

Use of Hand Gestures through Digital Video to Improve Phonemic Awareness among Year 2 Pupils

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Abstract

Pupils need phonemic awareness so that they have the ability to manipulate the individual sounds in words. However, they sometimes focused more on reading comprehension rather than recognizing the letter sounds which build the words for reading. This action research was designed to improve the pupils' phonemic awareness by using hand gestures through digital video and it involved three cycles. The participants involved were 24 Year 2 pupils from one of the primary schools in Malaysia. Three different data collection methods used were tests, pupils' work and observation. The findings showed there was an improvement of mean scores from 40% in Test 1 to 91% in Test 2. The pupils' oral exercises also improved from 52.14% to 96.07%. The results from the observation checklist and notes also showed they became more aware in learning English through their increased communication and active participation in the lesson. This shows that the technique was able to help pupils to learn and remember the sounds of phonemes as they could read the words correctly. It is suggested to carry out further research to develop the pupils' skills in phonemic awareness through body movements in addition to hand gestures.

Keywords: phonemic awareness, phonemes, hand gestures, video

A. Introduction

The ability to recognize the sounds of the letter is the foundation to a powerful reading skill. The pupils must realize that spoken words can be broken down into individual sounds, letters within words stand for sounds, and individual sounds blended together yield words (Spector, 1995), so pupils need phonemic awareness to be able to make use of letter-sound information (Phajane, 2014). In the Malaysian English syllabus, phonemic awareness was under the reading module (Module 2) in *Kurikulum Standard Sekolah Rendah* (KSSR) or Standard Curriculum for Primary School. Phonemic awareness was stressed for Year 1 and Year 2 pupils. As they move on to Year 3, they should be able to read English words and sentences with correct pronunciation. The pupils had to be able to relate the phonemes and graphemes which enable them to develop the letter sounds to build words.

According to Cunningham (as cited in Griffith & Olson, 2004) phonemic awareness has been defined as the ability to examine language independently of meaning and to manipulate its component sounds. Pupils usually did not take it seriously when they learn the phonemes. They only focused on understanding the meaning and producing comprehensible message or output. Phonemes are very abstract units of language and it is not easy for children to comprehend it (Griffith & Olson, 2004). By focusing too much on the pupils' ability to understand the information conveyed and to be able to read, their pronunciation might not be accurate and incorrect. Therefore, this study was conducted with the aim to improve the pupils' phonemic awareness in reading and the following research questions were formulated in order to meet the research objectives.

- 1) How does the use of hand gestures in digital video improve the pupils' phonemic awareness on phonemes 'igh', 'ear' and 'air'?
- 2) How does the use of hand gestures in digital video improve my teaching practice?

Reflections of Past Teaching and Learning Experiences

Phonemic awareness has been included in the KSSR and the content standard for it is by the end of the 6-year primary schooling, pupils will be able to apply knowledge of sounds of letters to recognise words in linear and non-linear texts. The learning standard for the pupils is to be able to blend phonemes into recognisable words and read them aloud.

This research focused on improving the letter sounds in isolation and a preliminary study was conducted to find out the pupils' reading problem in phonemic awareness. The observation was done during the lesson when I (the second author) taught phonemes 'oa' and 'igh'. The reading text 'The Toad and the Goat' in Figure 1 was used to identify the pupils' problem in recognising the sound of phonemes 'oa' and 'igh'.

The Toad and the Goat

A toad wanted to see a goat.
He packed some oats for the goat.
The toad put on a bright red coat.
He got into a boat.

The boat turned right.
The toad got lost.
The goat waited for the toad.
The toad was not in sight.

Figure 1. Reading Text of "The Toad and the Goat"

The observation was conducted on 24 pupils in reading the text above, Table 1 shows the results of their correct reading of the underlined words in the text.

Table 1. Results of Pupils' Correct Pronunciation of the Words

Words	toad	goat	oats	boat	bright	right	sight
Number of pupils pronounced correctly the words	21	20	18	22	4	7	5
Percentage (%)	87.50	83.33	75.00	91.67	16.67	29.17	20.83

Based on Table 1, I found that the pupils' pronunciation on the words such as 'bright', 'right' and 'sight' were wrong and most probably it was affected by their mother tongue. Most of them had no problem in pronouncing the words with 'oa' because they applied the sounds of 'goat' to all words with phonemes 'oa'. They were familiar with the sound 'goat', so it was easier for them to pronounce the words correctly. As I found that the pupils were not well-exposed to phonemic awareness and it has led to the problems in their reading skills, thus I decided to improve their phonemic awareness by using a teaching and learning strategy of hand gestures through digital video.

