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A Need Analysis of Incorporating a New Teaching Approach via Technology

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ABSTRACT

English plays a vital role in our lives as it helps communication. There are four major English skills: reading, listening, speaking, and writing. However, it has always been a huge problem when it comes to writing among students in Malaysia. This study aimed to determine the effectiveness of using the 4Cs, which are collaboration, communication, critical thinking, and creative thinking of the 21st-century learning skills, to foster students' narrative writing skills using online learning platforms via mobile learning. A need analysis was conducted using a questionnaire through Google Forms. The respondents for this study were 100 teachers who teach the English language among Form 4 students in Malaysia and have different teaching experiences. The findings revealed that integrating the four main skills (4Cs) of the 21st-century skills and online learning platforms via mobile learning has great potential to foster narrative writing skills among upper-secondary students. This study was significant as it explored the potential and requirement of the 4Cs and online learning platforms via mobile learning in developing students' narrative writing skills. The outcomes from this study could enable future researchers or policymakers to provide specific guidelines by incorporating the 4Cs, using online learning platforms via mobile learning and preparing appropriate online writing modules for students in Malaysia to progress in their writing skills. Such initiatives align with the Ministry of Education's blueprint that promotes the integration of new teaching and learning approaches, especially by using technological features in the Malaysian education system (Education Blueprint 2013-2025).

Keywords: 4Cs, mobile learning, narrative writing skills, online learning platforms, creative thinking

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Introduction

The education system's goal in the present system is to provide complex learning environments for students by integrating authentic learning methods to develop their skills. Teachers need to emphasise using new approaches to deliver any subject content to their students in this new era, using technology applications to help students achieve excellence in education (Tze Pheng et al., 2021). Furthermore, the correct learning methods according to student's interests and abilities are tremendously important as they are helped to solve any complex problems they face in real life. Moreover, teaching in the 21st century is a huge challenge, and every school must manage all the changes to develop students' skills

competently. Shahroom and Hussin (2018), as well as Sangakala et al. (2016), remarked that technology has a pivotal role in 21st-century learning to educate a future generation that is knowledgeable, as cited in Wil et al. (2019). Today, students like to use technology in their learning because they use technology tools in their daily lives. Dauksevicuite (2016) and Rothman (2016) stated that the current generation of children are referred to as Generation Z or Gen Z, and those who were born from 1995 to 2012 are acquainted with technology devices, as cited in De Gracia (2019).

The National Educational Blueprint (2013-2025) emphasises the importance of enhancing Information and Communication Technology (ICT) in the teaching and learning process in the present curriculum system (Raman et al., 2019). Battons (2018) explained that it is vital to implement the use of technology in the education system in the current setting as the students are digital natives. The Malaysian Ministry of Education tries to implement new technology platforms from time to time to produce new structures of education that cater to 21st-century learning skills and encourage deep-rooted learning (Ahmad et al., 2019).

Due to technological advancement, the use of smart devices, like smartphones, iPads, tablets, laptops, and other mobile gadgets, is extensive among students today. Conejar et al. (2016) described that in the next 15 years, mobile learning tools will be fully included in the education system as most students worldwide will be able to have their own mobile devices due to the importance of technology and the need to be connected with the world. In Malaysia, mobile learning is gaining momentum and has been researched by many educators and researchers (Hussin et al., 2012). Some earlier studies stated that mobile learning is in the beginning stage in Malaysia (Ismail & Idrus, 2009; Ismail & Azizan, 2012, as cited in Shuib et al, 2018). However, several scholars mentioned that there has been significant progress in the number of studies focusing on mobile learning in Malaysia since the last decade (Masrom et al., 2016; Song et al., 2013).

English has become a necessity today because everyone needs it in different aspects of life. The growing globalisation of the working sector forces companies to pay more attention to international developments (Aziz & Kashinathan, 2021). Students in Malaysia also need to enhance their proficiency level in using the English language so that they can survive in this modern era. The Ministry of Malaysian Education (MOE) has introduced some new policies to meet the present growing international education standards, national objectives, and people's expectations to develop English language skills among Malaysians, especially the younger generation who need the 21st-century skills (Ahmad, 2017). Malaysia's English language education has undergone several transformations in the last three decades. Since the country gained independence, it has been viewed as an important language in Malaysia, and the English language is taught to Malaysian students from pre-school to tertiary level.

