

# Mobile Phone Usage and Its Effectiveness in Increasing Elementary Students' Writing Ability

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This research aims to describe mobile phone usage and determine the effect of integrating mobile phones to increase elementary students' short story writing quality, and the perception towards the implementation of mobile phones in a short story writing class. To achieve the aims of the research, the qualitative and quantitative approaches were used. The qualitative data was collected through interviewing and filling the questionnaire, whereas the writing test was collected to obtain the quantitative data. The process of analysing the qualitative data was performed through transcribing, reducing, displaying, and verifying. The results revealed that most of the elementary students were introduced to mobile phones when they were around six to eight years old. A majority of the students had used a mobile phone to access YouTube and play online games. Based on the interviews, most of their parents limit the use of mobile phones and the students are only allowed to use it on a certain day, such as Saturday and/or Sunday. Concerning the implementation of mobile phones in a writing class, based on the assignment in quasi-experimental research, the scores of the pre-test and post-test were used to reveal the quantitative data. The results show that integrating mobile phones in a writing class is effective in increasing the quality of elementary students' short story writing. Additionally, they perceived that integrating mobile phones in writing classes can change the classroom atmosphere to become more focussed and respectful.

**Keywords:** *Mobile phone, Teaching writing, Short story.*



## Introduction

An issue that encourages students to have immoral habits is the misuse of technology. Bosch in Ngesi, Landa, Madikiza, Cekiso, and Tshotsho, and Walter (2018) reported that this has occurred to students in South Africa. Watching YouTube videos and playing games are the area that many people visit every day and without paying attention to parents, children can imitate activities based on what they see on the Internet, without filtering. Furthermore, Kimbrough, Culpepper, and Crutcher, (2017) in their research stated that students, at any level of education, use their mobile phones at a high rate every day. This statement was also agreed by Denizalp and Ozdamli (2019), that mobile phones combined with the Internet can be used as a fast communication tool. The majority of time is used by students to check emails, open Facebook, browse websites, and listen to music (Kimbrought et al., 2017). It also cannot be denied that children can access everything if parents are neglectful in monitoring their children's use of mobile phones. It has not been adequately investigated when the mobile phone was first introduced to students, what mobile phone is used, and the role of parents in controlling the use of mobile phones.

North, Johnston, and Ophof (2018) stated that in many schools there may be a rule not to bring mobile phones to class. In Indonesia, students are not allowed to bring mobile phones to school. However, some of them still bring them but do not to use them in class but do check their phone outside of class. The tendency of using a mobile phone can affect the tendency of interaction among them in reality. It can lead the students to be more active in the virtual world than to communicate with their friends in social life (Mittal, Tessner, & Walker, 2007). Besides, in terms of behaviour, Alghamdi and Plunkett (2018) found that students lack face-to-face meetings while using social network sites. Moreover, they prefer to focus more on their friends on social media than their friends in reality. The mobile phone can be used by students to play games (Kimbrough et al., 2017), and this activity, according to McCoy (2013), has stretched into the classroom.

According to people nowadays, it cannot be denied that the use of technology in our daily life has become a primary need. Besides, information communication technology (ICT) can improve students' learning outcomes at the basic school (Muharlisiani, Soesatyo, Karwanto, Khamidi, Noerhartati, Karjati, Dewira, & Setyowati, 2019). Ng, Hassan, Noor, and Malek (2017) reported that of all people around the world, half have a mobile phone and the sales of mobile phones reaches the critical mass in markets based on the Group Special Mobile Association (GSMA). Besides, they also reported that learning through mobile phones is evident from the number of learning mobile applications from the iTunes application store and any other store applications on the mobile phone itself. Teachers have also proven that the affordable and good functions of using a mobile phone in class can shift from the conventional method which the traditional approaches were implemented, to the methods



which are full of integrating technology (Pullen, Swabey, Abadoo, & Sing, 2015; Valk, Rashid, & Elder, 2010, 2012).