B. Literature review

1. Gardner's Multiple Intelligences

Gardner (1983) believed that humans were able to know the world through nine intelligences and the intelligences enable us to solve diverse problems, combined to carry out different tasks as well as understand others. These intelligences relate to a person's unique aptitude set of capabilities and ways they might prefer to demonstrate intellectual abilities. This model can be used to understand overall personality, preferences and strength. Gilakjani (2012) also agreed that in the second language classroom, it is possible to motivate learners by activating multiple ways of approaching through the use of tasks relating to the different intelligences.

Bodily-kinaesthetic, visual-spatial and linguistic intelligence were the three intelligences focused in this research. At a very young age, the pupils tend to be more active and were sensitive to activity that involves physical movement. According to Dunn and Sanders (as cited in Gilakjani, 2012), very young children are the most kinaesthetic and will gradually develop in visuals and auditory. Kinaesthetic children love moving around and learn better with concrete things. Visual-spatial intelligences means that they respond better on visual cues and images while linguistic intelligences involves them to be sensitive to meaning, sounds and rhythms of words. For this study, the pupils involved their bodily-kinaesthetic when they used the hand gestures, they saw the video (visual-spatial) and read the words (linguistic). I noticed that the pupils gave full participation when the lesson involved gestures. I tried to give instructions with gestures and noticed that more than half of the class was able to follow the instruction compared to giving instructions without gestures. This gave me the idea to use this strategy to improve the pupils' problem in phonemic awareness.

Phonemic awareness is often seen as unimportant components in teaching English where it actually plays a huge role in early literacy programme. Phonemes are not discrete units, phonemic awareness requires the ability to attend to a sound in the context of the other sounds in the word (Griffith & Olson, 2004). Spencer, Manning & Rodak (2008) also supported that gesture and speech form a tightly integrated system during language production and comprehension. Therefore, gestures helped the pupils to remember the sound of certain phonemes.

Useful phonics strategies include teaching pupils the sounds of letters in isolation and in words, and teaching them to blend the sounds of letters together to produce approximate pronunciations of words (Phajane, 2014). This research focused on improving the letter sounds in isolation and the chosen phonemes were the long vowel phonemes which were 'ear', 'air' and 'igh'. These phonemes are called trigraph which is a three letter grapheme, in which three letters represent one phoneme. The three letters make one phoneme sound, for example in a

word 'pear', the letter 'r' is hardly heard by the listener. So I hope by using hand gestures focusing on these words, my pupils could improve their usage of phonemic awareness.

2. Usage of Video in Teaching and Learning

A report by British Council (2008) showed that video is a great resource in class and there are an endless number of ways to exploit it to create motivating, memorable lesson with a high level of language production. Sherer & Shea (2011) also agreed using online video such as YouTube can support student learning. Video can be in the combination of moving images, pictures, audio as well as texts. Learning using video can easily adjusted according to the pupils' preferences and pace. They can replay the video as much as they want in order to understand the lesson delivered from the video.

In order to solve the problem that occurs amongst the pupils, I decided to use hand gestures through digital video to make it easier for the pupils to remember the sounds of phonemes. In the video, I showed a few hand gestures while reading the sound of phonemes, I demonstrated and read words with the selected phonemes. There were also exercises in the video that allowed the pupils to read by themselves. The video was uploaded to YouTube with the URL <https://www.youtube.com/watch?v=WddtrLhKMtw&t=11s> so that the pupils could access it at anytime and anywhere for self-learning.

3. Vygotsky's Zone of Proximal Development (ZPD)

The other theory that I employed for my action research is Vygotsky's (1978) Zone of Proximal Development (ZPD). Scaffolding is the technique used in ZPD theory as a form of support for the development and learning of children. It is a process completed by a more competent individual supporting the learning of a less competent individual. In this study, the pupils could read the words but they had problems in reading correctly, so the teacher gave them support by teaching them explicitly the actions related to the words through digital video. The process starts from teacher demonstrating the action to the pupils until they were able to do it by themselves and facilitated by teachers.