Hence, it is important to conduct a study to identify the effectiveness of the main 4Cs of 21st-century learning skills using online learning platforms via mobile learning to foster the writing skills of upper secondary students in Malaysian national schools. This study is done to ensure that the findings could assist policymakers or educators in using different approaches. Additionally, the students' narrative writing skills or other similar writing skills would be enhanced.

Problem Statement

Malaysian ESL Students' Writing Problems

In this era, the Malaysian government has prioritised improving the English language among students, as stated in the Malaysia Education Blueprint (2013-2025) (Borrego et al., 2012). On the other hand, a roadmap is associated with the National Educational Blueprint to function as a guide for English language curriculum designers and educators to ensure that students achieve the proficiency level associated with the international standards and are benchmarked by referring to the Common European Framework of Reference (CEFR). It was implemented in Malaysia in 2018 (Ishak & Mohamad, 2018).

Students at secondary schools face more writing skill problems compared to the other three language skills, even though they have been taught and have learned the second language for more than ten years in school (Che Surhaizai Che Wil et al., 2019). This problem arises because students need to interact without any direct response from an unfamiliar audience, and they need to guess input from readers

(Majid & Stapa, 2017). Besides that, writing is the hardest skill to acquire as it requires a greater use of lexical and syntactic information than listening, speaking, and reading skills (Tangpermpoon, 2008). Writing must be aligned with the ability to learn grammatical rules and vocabulary. It shows that students with good knowledge of grammar and a broader vocabulary content will write better than those lacking the skills (Che Surhaizai Che Wil et al., 2019). Incompetence in syntax, coherence, idea expansion, content selection, topic sentences, rhetorical conventions, mechanics, and organisation, as well as lack and inappropriate use of vocabulary, are overall deficiencies that arise in writing (Muhammad et al., 2016).

Moreover, writing skills have always been a challenge for second-language students. They need to stay focused to develop a good piece of writing. This situation has caused them to think that writing is a tedious activity, especially for those with difficulties in linguistics, psychology, and cognitive problems (Chandran et al., 2019). Firmansyah (2015) also specified that students cannot generate different ideas for their writing and find it challenging to organise them into paragraphs. Furthermore, students feel that it is tough to write a good essay due to a lack of writing practice (Yunus & Chien, 2016). With limited time, teachers do not have time to discuss the mistakes and weaknesses students make in their writing. When writing mistakes are difficult to overcome, the students cannot produce a good essay (Chandran et al., 2019).

In Malaysia, students face more complicated problems in writing due to cultural and linguistic reasons. They use different languages at home because English is their second language. Hence, while planning and writing, they may think in their first language, which results in weak writing performance. The students' essays tend to have grammatical errors, particularly in tenses and word order (Maros et al., 2017).

Therefore, to overcome writing difficulties among students, emphasising the 4Cs of 21st-century skills is essential as students can communicate, collaborate, and use their critical and creative thinking to produce a good essay. When students integrate the 4Cs, they can identify proper main ideas, sequence them into a few paragraphs, and apply appropriate grammar and vocabulary features. Thus, this study is conducted to address the following objectives:

- 1) To investigate the effectiveness of using the main 4Cs of 21st-century skills to develop upper secondary students' narrative writing skills
- 2) To investigate the effectiveness of using online learning platforms via mobile learning to enhance upper secondary students' narrative writing skills
- 3) To investigate the challenges of integrating the 4Cs of 21st-century learning skills through mobile learning platforms in improving narrative writing skills

After identifying the research objectives, the following research questions were formulated:

- 1) How do the main 4Cs of 21st-century learning skills enable the development of upper secondary students' narrative writing skills?
- 2) How do the online learning platforms via mobile devices enhance upper secondary students' narrative writing skills?
- 3) What are the problems encountered while integrating the 4Cs of 21st-century learning skills through mobile learning platforms in improving narrative writing skills?

Literature Review

Implementation Of The 21st Century Learning Skills to Teach Writing Skills

In this era of globalisation, educators must carry out various teaching approaches to enable upper secondary students to improve their narrative writing skills. One of the learning skills that educators could utilise is by using 21st-century learning skills to teach narrative writing. The main 21st-century learning skills are communication, collaboration, critical thinking, and creative thinking (4Cs). Azmi and Nurzatulshima (2017) stated that the accountability of applying the 4Cs is essential in the vision to accomplish the Malaysia Education Blueprint (MEB 2013-2025) (Borrego et al., 2012). All educators play a crucial role in fulfilling this obligation.