The applications provided in mobile phones might not be fully integrated into the learning process in class if there is no control and monitoring from teachers. It was proven by several researchers that students prefer to use their mobile phones not for learning, but more to chat or communicate to others (North et al., 2014; Abdullah, Sadek, Muhat, & Zainal, 2012) via Facebook, Instagram, Telegram, WhatsApp, and other kinds of communication apps, and furthermore, that the mobile phone only works in a prior stage of learning (Tossell, Kortum, Shepard, Rahmati, & Zhong, 2015). Besides, Ngesi et al. (2018) stated that the mobile phone has negative consequences if it is used in the classroom. However, Bagon and Vodopivec (2017) said that the number of research studies, especially in using ICT in learning, have been increasing and several researchers had also conducted research related to the use of the mobile phone, involving teachers to monitor and control the activities in the classroom. The results were satisfied to the learning achievement, such as the research which is conducted by Haruna, Aisha, Yunusa, and Hadiza (2016). They found that integrating mobile phones in the learning process improved students' performance. Besides, the mobile phone also provides a place for reading online books (Kukulka-Hulme & Shield, 2008), and it is a helpful learning tool for learning (Naz, Rasheed, & Rasheed, 2019). The other benefits also revealed by several researchers that the mobile phone can help students in understanding learning materials (Nalliveetil & Alenazi, 2017; Jumoke, Oloruntoba, Blessing, 2015). The suggestion from the previous researchers is that teachers need to determine the creative ways to integrate mobile technology to enhance students' academic skills (Nalliveetil & Alenazi, 2017). Although previous researchers have investigated the use of technology in improving students' quality in writing, fewer have examined the effect of using a mobile phone to increase elementary students' quality in writing a short story.

## **Methods of Research**

This research was conducted in elementary school 04 Birugo, Indonesia. The quantitative instrument — a test — was used to answer the second research question. For questions one and three, the data was collected by using a qualitative instrument — a semi-structured interview and questionnaire. Cohen, Manion, and Morrison (2007) said that the researchers whose qualitative instruments were used can provide powerful data and helps them to explore every step during the implementation of research. Thirty-two students of the third grade of the elementary school participated in this research. To answer the first question, parents were asked to complete the open-ended questions, in which they have to answer several, such as: Do your children have a mobile phone? When did you introduce a mobile phone to your children? What are the applications that your children access or open? Do you limit your children using a mobile phone? How many hours a day do you allow them to use it? The data

was collected via the WhatsApp group, in which the members of the group are the students' parents.

To answering the research questions two and three, the researchers collaborated with the teacher to teach short story writing. There were two groups involved in this experimental research. The number of students in the control group was 31, and there were 32 students in the experimental group. The post-test group only was chosen in this research because they started with the same ability. The researchers did not conduct a pre-test because the scores which referred to the students' ability in both groups had been given before treatment and they were collected and analysed. The Shapiro-Wilk and Levene tests were used to indicate whether both groups are equal or not. Moreover, to determine the distribution of the score and whether every individual was distributed normally or not. The result of the Levene's test and the Shapiro-Wilk test can be seen in Tables 1 and 2 below.

**Table 1:** The comparison between the control group and the experimental group before treatment using the Independent T-test

		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 of the Difference	
									Lower	Upper
Scores Both Groups	Equal variances assumed	0.002	0.965	3.716	61	0.000	-3.942	1.061	-6.062	-1.821
	Equal variances not assumed			3.723	60.690	.000	-3.942	1.059	-6.059	-1.824

**Table 2:** The normality of every individual in both groups

	Shapiro-Wilk Test		
	Statistic	df	Sig.
Scores Both Groups	0.974	63	0.200

Based on the results of the Levene's test for the equality of variances, the significance value was 0.965. This means that there is no difference between the writing ability of the control

group and the experimental group. Besides, by using the Shapiro-Wilk test (see Table 2), every individual in both groups was distributed normally with the significance value of the control group being 0.098, and the experimental group being 0.169. Based on the result, it can be claimed that the groups can begin to receive treatments because the two groups are normal, equivalent, and homogenous. The schedule of treatments for the two groups is shown in Table 3 below.