I applied scaffolding to my pupils where I showed them the video and let them observed the hand gestures related to the phonemes. After that, I let the pupils read the phonemes and do the gestures with the help from the teacher. Then, I let them listen to the sounds of phonemes and asked them to help me with the gestures. Lastly, I displayed the list of phonemes and let the pupils read and do the gestures by themselves.

C. Methodology

1. Research Design

Kemmis & McTaggart's (1988) action research model was used for the implementation of the strategy. The procedure was cyclical in nature and was intended to foster deeper understanding of a given situation. It had four steps in this action research model and the implementation of strategy was done in three cycles. Figure 2 shows Kemmis & McTaggart's action research model cycle.

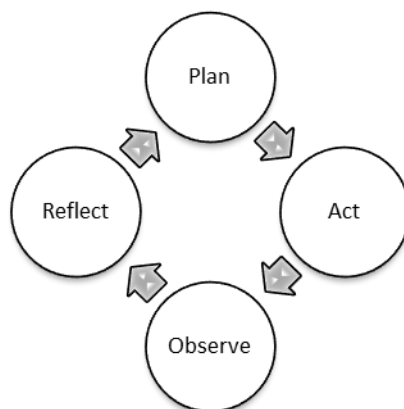


Figure 2. Kemmis and McTaggart's Action Research Model

Li (2012) stated that the model “Plan – Act – Observe – Reflect” spiral of activity provided novices an easy entry to their action research journeys. Hall & Keynes (2005) also stated that in the first phase which was planning, the teacher started by raising a question about an issue or problem identified in the second language (L2) classroom. After the problem in the class was figured out, the teacher would plan on the action to be taken to improve the issue in L2 classroom. When the action was conducted, teacher had to investigate whether the approach showed any positive feedback on the pupils. Action would be followed by observation either in the form of observation, checklist or pupils’ work (Hall & Keynes, 2005). The last phase was reflection where the finding might cause the change in further action and lead to another question.

2. Participants

The participants were selected based on purposive sampling. They consisted of 24 pupils from a Year 2 class and they were in mixed ability. The pupils’ proficiency of English was intermediate and low. The pupils’ parents were mostly factory workers, cleaners, lorry drivers, clerks, teachers and self-employed workers. They were not widely exposed to the use of English language out of the school context. There were only two to three pupils in the class who could understand most of my instructions in English. They helped me a lot in translating my instructions to make their friends understand.

3. Procedure of Data Collection

Figure 3 shows the flow chart of the process of implementation I had carried out for this action research. The first step was planning stage. An observation for preliminary study was carried out during the teaching and learning session. I observed the pupils’ reading of phonemes by using a checklist and I identified the pupils who faced problems in phonemic awareness.

Then, a test was conducted for the next step which was an action stage. I also started to use only hand gestures in class to make sure the pupils could be familiar with the gestures to use the correct phonemes. The strategy was implemented in class during the presentation stage. I read the sentences or passage and used hand gestures for particular phonemes that were focused on that day. The pupils then were asked to read and spot the phonemes by doing the gestures together. After several times of trying the strategy, I showed a digital video on hand gestures and asked them to follow the gestures in the video. They showed interests and managed to follow the gestures in the video. After that, they did an oral exercise for the phonemes they had learnt.

During the observation stage, I observed the pupils’ by using a checklist to measure their response and behaviour during the lesson. This occurred during the practice stage in the lesson. When the pupils were doing the oral exercise, I observed them and ticked on the checklist for their behaviour and wrote down some notes. The last stage is reflection. I analysed the data and reflected on the strengths and weaknesses for each lesson.

This action research involved three cycles as three sets of words were given to the pupils at different time to see their progress in phonemic awareness. So there were three oral exercises for the pupils. An improvement of the pupils’ performance could be seen clearly through their oral exercises. I also prepared 10 oral questions for tests and asked the pupils to read individually. Data were collected based on the pupils’ correct reading of the words in Test 1 and Test 2. Then, a comparison was made on the two tests. The observation was done twice which was before and after the implementation of the strategy.