On the other hand, the teaching duration in the classroom is insufficient for students to improve their writing skills. Consequently, they need more continuous practice to improve themselves. One of the ways that policymakers and educators could implement is the use of mobile devices among upper secondary students to practise their writing skills. However, incorporating mobile learning itself is insufficient; it needs to be supplemented with appropriate teaching and learning methods. Therefore, applying the main 4Cs of 21st-century learning to develop writing skills using mobile learning would be advocated. The main 4Cs prioritise students' ability to communicate, collaborate, and use their critical thinking and creative thinking. When students can communicate, collaborate, and use their critical and creative thinking, it would help develop their writing skills.

Narrative Writing Skills

Narrative writing requires the students to write an essay by incorporating all the elements of a narrative essay, such as plot, characters, setting, events, and moral values. Hence, to compose good narrative writing, the key elements play a central role (Selvaraj et al., 2020). However, to write a good or improve their narrative writing, students need more exercises (Ghulamuddin et al., 2021).

The researcher selected narrative writing for this study because there has been little study in Malaysia that looks at incorporating technology tools to teach and learn writing skills among upper secondary students. Therefore, in the initial stage, choosing the type of essay that would motivate students to write using technology tools would be essential. This is because narrative writing involves sharing individual's thoughts, experiences, and opinions. Students must generate their ideas when writing this type of essay, compared to other types of essays. It also requires educators to use different approaches to teach this form of essay to Malaysian students. Planning writing exercises after school hours using an online learning medium is a good idea to enhance the students' narrative writing skills as classroom practice for narrative writing skills is insufficient due to the fact that teachers need to focus on the other three skills according to their yearly planner. However, students need numerous writing practices to excel in writing.

Incorporation of Mobile Learning into English as A Second Language (ESL) Writing Classroom

Mobile technology is also regarded as a boundless possibility to meet the growing need for educational accessibility due to the benefits offered by the high percentage of ownership and usage of mobile devices in Malaysia (Arokiasamy, 2017). Mobile learning is defined as e-learning that uses mobile applications in the teaching and learning context (Alzaza & Yaakub, 2011). In this 21st century, using a new language learning approach is desirable among students because mobile devices have become more convenient and powerful as educational learning tools for both inside and outside classrooms (Abd Samad et al., 2021). Nowadays, teachers integrate technology tools in English language teaching to support and motivate students to learn the English language.

Many researchers have stated that technological devices are imperative in improving second language learning (Kassim & Said, 2020). Using various mobile devices allows language teachers to make their lessons more reliable, interactive, and motivating than the old teaching methods (Hasram et al., 2021). Therefore, incorporating mobile learning devices is significant as it allows students to participate in their learning process actively. Many studies have examined the use of mobile learning in improving students' writing skills. Tze Pheng et al. (2021) clarified that online writing is a new approach that needs to be taught among Malaysian students to foster their writing abilities. Students are very technology savvy. Accordingly, including technology platforms to teach writing skills can help them develop their writing ability. Choosing the right online learning platform is essential to help students practise narrative writing with their friends.

Apart from that, many mobile-assisted language learning (MALL) applications are available to teach writing skills in both Malaysia and out of the Malaysian contexts. MALL is the approach of connecting mobile technologies, such as smartphones, tablets, or laptops, to assist learners in language learning (Kukulka-Hulme, 2013). The usage of mobile assistance gained popularity in Malaysia during the Coronavirus Disease 2019 (COVID-19) outbreaks, and the outcomes were positive in improving language learning (Azar & Tan, 2020). Several past studies indicated the usefulness of mobile-assisted learning in nurturing writing skills (Abd Karim et al., 2021; Nami, 2020). On top of that, there is no specific online platform to practise narrative writing skills. However, teachers can choose an appropriate online learning platform to nurture the students' narrative writing skills, such as incorporating Google Classroom, Schoology, Moodle, Wikispaces, and Padlet.

Methods

Research Design

The researcher utilised the quantitative research method as a basis for the research. This research was conducted to determine whether the respondents agreed that the main 4Cs of 21st-century learning skills and online learning platforms via mobile learning should be employed to foster Form 4 students' writing skills in 21st-century classes in Malaysia.

This study followed a survey research design to identify the effectiveness of the 4Cs of 21st-century learning skills, the online learning platforms, the importance of mobile learning, and the challenges teachers and students face while using technology tools in developing narrative writing skills.

