Students' perceptions of content and language integrated pedagogy via electronic communication (e-CLIP)

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Abstract

e-CLIP or Content and Language Integrated Pedagogy via Electronic Communication is an innovation in the Thai education system which supports the integration of electronic media and content-based English. e-CLIP is one of the tools developed to cope with the 21st century and has been integrated into several Thai schools in recent years. This research aims to compare students' perceptions of e-CLIP application in two distinct settings: a small and large-sized school. This study was conducted in Secondary Educational Service Area 39 Thailand. The data were collected through a survey, focus group interviews, and observations. The collected qualitative data were analyzed through content analysis. Additionally, descriptive and inferential statistics were performed to interpret the quantitative data. The quantitative findings exposed that students from both schools showed positive perceptions of integrating electronic media and content-based English in their classes. However, qualitative data showed that small-sized students were more motivated to participate in activities utilizing the e-CLIP model than those in the large-sized school.

Keywords: e-CLIP Model, electronic media, content-based English

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1. Introduction

Nowadays, countries worldwide deploy Information and Communication Technology (ICT) as a response to the expansion of modern society. Hence, it is inevitable for individuals to be adequately competent in utilizing information technology and communication technology. Information technology is strongly related to digital literacy (UNESCO, 2011, p.3). Digital literacy is a collection of necessary skills that include the use and development of digital media, the processing and retrieval of information, involvement in knowledge creation and sharing in social networks, and a wide range of technical computer skills (UNESCO, 2014). Digital literacy influences the integration of ICT. Communication technology is associated with networking, which significantly requires the use of languages. As "the world's common language" (British Council, 2013), English has been used for international communication, science, business, entertainment, diplomacy, and information technology (British Council, 2013). Consequently, this language has been utilized to deliver information in networks around the globe. As a result, to access information through ICT, one needs to have English mastery to some extent.

Several educational trends tackling the issue have appeared in several countries around the globe. E-CLIP or Content and Language Integrated Pedagogy via Electronic Communication (Yamkasikorn, 2015) has been integrated into several schools in Thailand. e-CLIP utilization is expected to address expected 21st-century students' outcomes and support systems. According to Sengsri & Sengsri (2016), e-CLIP integrates teaching material or content with the English language by utilizing information and communication technology. e-CLIP comprises five principles, including 1) comprehension on the course indicators, 2) strategies of learning management, 3) competence to utilize English associated with materials in the curriculum, 4) English fluency skills of instructors, and 5) assessment to establish the four principles as teachers possess a crucial role in deciding the quality of education and they are also the roots from where good quality education grows.

Among others, e-CLIP facilitates the deployment of ICT. ICT has significant importance to achieve 21st-century students' outcomes and learning systems. Churches (2008) stated that today's' learners are partly affected by their environment, which is media-rich, immediate, fast, engaging, dynamic, and instant. Hence, they can be categorized as Digital Native, Digital Child, or 21st Century Learner (Churches, 2008). Faulkner and Latham (2016, p.137) mentioned that in this era, youngsters are supported by "instantaneous means of social inclusion, multimodal information, entertainment, opinions, insights, and creations from wide-ranging authors and image-makers who possess an even wider range of knowledge, biases, and expertise." In short, ICT, among others, has a significant impact on students' overall characteristics these days.

Churches (2008) grouped traits of 21st-century learners into 6. They comprise (1) collaborative, networkers and communicators, (2) adaptive and creative, (3) information, media and technology savvy, (4) immediate and instant, (5) partial to instant gratification, (6) they enjoy media in its various forms. Blair (2012) expressed that in the 21st century, learners must own 4C's, which are critical thinking, creativity, communication, and collaboration. In 2011, the UNESCO framework for teachers' ICT application suggested that teachers need to have ICT competencies and teach them to students and encourage collaborative, problem-solving, creative activities through ICT to be useful citizens and workforce members. Among others, the application of ICT in education is an essential medium for attracting students' interest and improving their learning achievement. Therefore, teachers' core competencies have included ICT.