**Table 3:** The schedule of treatments

Meeting	Activities	
	Control class	Experimental class
1	<p>Prewriting: Planning</p> <ul style="list-style-type: none"> <li>- <i>Brainstorming</i>: asking them several questions such as “have you ever heard the story about...” or “Do you know the story of...”.</li> <li>- <i>Making a mind map</i>: showing the model of mind mapping done by the teacher in front of the class.</li> <li>- Letting students choose the story that they want to write by asking a question such as “Do you have a short story to tell?” or “Please make a story based on what you have read, listened, or experienced”.</li> </ul>	<p>Prewriting: Planning</p> <ul style="list-style-type: none"> <li>- <i>Brainstorming</i>: asking them several questions such as “have you ever heard the story about...” or “Do you know the story of...”.</li> <li>- Showing sequential pictures as the model in front of the class and the teacher tells the story based on the picture.</li> <li>- Letting students choose the story that they want to write by asking a question such as “Do you have a short story to tell?” or “Please make a story based on what you have read, listened, or experienced”.</li> </ul>
2	<p>Writing: Drafting, Revising, and Editing</p> <ul style="list-style-type: none"> <li>- <i>Mind mapping</i>: asking them to make a mind map.</li> <li>- <i>Writing</i>: asking them to develop their mind maps into a short story.</li> <li>- <i>Monitoring</i>: checking students works and suggesting if they need help during writing.</li> </ul>	<p>Writing: Drafting, Revising, and Editing</p> <ul style="list-style-type: none"> <li>- <i>Drawing</i>: asking them to draw a picture in their piece of paper.</li> <li>- <i>Writing</i>: asking them to develop their short stories based on the pictures that they have drawn.</li> <li>- <i>Monitoring</i>: checking students works and suggesting if they need help during writing.</li> </ul>
3	<p>Post writing: Editing and Publishing</p> <ul style="list-style-type: none"> <li>- <i>Performing</i>: asking students to tell their short stories in front of</li> </ul>	<p>Post writing: Editing and Publishing</p> <ul style="list-style-type: none"> <li>- <i>Performing</i>: asking students to tell their short stories by recording their</li> </ul>

	<p>the class orally.</p> <ul style="list-style-type: none"> <li>- Improving their works, such as grammar, punctuation, vocabulary, spelling, and other aspects of writing.</li> <li>- <i>Posting</i>: collecting and sticking their works on the wall.</li> </ul>	<p>performance in the form of video.</p> <ul style="list-style-type: none"> <li>- Improving their works, such as grammar, punctuation, vocabulary, spelling, and other aspects of writing.</li> <li>- <i>Posting</i>: teacher uploads their videos to YouTube and students can access them by their mobile phones.</li> </ul>
4	<p>Post-test:</p> <ul style="list-style-type: none"> <li>- Assigning students to write a short story on different topics: the funniest thing during my holiday, the road accident that I was in, and the sweetest moment at my grandma's house.</li> </ul>	<p>Post-test:</p> <ul style="list-style-type: none"> <li>- Assigning students to write a short story on different topics: the funniest thing during my holiday, the road accident that I was in, and the sweetest moment at my grandma's house.</li> </ul>

Based on Table 3, it can be seen that there were four meetings when the treatments for both groups were given. The writing test was given in the post-test to collect the data about their scores in writing. After that, their perceptions about integrating mobile phones in increasing the quality of writing were collected by giving them a questionnaire to complete. The questionnaire was adopted from Kimbroug, Culpepper, and Crutcher (2017) (Appendix 1).

## Findings

### *Mobile Phone Usage in Elementary Students*

This research question aimed to investigate the reasons why elementary students are addicted to technology, especially the mobile phone. The aspects that they write in the retrospective think-aloud protocol includes when they started to use a mobile phone, the kinds of applications that they always operate, and the frequency of using a mobile phone each day. The results can be seen from the table below.