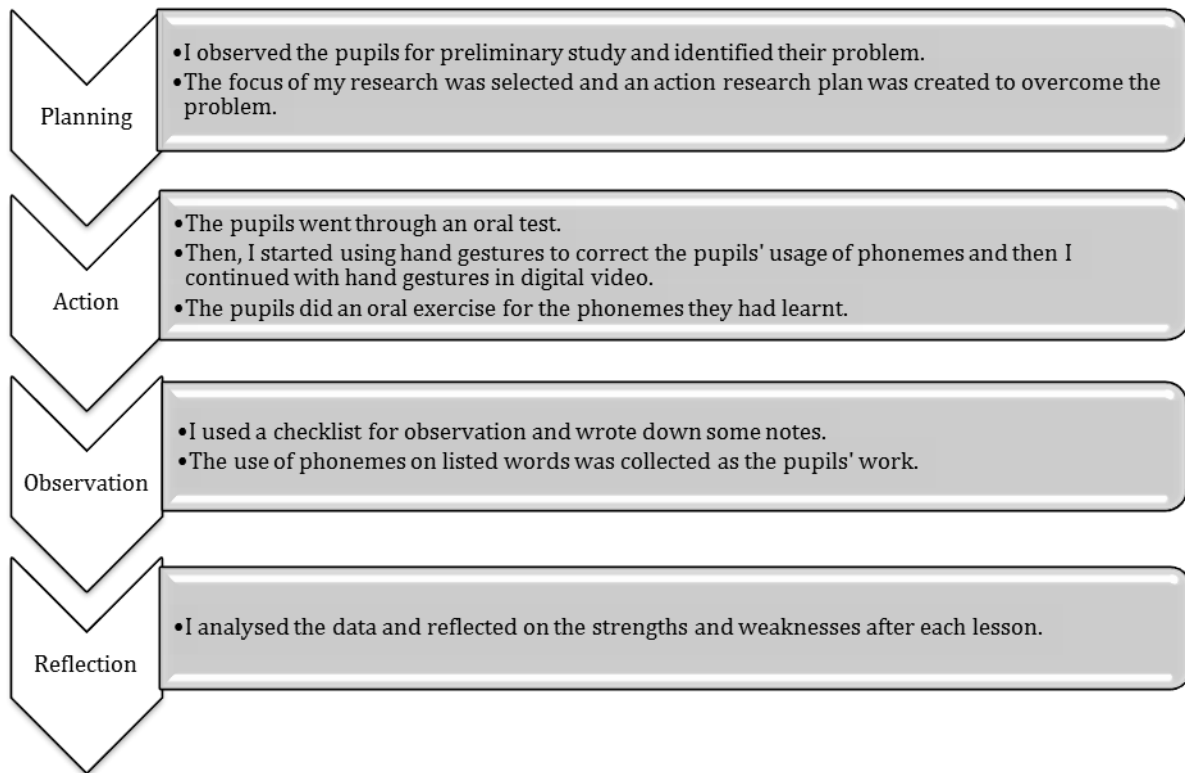


Figure 3: Implementation of Action Research

4. Instruments

I had chosen three data instruments to determine the accuracy of my implementation results in the data triangulation method. The three instruments used were Test 1 and Test 2, pupils' oral exercises and observation checklist. The type of test that I used in the tests was an oral test. This test was made up of 10 sentences which the pupils needed to read orally. All of the sentences had a combination of words with phonemes 'igh', 'ear' and 'air'.

According to Goh (2012), pupils' work is one of the evidences of the pupils' progress on learning and it can clearly show the understanding and development of the pupils. Goh (2012) stated that evidence of pupil learning can be in the form of pupils' work, pupils' written or oral comments over time and teachers' evaluation after every lesson. The pupils' work used in this action research was three oral exercises that the pupils had to read. It was an oral exercise that consisted of five words with the combination of three focused phonemes sounds on three different exercises. The phonemes sounds selected were 'igh', 'ear' and 'air' sounds.

According to Mills (2014), observation is a qualitative data collection technique that is friendly and not overly time consuming. Teachers adjust and improvise the way of teaching and learning in class through observation. The checklist used 4-point Likert scale on degree from very weak level to very good level. The pupils were observed and monitored on the items to see how the strategy helped in improving their communication and participation in the classroom. The observation notes were also written by the teacher to see the progress and improvement on the implementation on new teaching strategy.

5. Data Analysis and Interpretation

Data analysis is a procedure whereby the teacher researcher concludes the data gathered in a proper manner (Mills, 2014). In this study, both of quantitative and qualitative data collection methods were used. For tests, pupils' work and checklist, the mean were calculated. The observation notes were analysed mainly in qualitative. The results for tests, pupils' work and observation checklist were shown in the discussion below.

a) Test 1 and Test 2

Based on Figure 4, the mean for Test 1 and Test 2 shows a huge difference. It increased from 40 to 91. It showed that the research participants improved their phonemic awareness through hand gestures in video.