The teacher's competency framework has integrated ICT. In 2014, Zhu and Wang divided teacher professional competencies into learning competency, social competency, educational competency, and technological competency. In 2017, Hendrik et al. studied several Indonesian teachers'

competencies, including social competencies, personal competencies, professional competencies, and pedagogical competencies. Though the four competencies seem to strongly relate to teachers' characteristics described by Morgan and Knox (1985), Sherman (1987), and Centra (1993), there is a distinctive element. Hendrik et al. (2017) included implementing information and communication technology (ICT) in teachers' pedagogical competence. They further explained that ICT is utilized to deliver the lesson more interestingly (Hendrik et al., 2017).

Moreover, Jan (2017) stated that technology integration is a big part of professional teachers' development programs in the 21st century. Hence, the utilization of ICT plays a significant role in the instructional process. Jan (2017) further reported 14 characteristics of 21st-century teachers, including learning new technologies, going digital, going global, performing learner-centered classroom and personalized instructions, and innovating. These characteristics require robust technology deployment. Therefore, it is inevitable that teachers must have proper ICT skills to meet students' learning needs.

ICT can be divided into two areas, IT and CT. IT stands for information technology. Information technology utilizes computers to collect, process, store, safeguard and move data (Rendulić, 2011, p.1). Information Technology Association of America (ITAA) defined IT as "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." To make effective use of information technology, one needs to have digital literacy. Digital literacy is a set of necessary skills that include the use and development of digital media, the processing and retrieval of information, involvement in creating and sharing knowledge on social networks, and a wide range of technical computer skills (UNESCO, 2011). In addition to information technology, mastery of communication technology (CT) is also crucial for ICT application. Huang et al. (2012, p.35) stated that communication technology includes "electronic systems used for communication between individuals or group." The communication system requires a language as a communication medium. UNESCO (2011) declared six digital literacy elements: accessing information, managing information, evaluating information, integrating information, creating information, and communicating information. To perform the six elements, English plays a significant role. English is "the world's common language" (British Council, 2013, p.3). As a result, It cannot be denied that much information on the internet is available in English. British Council further explained that English is now the language for international communication, science, business, entertainment, diplomacy, and information technology. Therefore, this language has been widely used to deliver information internationally, both online and offline. As of 2019, Internetworldstats reported that 1,105,919,154 internet users use English for online communication. Consequently, this language has been widely used to deliver information internationally, both online and offline. Hence, having good English skills has been very significant to enable more learning in the 21st century.

In conclusion, digital literacy is a significant necessity to operate information technology properly. Also, English as a lingua franca has a significant effect on communication technology as much information is provided in this language. Therefore, digital literacy and English are essential factors in 21st-century education and have been integrated as current education system standards in several countries. In Thailand, technology and language are two of eleven professional standards of Thai teachers. As a result, e-CLIP is a Thai innovation developed to assist teachers in coping with both skills. Also, it aims to affect students' digital literacy and English skills positively.

Among others, e-CLIP teachers need to use electronic media and content-based English (Yamkasikorn, 2014). Electronic media is associated with information technology, while content-based English is related to communication technology. Concerning electronic media, teachers are encouraged to utilize offline and online technologies to assist students' learning. Electronic media

utilization is expected to increase students' learning motivation and improve their engagement and active learning. The application of content-based English is targeted to create an environment where English is a common medium for students. As most Thai students have been reported to have low motivation and high anxiety to use English, content-based English is expected to provide more English exposure.

To some extent, e-CLIP is similar to Content Language Integrated Learning or CLIL. According to Coyle et al. (2010, p.1), the CLIL approach is a dual-focused approach to education in which an alternative language is used to learn and teach both language and content. CLIL is different from other forms of bilingual education as it is about using a foreign language, not a second language, and the teachers are not native speakers of the target language (Dalton-Puffer et al., 2010). However, "In theory, the teachers of content material should have sufficient linguistic competence to be able to pass on academic content in a second language as well as in-depth knowledge of their subject" (Vázquez and Ellison, 2007, p.70). Hence, through CILL, non-native-English teachers will integrate the use of another language, usually English, into their classes. What makes e-CLIP different from CLIL is the integration of pedagogy and electronic media in the approach. e-CLIP covers both electronic media applications and content-based English. As a considerably novel innovation in the Thai education system, more research on this approach needs to be administered.