**Table 4:** The information about the mobile phone usage of elementary students

Aspects	Number of Students	Percentage (%)	
<b>Year</b>			
3 years old	1 student	3.12%	None
4 years old	2 students	6.25%	Kindergarten
5 years old	2 students	6.25%	
6 years old	3 students	9.37%	Elementary
7 years old	15 students	46.87%	
8 years old	9 students	28.12%	
<b>Possession</b>			



Yes	5 students	15.62%	
No	27 students	84.37%	
<b>Applications</b>			
Game only	7 students	21.87%	
YouTube only	11 students	34.37%	
Game and YouTube	14 Students	43.75%	
<b>Parents' rules in limiting the timeframe of using a mobile phone</b>			
2–3 hours a day	2 students	6.25%	
1 hour a day	14 students	43.75%	
A certain day/s only	16 students	50%	

Based on the data above, it can be noticed that most students were introduced to the mobile phone when they entered elementary school. It is proven that twenty-seven students (84.37 per cent) had operated mobile phones, including 9.37 per cent at six years of age, 46.87 per cent at seven years of age, and 28.12 per cent at eight years of age. Besides, four of them used mobile phones when they were in elementary school, consisting of 12.5 per cent of students. Surprisingly, of the 32 students, there was one student (3.12 per cent) who had known about the mobile phone and used it since he was three years old. Moreover, there were five students (15.62 per cent) who had their own mobile phone, and the majority of 27 students had used their parents' phones when they wanted to.

Furthermore, there were two applications on their mobile phones that they always open: YouTube and games. Based on the results, seven students (21.87 per cent) use the mobile phone to play games. Some of the game applications that they reported playing on their mobile phones were Bus Simulator, Baby Bus, eFootball Asia, My Fashion, and Race Master. Besides, they also access YouTube, such as watching cartoons, My Talking Mom, and Storytelling. The number of students who open YouTube is greater than those who use the mobile phone to play a game, since the percentage of students who accessed YouTube was 34.37 per cent. However, of the 32 students, most of them (14 students) reported accessing both applications when they used a mobile phone.

Although they used mobile phones in their daily life, the parent's had made a rule to limit their children's use of a mobile phone. Based on the interview results, it was found that their parents always limit the time when students use a mobile phone in their home. Of the 32 students, two students (6.25 per cent) were allowed to use a mobile phone two to three hours a day. In addition, fourteen students (44.75 per cent) were allowed to open and access games and YouTube for an hour a day. Half of them (50 per cent) were allowed to use the mobile phone only on Saturday and/or Sunday, with a time allocation of an hour a day. This can be seen from several statements of the parents, such as:

- “My children are allowed to use it on Saturday and Sunday, only around three hours”.
- “Around three to four hours on Saturday and Sunday, and they have to take a break per one hour by playing with their sisters, drawing, playing outside, and etcetera”.
- “An hour on Sunday only”.

*“Taken from interview with parents”*

**Is there any difference in the students’ writing quality taught by integrating mobile phones compared to those who are taught by the conventional method?**

To answer this question, the post-test scores derived from the implementation of the conventional method and integrating mobile phones were compared. The descriptive statistics of the post-test showed that the mean score of the control group was 71.61, with the standard deviation (SD) of 12.409. Meanwhile, the experimental group possessed 81.44 for mean, and 5.616 for SD.

**Table 5:** Descriptive statistics of the post-test scores using the paired sample t-test

	Post-Test	N	Mean	Std. Deviation	Std. Error Mean
Scores	Control	31	71.61	12.409	2.229
	Experiment	32	81.44	5.616	0.993

By using the Paired Sample T-test, the comparison between the effect of integrating mobile phones and those who are taught by the conventional method was examined. The result can be seen in Table 6.

**Table 6:** Comparison of the post-test scores using the paired sample t-test

		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 of the Difference	
									Lower	Upper
Scores	Equal variances assumed	8.761	0.004	-4.070	61	0.000	-9.825	2.414	-14.652	-4.998
	Equal variances not assumed			-4.027	41.7	0.000	-9.825	2.440	-14.750	-4.899

Based on the statistical data above (Table 6), it can be noticed that there was a significant difference related to students' writing quality between those who are taught by integrating mobile phones and those who are taught by the conventional method because the significance value is 0.000. Based on the mean score of students (Table 5), the mean of the experimental group (81.44) was higher than the mean of the control group (71.61). Therefore, it can be concluded that using an integrating mobile phone can provide greater achievement in the students' short story writing quality than the conventional method.