Sampling

The researcher used a purposive sampling method in this study. A total of 100 language teachers who teach Form 4 English subject in Malaysia participated in this study. Each of them has different teaching experiences according to their years of teaching service, and some of them are paper evaluators of Sijil Pelajaran Malaysia (SPM) English 1119/1 in Malaysia. Additionally, some teachers teach in the rural areas of Peninsular Malaysia, Sabah, and Sarawak.

Research Instrument

A questionnaire with a 5-point Likert scale was used to explore the respondents' perceptions and needs. The questionnaire encompassed four sections: the first section focused on the respondents' demographic background information; the second section focused on the potential of integrating online learning platforms via mobile learning in developing students' narrative writing skills; the third section focused on the usefulness of the main 4Cs of the 21st-century learning skills with a technology platform to overcome the issues in narrative writing skills in terms of (i) generating main ideas, (ii) developing narrative writing organisation skills or elements of plot, (iii) improving vocabulary features, and (iv) improving grammar knowledge; and the final section concentrated on the challenges of integrating technology resources among teachers and students in developing narrative writing skills.

Data Collection Methods

Before conducting this survey, some related past studies (Stanojevic & Rakic, 2018; Wil et al., 2019; Yunus et al., 2019) were analysed and evaluated to construct the questionnaire for this study. The researcher created 24 questions in this study. The questionnaire was also sent for validation in 2019. After designing the survey instrument, the researcher delivered the questionnaire to the respondents electronically using Google Forms. The researcher distributed the questionnaire to 100 language teachers all over Malaysia. Finally, the researchers analysed the data from the questionnaire. Data were then collected and reported in tables using percentages.

Results and Discussion

Section 1

The demographic data for this research is shown in the table as shown in Table 1.

Table 1

Demographic Profile of Respondents

Demographic Information		Percentage (%)
Age	25-35 years old	34.3
	36-45 years old	28.3
	46-55 years old	31.3
	56-60 years old	6.1
Gender	Male	21.2
	Female	78.8
Teaching experiences	1-5 years	21.2
	6-10 years	19.2
	11-15 years	15.2
	16-20 years	20.2
	21-25 years	10.1
	more than 25 years	14.1

Table 1 indicates the respondents' demographic information. In this study, the researcher collected demographic information about age, gender, and number of teaching experiences. The age group was divided into four categories: 25 to 35 years old, 36 to 45 years old, 46 to 55 years old, and 56 to 60 years old. The majority of language teachers who answered the questionnaire were 25 to 35 years old (34.3 %), followed by the age group of 46 to 55 years old (31.3%). The third highest group was exhibited by the age group of 36-45 years old (28.3%), while only 6.1 per cent of language teachers who were between 56 and 60 years old answered the questionnaire. Conversely, most female language teachers (78.8%) answered the questionnaire, while only 21.2% of male teachers participated. Apart from that, the researcher divided the number of teaching experiences into six categories, such as 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 to 25 years, and more than 25 years. The teachers with teaching experience between 16 and 20 years responded more (20.2%) than other categories. This was followed by teachers with teaching experience between 1 to 5 years (21.2%), teachers with teaching experience between 6 to 10 years (19.2%), teachers with teaching experience between 11 to 15 years (15.2%), teachers with teaching experience of more than 25 years (14.1%), and lastly, teachers with teaching experience between 21 to 25 years (10.1%).

Section 2

Table 2 shows the possibility of integrating online learning platforms via mobile learning in developing students' narrative writing skills. Based on the results of this survey, it was revealed that the majority of the respondents agreed (70.7%) and strongly agreed (14.1%) that students struggled to write a narrative essay during their individual tasks. For Item 1, only a small percentage indicated that the respondents were neutral (12.1%) and disagreed (3.0%) that online learning platforms via mobile learning should be incorporated to enhance students' narrative writing skills.

Nonetheless, most of the respondents agreed (70.7%) and strongly agreed (11.1%) with Item 2, in which students were able to write better narrative essays during their group activities. Only 14.1 per cent and 4.0 per cent of the respondents chose to be neutral and disagreed with Item 2, respectively. Conversely, pertaining to Items 3 and 4, 67.7 per cent of the respondents responded that they agreed to incorporate online learning platforms via mobile learning because it had a high opportunity to encourage students to foster their narrative writing skills. Moreover, 16.2 per cent and 11.1 per cent of the respondents strongly agreed with Items 3 and 4. Only 11.1 per cent of the respondents chose a neutral response for Item 3, while 12.1 per cent chose a neutral response for Item 4. In addition, 4.0 per cent of the respondents disagreed with Item 3, while 8.1 per cent disagreed with Item 4. However, only 1.0 per cent of the respondents strongly disagreed with Item 4. Furthermore, most respondents agreed (72.7%) and strongly agreed (11.1%) that online learning platforms had a boundless potential to allow students to collaborate and communicate, enabling them to think critically and creatively to develop interesting ideas or storylines for narrative essays. Nevertheless, some respondents responded neutral (8.1%), disagreed (7.1%), and strongly disagreed (1.0%) for Item 5. Concerning Item 6, most of the respondents agreed (69.7%) and strongly agreed (13.1%) that online learning platforms had the potential to allow students to enhance their vocabulary and grammar knowledge through group discussion, while only some respondents indicated that they were neutral (12.1%), disagreed (5.1%) and strongly disagreed (5.1%) for Item 6.