As a new model, there have not been enough studies on e-CLIP. Apart from the utilization, perceptions of involved individuals in different settings need to be investigated. Therefore, this research focuses on describing students' perceptions of e-CLIP utilization in two different schools.

2. Method

2.1. Research Design

This research is a survey utilizing a mixed-method approach that aims to reveal and compare students' perceptions of electronic media and content-based English applications through the e-CLIP model. The mixed-method approach utilizes both qualitative and quantitative measures (Creswell & Clark, 2011). This approach can enhance the trustworthiness of research (Korstjens & Moser, 2018). The deployment of qualitative and quantitative data affords triangulation, which improves the result and trustworthiness (Creamer, 2018). The following adopted figure portrays the flow of this research (Creswell & Clark, 2011)

Figure 1:

The Convergence Model Source: Creswell and Clark (2007)
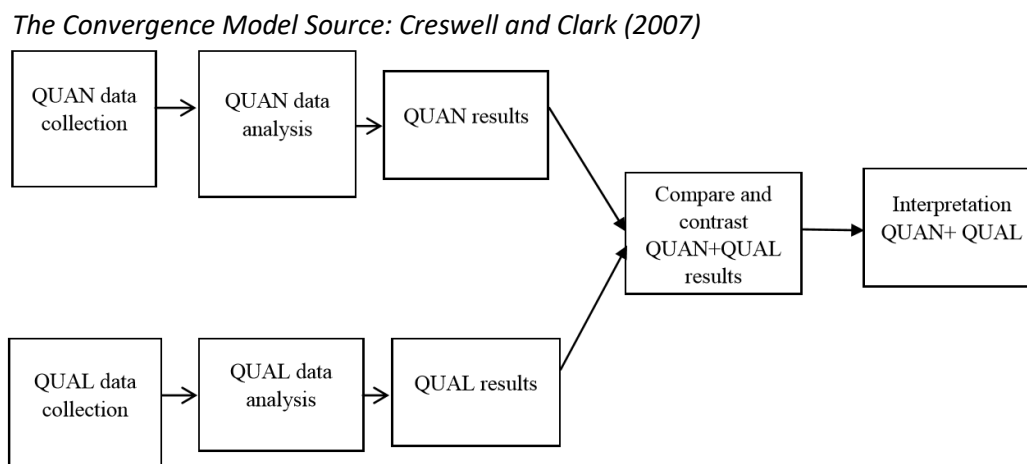
2.2. Participants and Settings

This research took place for five months in two purposively selected schools. Both schools are in Secondary Educational Service Area 39 Thailand and were recommended by the Secondary Educational Service Area 39 Office, Thai Teacher Council, and Naresuan University lecturers. In each school, there is an e-CLIP model teacher. The following is further information on the schools.

2.2.1. School 1

This school is located in a small village in the suburb of Phitsanulok, and It takes 20 to 25 minutes from the school to Phitsanulok city center by car. The school is surrounded by the locals' houses and rice fields. The village is not densely populated as the gap between houses was noticeable. This school was labeled as a small-sized secondary school. The physical size of the school matches the total number of students. There are six grades of classes, from Mattayom 1 (M1) to Mattayom 6 (M6). M1 equals to grade 7, while M6 equals to grade 12. During the research period, the school was attended by approximately 200 students. Most classes had less than 20 students.

2.2.2. School 2

This school is located in downtown Phitsanulok and can be reached easily. Surrounding the school was a residential area. There was hardly a gap among houses in the area. This school was labeled as a large-sized secondary school. The physical size of the school matched the total number of students. From Mattayom 1 (M1) to Mattayom 6 (M6), there were six grades of classes. M1 equals to grade 7, while M6 equals to grade 12. Approximately 2000 students attended the school. Most classes had approximately 35 to 40 students.