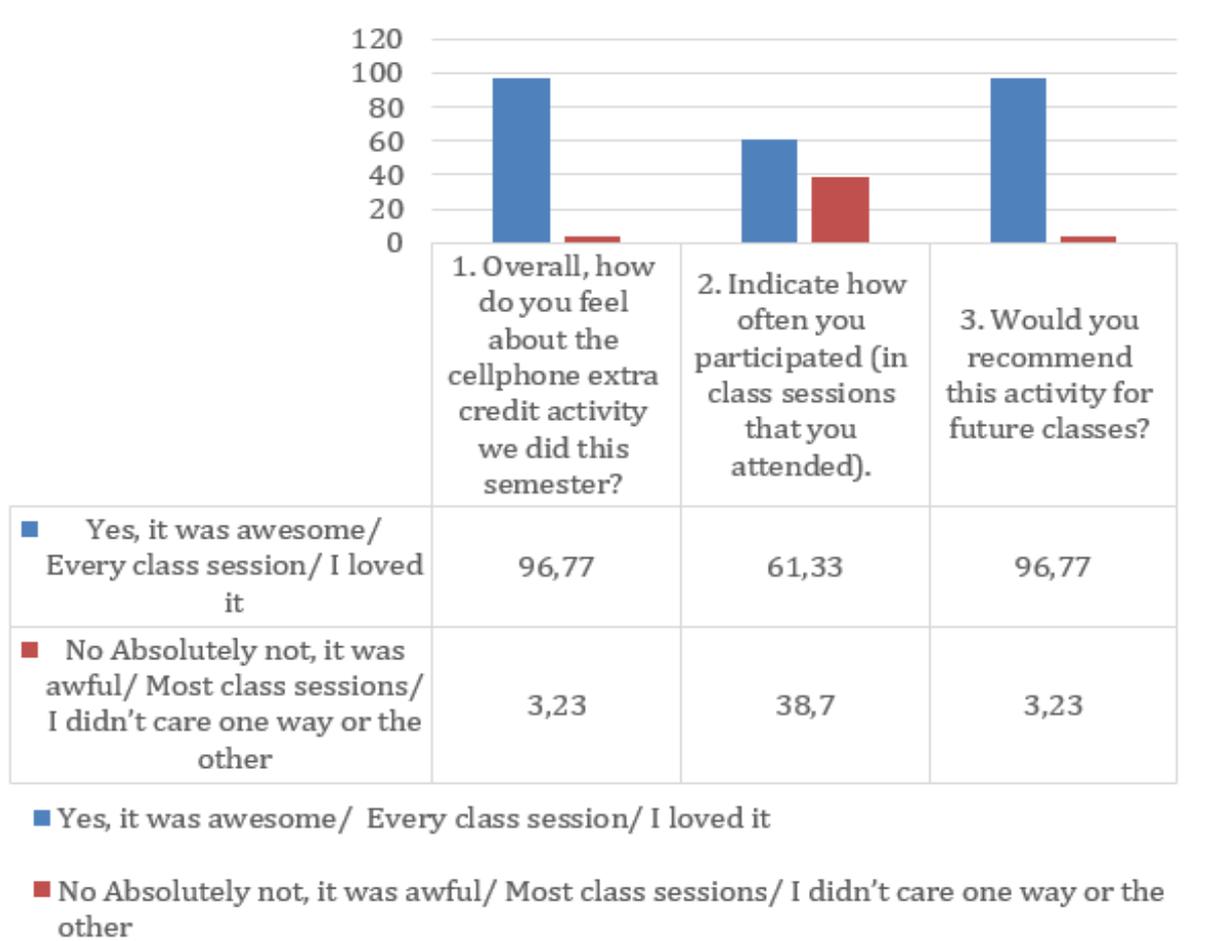
### **How do students perceive the integration of the mobile phone increases their quality of writing?**

The students' perceptions of integrating mobile phones to increase the quality of writing was found based on the data analysis. Table 7 and figure 2 functioned to show the students' perceptions toward the use of mobile phone in class and opinions to recommend the activity in the future.