Table 2

The Potential of Integrating Online Learning Platforms via Mobile Learning in Developing Students' Narrative Writing Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1. Students struggle to write a narrative essay during their individual task.	0	3.0	12.1	70.7	14.1
2. Students are able to write a narrative essay during their group work.	0	4.0	14.1	70.7	11.1
3. Incorporating an online platform in teaching and learning narrative writing process is essential in the 21 st century.	0	4.0	11.1	67.7	16.2
4. Mobile learning platform has the potential to allow students to have more ownership of their learning which helps them to foster their narrative writing skills.	1.0	8.1	12.1	67.7	11.1
5. Online learning platforms have the potential to allow students to collaborate and communicate which enables them to think critically and creatively to develop interesting ideas or storyline for narrative essays.	1.0	7.1	8.1	72.7	11.1
6. Online learning platforms have the potential to allow students to enhance	0	5.1	12.1	69.7	13.1

their vocabulary and grammar knowledge through group discussion.

Based on the overall findings for this section, the majority of respondents strongly agreed and agreed that the influence of online learning platforms via mobile learning had a great potential to have more ownership of students' learning, as well as to allow students to collaborate and communicate which enables them to think critically and creatively to develop interesting ideas or storyline. The students were also encouraged to enhance their vocabulary and grammar knowledge through group discussions, which helped them foster their narrative writing skills, as shown by many previous studies on technology-enhanced learning.

Many past studies claimed that incorporating online learning platforms via mobile learning among students positively impacted their practice of writing skills. Jong and Tan (2021) claimed that incorporating technology tools in education has provided a good integration in language classes. Besides that, using technology tools such as mobile learning has generated positive responses among students to learn language skills (Azmi, 2017). Students become inspired to learn language skills in their language lessons, as supported by a study conducted by Suhaimi and Yunus (2021). The utmost benefit of integrating an online learning platform via mobile learning is enabling the learners to communicate and collaborate with their friends, helping them to overcome their weaknesses in writing skills (Awaludin et al., 2017; Dias & Victor, 2022; Sattarov & Khaitova, 2020).

Moreover, when the learners communicate and collaborate, they can use critical and creative thinking to write their essays effectively as they work in groups. Besides that, they improve their grammar and vocabulary skills (Hillson et al., 2019). In Malaysia, the Ministry of Education encourages the use of Google Classroom to conduct online learning with the aim to arouse and motivate students to develop themselves in their learning process (Jong & Tan, 2021).

Section 3

Table 3

The Main Skills (4Cs) of 21st Century Learning Skills via Mobile Learning Platforms to Overcome the Issues in Narrative Writing Skills: Generating Ideas

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
7. The integration of 4Cs skills via mobile learning platform will allow students to generate better ideas for writing a narrative essay.	0	3.0	12.1	77.8	7.1
8. The integration of 4Cs skills via mobile learning platform will allow students to include on stimulating or suspense elements to construct their ideas for narrative essay.	0	3.0	16.2	70.7	10.1
9. The integration of 4Cs skills via mobile learning platform will allow Form 4 students to think critically and creatively to develop their ideas according to their level.	0	6.1	11.1	73.7	9.1

Table 3 depicts the effectiveness of the four main skills (4Cs) of 21st-century learning skills through mobile learning applications to overcome students' deficiencies in generating ideas in narrative writing skills. The findings revealed that the majority of respondents agreed and strongly agreed with Items 7,