2.3. Data Collection

Both quantitative and qualitative data were gathered. The quantitative data was gathered through an online survey consisting of 5-item Likert items. For example, students were given a statement, "I enjoy learning when my teacher speaks English during the lesson" and had to select a response that fits them the most. The responses included strongly agree, agree, somewhat agree, disagree, and strongly disagree. The survey items were analyzed by three experts using the Index of Item Congruence (IOC). Also, the reliability test was run. There were two sections in the survey, namely electronic media and content-based English. The electronic media section showed an alpha of .792, and the content-based English achieved an alpha of .821. According to George and Mallery (2003), both alphas are acceptable.

Thirty-five students from each school participated in the survey. In-School 1, the 35 students were from 2 classes that were taught by the same teacher. In-School 2, the 35 students were from the same class. On the other hand, focus group interviews and observations were administered to gather qualitative data. The focus-group interview was semi-structured, and field notes were gathered during observations. Concerning the interview, 16 purposively selected students from each school were further interviewed.

2.4. Data Analysis

The gathered quantitative data were analyzed using SPSS to generate descriptive statistics. Furthermore, more implications were made after administering independent t-tests to compare male

and female students' perceptions. The gathered qualitative data went through content analysis. The interview transcripts, as well as field notes, were collected and categorized into groups. There was a reduction of data administered to opt for which information was necessary. The quantitative and qualitative results were met at the interpretation process to compare students' perceptions towards the e-CLIP application.

2.5. Intervention to Students

As mentioned earlier, one teacher in each school was considered a role model in the e-CLIP application. Both teachers were studied. The teacher in School 1 and School 2 teach Math and Computer, respectively. Both teachers showcased electronic media and content-based English throughout the semester, which lasted for 16 weeks. The following table explains the teachers' deployment of both skills.

Table 1: *Intervention to Students*

School 1	School 2	School 1	School 2
Electronic Media	Electronic Media	Content-based English	Content-based English
- Computers, projectors - Online search engine (mostly Google) - Online videos - Online gamified quizzes - Online communication media, including Line and Edmodo	- Computers, projectors - Online search engine (mostly Google) - Online videos - Online communication media, including Line and Facebook	- English language in content. - Classroom English expressions for greetings and farewells, spontaneous reactions, getting students' attention, assigning works, giving compliments/feedback, and checking students' understanding.	- English language in content. - Classroom English expressions for greetings and farewells, spontaneous reactions, getting students' attention, assigning works, giving compliments/feedback, and checking students' understanding.

3. Results

The Students' Perceptions of the e-CLIP Model Application were categorized into two themes: electronic media and English.

3.1. Comparison of Students' Perceptions towards Electronic Media Application

Table 1 reveals descriptive statistics of students' perceptions towards the application of electronic media. From the information, respondents from both schools showed positive perceptions. However, the means of School 1 is noticeably higher than that of School 2.

Table 2: *Descriptive Data of School 1 and School 2*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
School 1	35	4.5429	.40328	.06817	4.4043	4.6814	3.25	5.00
School 2	35	4.0036	.66524	.11245	3.7751	4.2321	2.38	5.00
Total	70	4.2732	.60989	.07290	4.1278	4.4186	2.38	5.00

Students in each school were further categorized based on their gender. Table 2 shows that the female students at School 2 have a noticeably lower means than the others. The data indicate a lower satisfaction compared to the other groups.

Table 3 : *Descriptive Data of School 1 and School 2 based on gender*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
School 1 Female	27	4.5648	.35588	.06849	4.4240	4.7056	3.63	5.00
School 1 Male	8	4.4688	.55802	.19729	4.0022	4.9353	3.25	5.00
School 2 Female	23	3.8750	.48412	.10095	3.6656	4.0844	3.13	4.88
School 2 Male	12	4.2500	.89347	.25792	3.6823	4.8177	2.38	5.00
Total	70	4.2732	.60989	.07290	4.1278	4.4186	2.38	5.00

Nonetheless, to discuss further, Table 3 and Table 4 indicate that there is no significant difference in students' perceptions based on gender in relation to electronic media application in both schools. In school 1, males did not score significantly higher (M = 4.46, SD = .55) than females (M = 4.56, SD = .35; t(33) = .586, p = .562). In school 2, males also did not score significantly higher (M = 4.25, SD = .89) than females (M = 3.87, SD = .48; t(33) = -1.62, p = .115).