**Table 7:** The students' perceptions towards integrating mobile phones to increase the quality of writing

No	Statements	The number of students	
		Good	Not Good
1	Overall, how do you feel about the integration of mobile phone we did this semester?	30 (Yes, it was awesome)	1 (No, absolutely not, it was awful)
2	Indicate how often you participated (in-class sessions that you attended).	19 (Every class session)	12 (Very few or no class sessions)
3	Would you recommend this activity for future classes?	30 (I loved it)	1 (I didn't care one way or the other)

**Figure 1.** The percentage of students' perception towards integrating mobile phones to increase the quality of writing



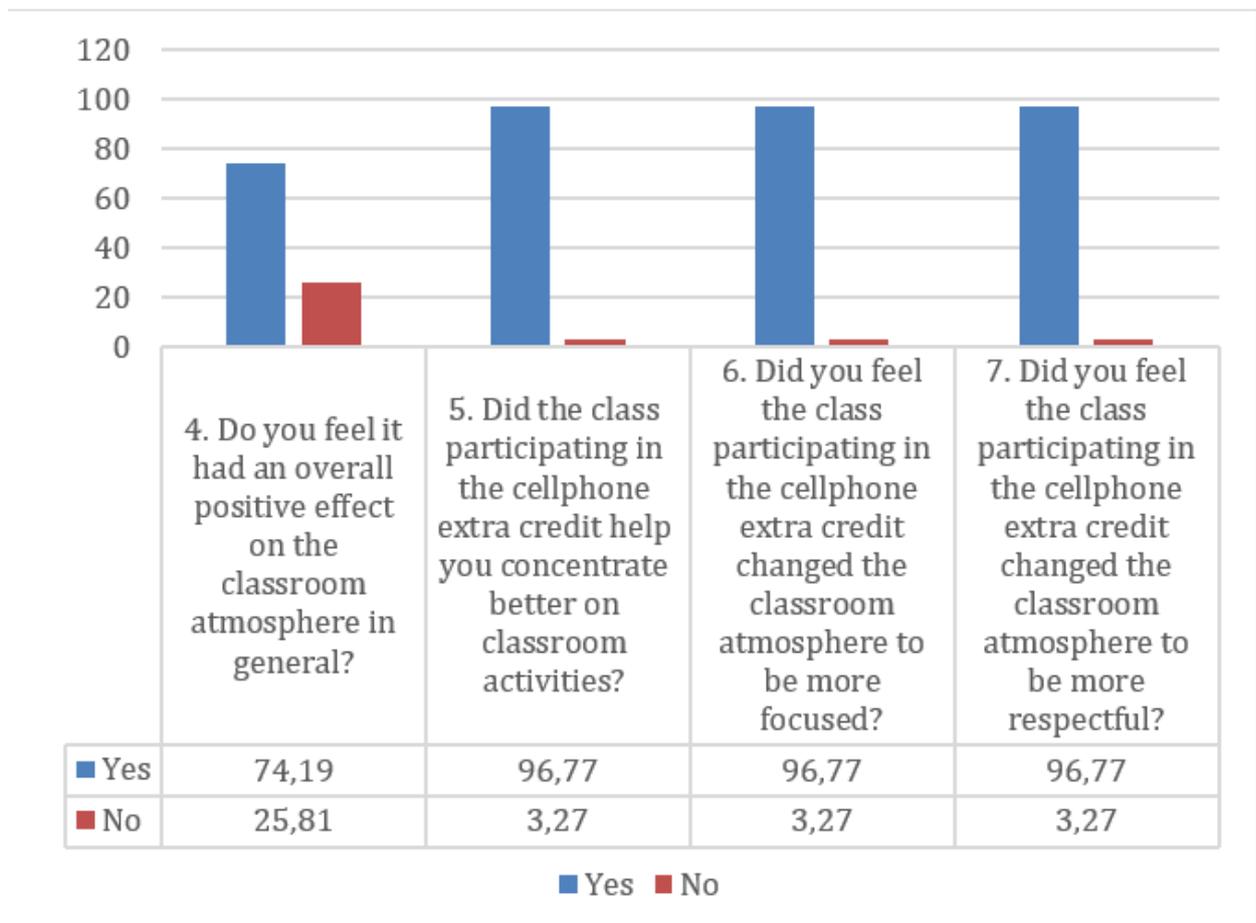
Based on Table 7 and Figure 1 above, it can be noticed that 30 students had a very good perception, as seen from the percentage of students who chose the statement which indicates that they are happy with the treatment given and recommend the activities in the treatment, which was 99.77 per cent. However, the participation of students in the activity should be increased for further research or future learning since the percentage of students who thought that they often participated in every class session was 61.3 per cent (19 students).