8 and 9. Regarding Item 7, the integration of 4Cs through the mobile learning platforms to allow students to generate better ideas for writing a narrative essay was agreed by the respondents for they felt that it would allow students to generate better ideas (77.8%). In contrast, 7.1 per cent of the respondents strongly agreed with Item 7. Pertaining to item 8, 70.7 per cent of the respondents agreed that the integration of 4Cs through a mobile learning platform would include stimulating or suspense elements to construct their ideas, while 10.1 per cent of the respondents strongly agreed with the idea. 73.7 per cent of the respondents agreed that integrating 4Cs skills via a mobile learning platform would allow the students to think critically and creatively to develop their ideas according to their level, while 9.1 per cent strongly agreed. On the other hand, only a small percentage of the respondents indicated they were neutral and disagreed with Items 7, 8, and 9. For instance, 12.1 per cent of the respondents were neutral, while 3.0 per cent disagreed with Item 7. For Item 8, 16.2 per cent of the respondents responded that they were neutral, while 3.0 per cent responded that they disagreed with the idea. Lastly, 11.1 per cent of the respondents stated that they were neutral, while 6.1 per cent stated that they disagreed with Item 9.

Table 4

The Main Skills (4Cs) of 21st Century Learning Skills Via Mobile Learning Platforms to Overcome the Issues in Narrative Writing Skills: Developing Narrative Writing Organisation Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
10. The integration of 4Cs skills via mobile learning platform will allow students to organise their ideas into a few paragraphs.	0	4.0	16.2	74.7	5.1
11. The integration of 4Cs skills via mobile learning platform will allow students to show link between characters, setting, conflict, and theme during their group work.	1.0	6.1	12.1	74.7	6.1
12. The integration of 4Cs skills via mobile learning platform will allow students to be aware of the elements of plot while composing their narrative essays.	2.0	7.1	12.1	71.7	7.1

Table 4 represents the effectiveness of the main four skills (4Cs) of 21st-century learning skills through mobile learning applications to overcome students' insufficiencies in developing organisation skills. From the table, most respondents agreed and strongly agreed that incorporating 4Cs through mobile learning platforms would allow students to organise their ideas. For Item 10, 74.7 per cent of the respondents agreed, while 5.1 per cent of the respondents strongly agreed that the integration of 4Cs skills would allow students to organise their ideas into a few paragraphs. In relation to Item 11, for the notion that the integration of 4Cs would help students to show links between characters, settings, conflict, and theme during their group work, the majority of the respondents agreed to it (74.7%), while some respondents strongly agreed to it (6.1%). With regards to Item 12, in which the integration of 4Cs skills via mobile learning platforms would allow students to be aware of the elements of plot while composing their narrative essays, 71.1 per cent of the respondents agreed, while 7.1 per cent of the respondents strongly agreed to the idea.

Nevertheless, for Items 11 and 12, only a small percentage included neutral, disagree and strongly disagree responses. 16.2 per cent of the respondents were neutral, while 4.0 per cent disagreed with

Item 10. Besides that, 12.1 per cent of the respondents responded neutral; 6.1 per cent of the respondents responded disagree, and 1.0 per cent responded disagree with Item 11. Only 12.1 per cent of the respondents were neutral, followed by 7.1 per cent of the respondents who disagreed, and 2.0 per cent strongly disagreed with Item 12.

Table 5

The Main Skills (4Cs) of 21st Century Learning Skills via Mobile Learning Platforms to Overcome the Issues in Narrative Writing Skills: Improving Vocabulary Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
13. The integration of 4Cs skills via mobile learning platform enables Form 4 students to enrich their vocabulary knowledge which allows them to write a good narrative essay according to their level.	0	3.0	12.1	74.7	9.1
14. The integration of 4Cs skills via mobile learning platform enables students to use idiomatic expressions, proverbs, and similes in their narrative essay.	0	3.0	17.2	68.7	10.1
15. The integration of 4Cs skills via mobile learning platform enables students to use expressive words to narrate their narrative essay.	2.0	5.1	19.2	64.6	9.1

Table 5 displays the effectiveness of the four main skills (4Cs) of 21st-century learning skills through mobile learning applications to overcome students' problems with vocabulary skills. According to the findings by the respondents, the majority agreed (74.7%) and strongly agreed (9.1%) that incorporating 4Cs through mobile learning applications enabled upper secondary students to enrich their vocabulary knowledge, which allows them to write a good narrative essay according to their level. Regarding Item 13, the percentage for neutral was 12.1 per cent, while disagree was 3.0 per cent. Furthermore, the 4Cs with mobile learning application enabled students to use idiomatic expressions, proverbs, and similes (see Item 14), as well as students used expressive words to narrate their narrative essays (see Item 15). This is confirmed in the present study by the majority of the respondents who chose to agree (68.7%) and to strongly agree (10.1%) (see Item 14).