Table 4: *Independent t-test School 1 – electronic media*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
								Lower	Upper
Equal variances assumed	.875	.356	.586	33	.562	.09606	.16392	-.23744	.42957
Equal variances not assumed			.460	8.755	.657	.09606	.20884	-.37839	.57052

Table 4 : *Independent t-test School 2 – electronic media*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval	
					Sig. (2-tailed)	Mean Difference	Std. Error Difference		
	F	Sig.	t	df				Lower	Upper
Equal variances assumed	4.515	.041	-1.620	33	.115	-.37500	.23143	-.84584	.09584
Equal variances not assumed			-1.354	14.458	.197	-.37500	.27697	-.96729	.21729

Concerning the qualitative findings, the applications of electronic media in Schools 1 and 2 are slightly different. Given more ICT facilities, the teacher in School 2 was slightly more advanced in utilizing electronic media. The students also had considerably easy access to computers and the internet in school. School 1 was not as lucky as School 2. Though they had several computers and LCD TVs, they were slightly behind School 2. Students in School 1 were not frequently exposed to ICT tools, including computers, smartphones, and the internet.

From the focus group interview, students from School 1 showed positive responses to electronic media applications. They mentioned that they were happy to watch online videos and movies, record videos, play online quizzes, and study from beautiful slides. The students also brought up the critical use of the internet in the class. They expressed that the internet-enabled their teacher to seek further information to explain to students while in class. It enhanced their understanding of several topics. They further expressed their excitement by saying that they were grateful for having been exposed to the internet and computer during the lesson. In-School 2, students generally showed positive responses to electronic media applications. The students revealed that they enjoyed the application of online technologies in and outside class. They expressed that they were excited when Kahoot was played. Also, they mentioned that they were happy to use Edmodo as a platform for communication and assignment submission. They further expressed that it was convenient for them to make inquiries related to their project or homework. Also, it was an easy platform to utilize as it resembled Facebook. Though most students revealed positive thoughts, there were several concerns. Several female students expressed that the application of electronic media in class did not excite them as they were already used to it. They further expressed that they had access to a fast internet connection at home to access online entertainment and learning resources by themselves. Therefore, though they enjoyed the application of electronic media during the class, they were not excited.

3.2. Comparison of Students' Perceptions of Content-based English

Table 5 reveals descriptive statistics of students' perceptions towards the application of content-based English. From the information, most respondents from both schools showed positive perceptions. However, the means of School 1 is noticeably higher than that of School 2.

Table 5 : Descriptive Data of School 1 and School 2 - Eng

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
School 1	35	4.4254	.63400	.10716	4.2076	4.6432	2.67	5.00
School 2	35	3.9460	.67337	.11382	3.7147	4.1773	2.78	5.00
Total	70	4.1857	.69266	.08279	4.0206	4.3509	2.67	5.00

Students in each school were further categorized based on their gender. Table 6 shows that the female students at School 2 have a noticeably lower means than the others, followed by male students at School 2. The male students at School 1 had the highest means.

Table 6 : *Descriptive Data of School 1 and School 2 based on Gender - Eng*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
School 1 Female	27	4.4074	.65662	.12637	4.1477	4.6672	2.67	5.00
School 1 Male	8	4.4861	.58776	.20780	3.9947	4.9775	3.33	5.00
School 2 Female	23	3.8019	.61951	.12918	3.5340	4.0698	2.78	5.00
School 2 Male	12	4.2222	.71225	.20561	3.7697	4.6748	2.78	5.00
Total	70	4.1857	.69266	.08279	4.0206	4.3509	2.67	5.00

Furthermore, Table 7 indicates that there is no significant difference in students' perceptions based on gender in relation to content-based English application in School 1. In school 1, males did not score significantly higher (*M* = 4.48, *SD* = .58) than females (*M* = 4.40, *SD* = .65; *t*(33) = -.304, *p* = .763). In school 2, males also did not score significantly higher (*M* = 4.22, *SD* = .71) than females (*M* = 3.80, *SD* = .61; *t*(33) = -1.81, *p* = .079).