We also asked the students to provide their perceptions related to their feelings, whether the treatment gives a positive effect on the atmosphere of the classroom, and whether it helps them to concentrate, be more focussed, and be more respectful. Their perceptions can be seen in Table 8 and Figure 2 below.

**Table 8:** The students' perception toward integrating mobile phone in increasing the quality of writing

No	Statements	The number of students	
		Yes	No
4	Do you feel it had an overall positive effect on the classroom atmosphere in general?	23	8
5	Did the class participating in the cell phone extra credit help you concentrate better on classroom activities?	30	1
6	Did you feel the class participating in the cell phone extra credit changed the classroom atmosphere to be more focussed?	30	1
7	Did you feel the class participating in the cell phone extra credit changed the classroom atmosphere to be more respectful?	30	1

**Figure 2.** The percentage of students' perception towards integrating mobile phones to increase the quality of writing



Based on Table 8 and Figure 2 above, it can be concluded that almost all students (96.77 per cent) agreed that integrating mobile phones helps them to concentrate, be more focussed, and be more respectful to others. Only one student disagreed that the treatment helped him to concentrate during activities, be more focussed, and be more respectful to his teacher and peers. Moreover, based on the data analysis, it was also found that 23 students (74.19 per cent) agreed that integrating mobile phones generally provides a positive effect on the classroom atmosphere. There were eight students (25.81 per cent) who believed that it provided no effect on the classroom atmosphere in general.

## Discussion

This section further discusses the results which are shown in the section of findings. First, the discussion starts with the result of objective one, related to the use of technology. In this case, the mobile phone in students' daily lives. Based on the findings, some students have been introduced to the mobile phone since they were three years of age, and most of them use it when they are in elementary school. It has been also claimed by Divan, Kheifets, Obel, and Osen (2010) that it has become common to use the mobile phone earlier and from a young age. The use of mobile phones among children can be caused by the negligence of parents to control their children's daily habits. Once they are introduced, especially to the mobile phone, they will explore all its dimensions and functions because at their age, something concrete, colourful, and full of games is something that they want. Yassine, Chenouni, Berrada, and Tahiri (2017) had proposed some of the serious games for learning a language, such as Drag & Drop, Point & Click, and King François First. They also said that such games can be used as innovative teaching activities in class. Based on the findings of the current research, students in elementary school use mobile phones to access applications such as games and YouTube. It is different from the research conducted by Kimbrough et al. (2017), in which students spend their time opening an email, Facebook, browsing websites, and music. It can occur because elementary students still focus more on watching and playing rather than interacting with people on social media, such as Facebook, Instagram, WhatsApp, and many other social media platforms which can be used to communicate with others.

Moreover, the role of parents in limiting the time usage of a mobile phone in the home is also important to make their children develop their social interaction with their parents, friends, environment, and others. Divan et al. (2010) also added that someone who has a joint exposure to the mobile phone tends to have a lower social engagement. This occurs because they already have friends when the connection of the Internet is active. They can chat while gaming, talk to their friends, and comment on several statuses of their friends in cyberspace. Based on the current research, it can be noticed that most parents provide an opportunity for their children to use the mobile phone but only on a certain day. This means that the elementary students use a mobile phone only on their 'free day', such as Saturday and/or



Sunday, when they are free from their activity in school. This rule is made by their parents to restrict obsessive use of the mobile phone because it can become a problem (Roberts & Davids, 2016) that causes addiction to the device and anxiety if they cannot access their mobile phone (Kimbrough et al., 2017).