Additionally, 64.6 per cent of the respondents agreed, while 9.1 per cent strongly agreed with Item 15. Nevertheless, the neutral responses for both Items 14 and 15 were chosen by 17.2 per cent and 19.2 per cent of the respondents, respectively. Only a small percentage indicated that the respondents disagreed with both Items 14 and 15, which was 3.0 per cent and 5.1 per cent, respectively. In addition, some respondents chose a strongly disagree response for Item 15 (2.0%).

Table 6 reveals the effectiveness of the main skills (4Cs) through mobile learning applications to overcome the grammar mistakes made by students while narrating their narrative essays. The majority of the respondents agreed and strongly agreed with Items 16, 17, 18, and 19. The integration of 4Cs via mobile learning platforms enabled students to be aware of using proper tenses, and the respondents agreed (68.7%), were neutral (20.2%), strongly agreed (8.1%), disagreed (4.0%), and strongly disagreed (1.0%). Besides that, for the statement "students were able to use correct pronouns", the respondents agreed (72.7%), were neutral (15.2%), strongly agreed (8.1%), disagreed (2.0%), and strongly disagreed

(1.0%). Moreover, using 4C's and mobile learning applications allowed students to use various sentence structures to compose their narrative essays. There were 71.7 per cent who agreed, 16.2 per cent who were neutral, 8.1 per cent who strongly agreed, and 3.0 per cent who disagreed with Item 18. In addition, both 4Cs and mobile learning applications enabled students to apply or use connectors to link their ideas while writing activities was agreed by the respondents (71.1%). This was followed by neutral (14.1%), strongly agree (9.1%) and disagree responses (3.0%).

Table 6

The Main Skills (4Cs) of 21st Century Learning Skills via Mobile Learning Platforms to Overcome the Issues in Narrative Writing Skills: Improving Grammar Knowledge

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
16. The integration of 4Cs skills via mobile learning platform enables students to be aware of using proper tenses to compose their narrative essay.	1.0	4.0	20.2	68.7	8.1
17. The integration of 4Cs skills via mobile learning platform allows students to use correct pronouns to compose their narrative essay.	0	2.0	15.2	72.7	8.1
18. The integration of 4Cs skills via mobile learning platform allows students to use various sentence structures to compose their narrative essay.	0	3.0	16.2	71.7	8.1
19. The integration of 4Cs skills via mobile learning platform enables students to apply connectors to link their ideas.	0	3.0	14.1	71.7	9.1

Based on Section 3 (see Tables 3, 4, 5, and 6), the majority of respondents selected strongly agree and agree on responses that the 4Cs skills through mobile learning platforms had a great chance to develop ideas, improve organisation skills, as well as progress students' vocabulary skills and grammar knowledge in improving upper secondary students' narrative writing skills. This revealed that the 4Cs skills, which are collaboration, communication, critical thinking, and creativity, had a great possibility of improving students' writing skills, as Tan and Mohammad (2019) remarked in their study. This is because the main elements of the 4Cs inspire the participants to communicate and collaborate with their group members in their learning process. They would also be trained to use critical thinking and creative thinking throughout the writing process using various types of writing activities. Apart from that, creating group activities or making students work in small groups to improve their writing skills is essential as they can communicate and collaborate to find out the correct answers rather than focusing on the individual activities, as mentioned by Anggraini et al. (2020). They also mentioned in their study that the collaborative writing method has helped the participants generate proper ideas and stimulate the students' background knowledge of the topics allocated to them to develop their writing.

Moreover, producing a good narrative essay depends on the students' ability to use grammar and vocabulary properly so that they are able to describe their stories well. Therefore, it is necessary to include the elements of critical thinking and creativity thinking during group tasks. This enables the students to think critically and creatively about how to use the elements of grammar and vocabulary when working with their peers who have different styles of thinking (Tully, 2009 cited in Yu et al.,

2019). Besides that, this study claimed that students nowadays need to use proper online learning platforms via mobile devices to discuss their narrative writing tasks further after school hours. This finding was similar to Nugroho and Rahmawati (2020), Handayani et al. (2018) and Yunus et al. (2019) which indicated that using a proper teaching approach, which is through a technology platform to carry out writing activities, is essential and helpful to students to improve themselves.