Table 7 : *Independent t-test School 1 – English*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval	
					Sig. (2-tailed)	Mean Difference	Std. Error Difference		
	F	Sig.	t	df				Lower	Upper
Equal variances assumed	.017	.896	-.304	33	.763	-.07870	.25868	-.60500	.44759
Equal variances not assumed			-.324	12.668	.752	-.07870	.24321	-.60553	.44812

Table 8 : *Independent t-test School 2 – English*

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval | |
								Lower	Upper
Equal variances assumed	.003	.958	-1.810	33	.079	-.42029	.23214	-.89259	.05201
Equal variances not assumed			-1.731	19.851	.099	-.42029	.24282	-.92705	.08647

Based on the observations, in School 1, the teacher tried to integrate content-based English in the lesson. When the teachers used English, the students were found to look curious. For example, the learners reacted more loudly and powerfully when they opened and closed the English lesson. In the focus group interview, 16 respondents confessed that they liked incorporating content-based English when asked about it. While some students acknowledged that they found English difficult, they told them that English was enjoyable. Several students have mentioned that the use of basic English phrases inspired them. Multiple informants disclosed that the deployment of English was one of the most exciting activities.

Others explained that they were wide awake and paying more attention when the teacher spoke English. Students also informed that they understood the English words and phrases. They asked their friends or teachers when they did not understand. When asked whether they enjoyed speaking English, two students stated that they did not because it was difficult. The other 14 students expressed that they liked speaking English though they could not do it well. They also noted that the teachers made them less scared to speak English because they had become more used to it. A student further expressed that she felt like she did not care about making mistakes anymore when speaking English. Also, the students mentioned that they became more motivated to speak English because their teacher used English.

In conclusion, the vast majority of the informants in School 1 were delighted by applying content-based English during the classes. It afforded more engagement, excitement, and learning for the students. They, therefore, required the teachers to keep speaking English.

In-School 2, the teacher was observed to use content-based English in approximately the same amount as the teacher in School 1. Students' perceptions are categorized into three. One is comprehension. Many students claimed that it was cool that the teacher spoke English. A student said it was all right. An informant said it was hard, and they were unable to grasp it. She further clarified that the teacher asked them to use Google Translate when they did not understand.

Many students claimed that it was cool that the teacher spoke English. A student said it was all right. An informant said it was hard, and they were unable to grasp it. She further clarified that the teacher asked them to use Google Translate when they did not understand. The second category is excitement. Several informants revealed that they enjoyed the class more when the teacher utilized content-based English.

Nonetheless, several students expressed that they were used to it and that it was already something familiar. However, they conveyed that they preferred the teacher to speak English partly

rather than using full Thai. The administered observation found that several students directly looked at her when the teacher spoke English. When asked about this, the informants responded by saying that they were afraid the teacher would ask questions or wanted to know what the teacher tried to say. The third category was confidence. A student reported that even though his grammar was not good, he was comfortable speaking English. When questioned whether or not the fact that the teacher used English made them want to speak the language, some students said yes, and others said a little or rarely. A student further informed that he got inspired to be like his teacher when the teacher spoke English. He further expressed the importance of English and how it would affect his future, so he was glad that he had a non-English teacher who supported his English learning. In conclusion, students in School 2 mostly had positive perceptions of content-based English application. They also anonymously expressed that they wanted the teacher to continue utilizing the e-CLIP model and other teachers to follow in her footsteps.