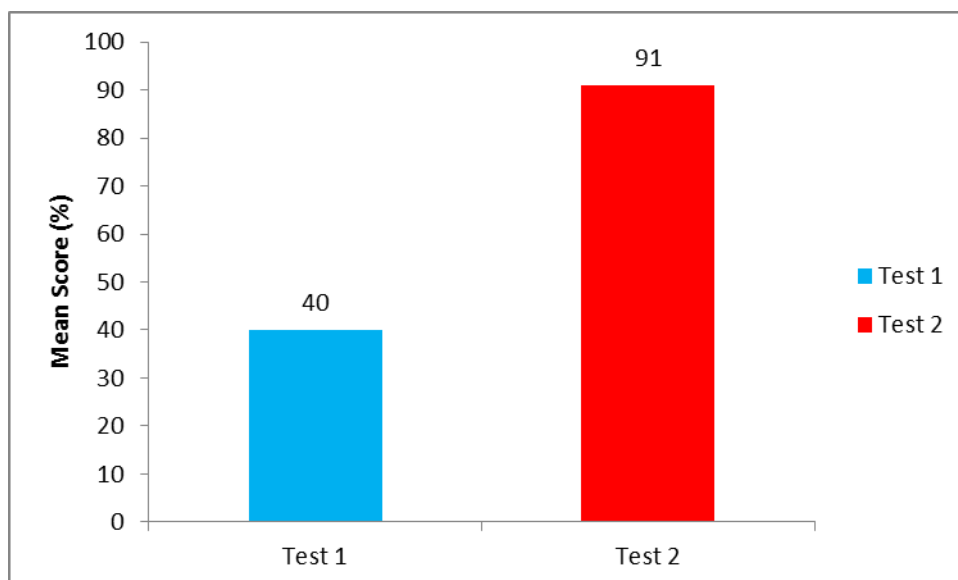


Figure 4: Results of Test 1 and Test 2

b) Pupils' Work

Pupils' work was tabulated to see the frequency of correct words they did in pronouncing the trigraphs. Pupils' work in the form of oral exercises were divided into three parts in which each set of oral exercise had different words but stressing on the same phonemes. Figure 5 shows a bar graph on the mean of correct words in each oral exercise consisting of five words. In the first oral exercise, the participants read only two or three correct words, so the mean was 2.6 (or 52.14%). Then in Oral Exercise 2, they improved their mean score to 3.8 (75.71%) which showed they could read three or four words correctly. Finally in Oral Exercise 3, they were able to read 4 or 5 words correctly, thus they obtained the mean score of 4.8 (96.07%).

From the pupils' work, a progression on the correct reading of phonemes could be seen clearly and it showed the effects of the action towards the pupils' use of phonemes. They had become more aware on the use of phonemes in the reading text. So they were able to recognise the phonemes better which made it easier for them to read the words with correct sounds of phonemes.

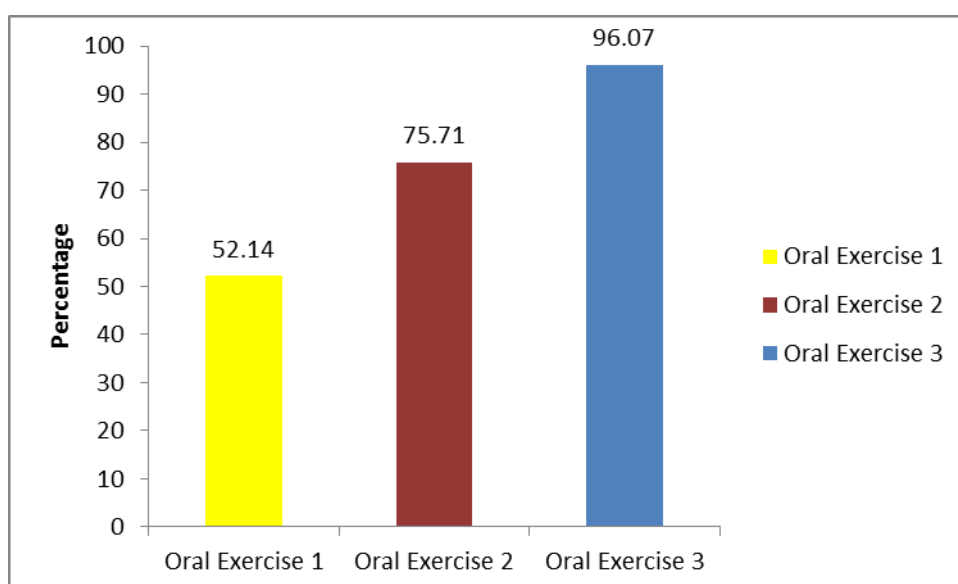


Figure 5: Results of Pupils' Oral Exercises

c) Observation Checklist and Notes

The observation (checklist and notes) were done twice which was before and after the strategy implemented to see the effects of the strategy on the participants' communication and behaviour.

