51	2018	S.Korea	Song, & Baldwin	Article(conf)	univ	Listening (EFL)-p.211	19.7667	2.42525	45	20.5761	2.64148	46
52	2018	Iran	Soltanpour, & Valizadeh	Article	univ/higher edu	Writing (EFL)	40.61	1.39	28	40.67	1.38	27
53	2019	China	Zhao & Zhang	Article	Univ	General (Eng)	83.04	5.81	18	79.4	5.56	18
54	2019	Iran	Abedi	Article	Intermediate	Writing (EFL)	17.6875	1.53704	16	15.5313	1.4885	16
55	2019	Oman	Alkhoudary & AlKhouda	Article	Secondary school	Speaking (EFL)	27.95	5.19	20	18.9	4.17	20
56	2019	Taiwan	Bezzazi	Artitcle	univ	Public Speaking (EFL)	71.33	8.03	79	67.31	7.59	39
57	2019	Taiwan	Bezzazi (b)	Article	Univ	Grammar (EFL)	81.58	4.72	67	76.69	5.08	65
58	2019	China	Feng & Feng	Article	College	Writing (Eng)	88.266	4.3778	52	81.152	6.2731	54
59	2019	Taiwan	Havwini & Wu	Article	Grade 11	General (EFL)	82.31	16.44	31	75	13.94	29
60	2019	Uzbekistar	Khadjieva	Article	univ	General (Eng for academic pu	79.41	7.35	30	72.04	9.63	30
61	2019	Turkey	Kirmizi & Kömeç (b)	Article	Grade 10	Vocabulary (Eng)	74.75	14.1333	28	72.75	15.38845	24
62	2019	Turkey	Yeşilçınar	Article	Univ	Speaking (EFL)	13.1364	2.407	11	10.614	1.567	11
63	2019	Indonesia	Mubarok, Cahyono, & A	Article	univ	Writing (EFL)	70.62	8.606	29	64.82	9.21	29
64	2019	Iran	Mohammadi, Barati, & Y	Article	Grade 11	General (EFL communicative-	34.1667	4.59571	48	28.2128	9.73996	47
65	2019	Egypt	Masoud	Article	univ	General (EFL)	52.1	4.5	30	35.33	4.64	30
66	2019	Iraq	Qader, & Yalcin Arslan	Article	Univ	Writing (EFL)	6.17	1.72	34	5.31	1.76	32
67	2019	Indonesia	Suryati et al.	Article	univ/Nursing	Reading (EFL)	78.58	12.055	40	58.48	10.008	40
68	2019	Iran	Solimani, Ameri-Golestan, & Lotfi		Adult-	General (EFL IELTs)	2.87	0.12	30	2.46	0.1	30
69	2019	Iraq	Yahya	Article	Secondary school	General (Eng)	36.2	8.98	35	30.82	9.33	35
70	2019	Iran	Hamdani	Article	Grade 9	Listening (Eng)	2.63	0.913	38	2.540	1.070	39