4. Discussions and Recommendations

In general, both schools' students showed positive responses to the application of electronic media and content-based English within the e-CLIP model. Nonetheless, the quantitative and qualitative findings confirmed that School 1 had more satisfaction than School 2. The differences in students' perceptions might come from external factors. One might be the size and location of the schools. Ehrenberg et al. (2001) explained that reducing the class size could lead to students' higher achievement. Jepsen (2015) had a similar idea, as he proved that smaller classes enabled students to reach higher learning achievement. Taking this into account, School 1, a small-sized school with small classes, had an advantage in supporting the students' learning.

On the other hand, School 2, a big school with big classes, faced a disadvantage. Bolander (1973) informed that there is a relationship between class size and students' learning motivation. This statement may explain why students at School 1 were more motivated than those at School 2.

In addition to the size, the location of the school was believed to play a significant part. Since School 1 was located in an uptown area, the students were financially middle to lower class families. Hence, most did not have much exposure to standard technology tools such as laptops, smartphones, and the internet, and they had less English exposure and opportunities to speak a foreign language. Moreover, there was also no foreign teacher at School 1.

On the other hand, students at School 2 were fortunate to have four foreign teachers. Additionally, because it was located in the downtown area, the students had more English exposure and opportunities to meet foreigners, usually travelers. Furthermore, students were observed to own smartphones and laptops and had proper internet access. As a result, several students at School 2 did not have much curiosity anymore when it came to English and electronic media, while those at School 1 still considered English and electronic media as novel things. Curiosity to electronic media and content-based English is believed to be another factor that affected students' perceptions. According to Borowske (2005), the students' curiosity impacts their motivation to learn.

Moreover, Freeman et al. (2014) stated that curiosity could improve students' learning and, therefore, believed that it was crucial to establish efficient education. Having less exposure to electronic media and English was believed to ignite more curiosity from students. Therefore, School 1 showed more positive perceptions towards applying electronic media and content-based English within the e-CLIP model than those at School 2. Nevertheless, the difference in perceptions was not significant, as proven by the means and the independent t-tests.

This study proves that e-CLIP is a fitting model to be utilized in the Thai context as it encourages the deployment of electronic media and content-based English. Also, this study confirms that both small

and large-sized schools can administer this innovation. In both contexts, e-CLIP brings beneficial elements that improve students' satisfaction and accomplishment. Electronic media make students more engaged, motivated, and able to comprehend the subject matter better. Concerning content-based English, it created a more exciting experience for the students and provided more English exposure and practice. Therefore, e-CLIP is a recommended model to utilize in Thailand to cope with the 21st century.

5. Conclusions

Students from both schools showed positive perceptions of integrating electronic media and content-based English through the e-CLIP model application. The quantitative results reveal that means of perceptions of School 1 was noticeably higher than that of School 2. Hence, students at school 1 have higher positive perceptions towards e-CLIP utilization than those at School 2. Moreover, the means between males and females in School 1 seem similar, yet in School 2, male students' perceptions were higher than female students. Nevertheless, the independent t-tests exposed no significant difference in perceptions based on genders in both Schools 1 and 2. The qualitative results reveal more detailed information regarding students' perceptions of e-CLIP application in both schools. Though students in both schools generally expressed positive perceptions, there were several noticeable differences. Students in School 1 showed a high interest in the e-CLIP application. All informants showed positive responses concerning electronic media and content-based English application. However, there were mixed responses in School 2. Though most expressed that they enjoyed using electronic media and content-based English, some conveyed that it was expected and not very exciting. The reported results may be affected by several external factors, including the environment, class size, and students' curiosity. Also, there are several limitations to the findings. First, e-CLIP was not used to teach the same subject. Also, students in School 2 were exposed to e-CLIP longer than those in School 1.

All in all, e-CLIP is an innovation that is worth applying in Thai schools. From the findings, e-CLIP works in both small and large settings. The utilization of electronic media and content-based English created a better learning experience for the students. Nonetheless, e-CLIP might bring more benefits if utilized in a small-sized setting. As a novel model in the Thai education system, more explorations on e-CLIP needs to be administered. Hence, more studies are expected to be conducted shortly.

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