In regard to the quality of students' writing, it is proven that the integration of technology in the classroom can make sense. Based on the results, integrating mobile phones in teaching writing can attain greater achievement in the students' quality in writing a short story, as seen from the significance value of 0.000. This result confirms the research conducted by Haruna et al. (2016), Nalliveettil and Alenazi (2017), and Naz et al., (2019). Haruna et al. (2016) found that the contribution of the mobile phone can increase students' performance. Besides, Nalliveettil et al. (2017) also found that mobile phones can ease teachers in teaching language skills because the applications related to learning language can be downloaded and be the best way to practise outside of class. The mobile phone also helps students to generate their ideas by searching for information (Imelda, Cahyono, & Astuti, 2019). So, this result disproves the statements of North et al. (2014), and Abdullah et al. (2012), that mobile phones should only be used for chatting and not for learning.

Furthermore, according to the result, it shows that the use of the mobile phone as a tool to capture students' works can also indirectly increase their creativity. It is indirectly affected by their self-correctness towards their product and the feedback given by their teacher to create better works before recording. The activity of video making can increase their skills in capturing their works and telling stories while recording it. Even though Imelda et al. (2019) had compared students who had high creativity to those who had low creativity, and they found that it is not significant towards the quality of writing. The creativity of elementary students in drawing and painting their pictures can make them enjoy telling the stories that they make.

Based on the perception towards the implementation of integrating mobile phones in writing a short story, the results show that the students are very happy and provide a good perception of its implementation in the class. They also agreed that the use of the mobile phone in class fosters good behaviour, such as respect for the creation of the works of others. Creativity is also an important aspect in students' development, individually or in a group of communities. For example, at school (Ariyanti, 2016). It is also added by Colangelo and Dais (2002) that the factors that must be considered by teachers to make students foster their creative thinking are motivation, attitudes, and practise. Although, there is a wide gap between the tendency towards globalisation and students' moral development (Schuitema, Dam, & Veugelers, 2007) and perhaps, those who have creativity in globalisation tend to be less caring to others (Bierly, Kolodinsky, & Charette, 2008). The appropriate techniques with full and controlled investigation employed by teachers (Hasanuddin, Emzir, & Akhadiah, 2019) can build the

atmosphere among students and becomes meaningful, in which the interactions of respect for others occurs. Therefore, a teacher as a moral person (Schuitema et al., 2007) has to give students moral education by modelling them to commit their responsibility to do things (Campbell, 2008), respect students' opinions in decision-making (Harrington, Block, & Block, 1987 in Kaufman & Baghetto, 2009), and restrict them from misbehaving because theoretically, the creativity of education impacts upon students' attitudes (Alzoubi, Al Qoudah, Albursan, Bakhiet, & Abduljabbar, 2016).

## **Conclusion**

Some of the previous research had focussed on the use of technology in teaching skills, particularly teaching writing. A unique feature of this current research was that it did not only examine the effect of integrating technology in teaching, but it also focussed more on the wider description of the mobile phone usage of elementary students in Indonesia, and their perception towards the effect of integrating mobile phones in writing a short story. The results have shown that the mobile phone had been a well-known technology for the entire level of education, even before they had entered the kindergarten level. However, the use of mobile phones should be monitored by their parents and teachers because not all channels that they watch on YouTube are appropriate for their moral development, and not all games that they download and play are useful for their cognitive development. To generalise the finding, further research is required to further observe the channels and games that are appropriate for use as teaching materials in a writing classroom. By selecting the appropriate topics taken from television shows on YouTube or games for education, it will help the elementary students to create enjoyment in producing language without hesitation in writing.

Moreover, this research provides empirical evidence that integrating mobile phones in teaching writing attains greater achievement for elementary students, especially in teaching how to write a short story. It is also proven that students provide positive responses related to their perception towards the implementation of this technology. We believe that this research outlines clear and valuable steps on integrating mobile phones in teaching how to write a short story. For further research, it is suggested to develop any applications which are appropriate for teaching materials and put them in Android, iPhone, or any other kinds of smartphone application stores, as the primary technology for every human being, especially millennials in Indonesia.

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