Section 4

Table 7

The Challenges of Integrating Technology Resources among Teachers and Students in Developing Narrative Writing Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
20. I notice that teaching time is not sufficient enough for me to incorporate ICT platform for teaching and learning.	1.0	10.1	20.2	50.5	18.2
21. I realise that I struggle to integrate ICT platform in teaching and learning due to lack of technology knowledge.	7.1	18.2	19.2	44.4	11.1
22. I notice that there are not enough trainings or technical supports provided for teachers regarding use of ICT in teaching.	0	8.1	19.2	56.6	16.2
23. I believe that lack of adequate materials for teaching and inadequate teaching support are the factors for teachers, in which there is no link between integrating ICT platform in teaching and learning.	0	7.1	9.1	63.6	20.2
24. I believe that students are unable to access mobile learning platform due to some circumstances while doing their assignments.	0	1.0	4.0	69.7	24.2

Table 7 illustrates the challenges of integrating the 4Cs of 21st-century learning via mobile learning platforms in developing narrative writing skills among language teachers and students. The majority of respondents agreed (50.5%) and strongly agreed (18.2%) that language teachers did not have sufficient time to incorporate ICT resources for teaching narrative writing skills among students. Some respondents selected neutral (20.2%), disagree (10.1%), and strongly disagree responses (1.0%) for Item 20. According to the respondents' feedback, about 44.4 per cent and 11.1 per cent of the respondents agreed and strongly agreed that they struggled to integrate ICT platforms in teaching and learning due to a lack of technology knowledge. However, 19.2 per cent of the respondents responded neutral, while 18.2 per cent and 7.1 per cent disagreed and strongly disagreed with Item 21.

In addition, the majority of respondents agreed (56.6%) and strongly agreed (16.2%) with Items 22 and 23, respectively. They noticed the insufficient training or technical support and a lack of adequate materials for teaching and learning using ICT resources. Only a few respondents selected neutral and disagree responses for Items 22 and 23. Furthermore, the respondents agreed (69.7%) and strongly

agreed (24.2%) that students were unable to access the mobile learning platforms due to some circumstances while doing their assignments. On the contrary, only a small percentage of the respondents were neutral (4.0%) and disagreed (1.0%) with Item 24.

Based on the results, it was observed that teachers still made little use of technologies because they did not have adequate time to utilise technology resources in their lessons, as supported by Ghavifekr et al. (2016) in their studies. The lack of technology competency could reduce the teachers' desire to incorporate technology resources in teaching and learning among students, as supported by Pelgrum (2001), who conducted a worldwide survey on the competency of teachers in using technology resources. Pelgrum (2001) found that the top obstacles educators faced in realising their school-based objectives were material and non-material conditions. These conditions included a lack of computers and a lack of knowledge among teachers. In addition, there were insufficient teaching materials, as was found in the study. Apart from that, the lack of effective training was one of the factors for teachers' inability to integrate ICT platforms in teaching and learning. This finding is supported by Ghavifekr and Rowdy (2015). Moreover, when students do not have proper materials during their online classes, they might not be focused on their lessons (Yusuf & Ahmad, 2020).

Apart from that, some challenges that students face while participating in their online lessons include a lack of proper mobile devices which prevent them from downloading the needed applications into their mobile; other challenges may involve uncooperative group members and insufficient Internet data to access their online writing lessons (Muuro et al., 2014; Abd Samad et al., 2021; Yusuf & Ahmad, 2020).

Conclusion

Based on this study's findings, it can be concluded that policymakers and educators need to implement new approaches to teach writing skills to this era's technologically-savvy students. Teachers should change their conventional teaching methods by including technology tools. Besides that, teachers ought to utilise the main 4Cs of 21st-century learning skills in teaching writing skills. This is because these elements enable students to communicate, collaborate, and use their critical and creative thinking to write narrative essays. The results of this study found that the majority of respondents agreed that integrating the four main skills (4Cs) and online learning platforms via mobile learning had a huge possibility of improving students' narrative writing skills in the future.

Consequently, further studies need to be conducted to investigate the possibility of incorporating the 4Cs, online learning platforms, and mobile learning in this study area. Future researchers should identify the appropriate ways to use mobile learning to teach different types of writing to Malaysian students. They also need to figure out solutions that can enable students to use mobile learning to continuously learn and practise their writing skills without facing any problems. Another major aspect that needs to be addressed is the preparation of writing modules that could be used by students during their online writing activities on online writing platforms via mobile learning. Finally, researchers can also identify or design some writing applications for students to utilise, further stimulating their interest in incorporating technology into their writing process.

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Conflict of Interest

The authors have declared that no competing interests exist.

Author Contribution Statement

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