Table 2. Results of the Observation Checklist

Aspects	Before Implementation				After Implementation			
	1	2	3	4	1	2	3	4
1) Group Work	12	6	6	0	0	0	6	18
2) Interactive Communication	12	9	3	0	0	0	12	12
3) Cooperative learning	12	6	6	0	0	0	6	18
4) Respond to teacher	18	6	0	0	0	0	3	21
5) Speak English	18	6	0	0	0	0	6	18
6) Positive attitudes	0	6	18	0	0	0	3	21
7) Show commitment	0	3	21	0	0	0	0	24
8) Ask and answer questions	21	3	0	0	0	0	6	18
9) Use English	21	3	0	0	0	0	12	12
10) Make effort when do not understand	18	6	0	0	0	0	3	21

Table 2 shows the results of the observation checklist. The 24 pupils were observed based on their degree of behaviour on 4-point Likert scale (1-very weak, 2-weak, 3- good, 4-very good). Before implementation of the strategy, most of the pupils behaved at weak level and some of them were able to behave well. However, their behaviour changed after the implementation as they were good and very good at many aspects and none of them were weak in all the aspects.

When reading the observation notes a few times, the themes emerged were increased communication and active participation. Before the implementation of the strategy, I found RP1 refused to communicate and work in groups when there was discussion in the classroom. He did not show any interest to commit in the group works especially when I asked them to use only English while discussing. RP1 never asked any questions and would ask for answers from his friends whenever I called his name to answer questions. But, after the implementation, RP1 had become more open to new things and started to show interests in class. He tried answering the questions and showed an effort to use picture dictionary to find out the meaning of any words that he could not understand.

I also identified that the participants increased their communication through my observation. For example, before the strategy was implemented, I used traditional way of 'chalk and talk' in teaching phonemes, I found the participants were silent, shy and reluctant to read the phonemes. They seemed scared but I noticed that when they were in other class they communicated confidently with their friends in mother tongue. However, when I used hand gestures to teach phonemes, it really attracted them and slowly they felt more relaxed and were more willing to use English in class. The implementation of hand gestures in digital video made the pupils become more focused on the action shown in the video rather than on the language. They managed to overcome their shyness in class and communicate with teachers and peers using English language.

Another thing I found was the pupils' behaviour in English class had changed as they became more active in their participation. Before the implementation of the strategy, their participation was poorer as they were reluctant to take part in group activities and speak English. But the hand gestures in digital video strategy affected the whole learning experience, not only on their phonemic awareness but also their behaviour. When they stuttered while reading the sentences, they did the gestures and it helped them remembering the sounds of phonemes in certain words such as 'light', 'bright', 'pair', 'clear' and others. They showed that they remembered the gestures and by using the gestures, they were able to change the wrong ones to the correct sounds of phonemes. They enjoyed learning phonemes as it involved kinaesthetic learning styles. They enjoyed doing the gestures as they could remember the phonemes better and easier. They showed enjoyment during the class because they had become more confident and brave to read the sentences aloud with correct sounds of phonemes. They enjoyed the lesson and they became more active in taking part in the English language activities.

D. Finding and Discussion

The findings were discussed based on the two research questions formulated in the earlier section.

Research Question 1: How does the use of hand gestures in digital video improve the pupils' phonemic awareness on phonemes 'igh', 'ear' and 'air'?

Based on the results of this action research, the strategy of using hand gestures in digital video had improved Year 2 pupils' phonemic awareness in the use of phonemes 'igh', 'ear', and 'air'. From the test results, an improvement of the pupils' oral performance could be seen. The mean score in the two tests had escalated from 40% to 91%. This shows the participants had improved drastically in their phonemic awareness. The pupils' work consisting of three set of oral exercises also showed the pupils' progress in recognising and producing correct sounds of phonemes 'igh', 'ear' and 'air' as they improved from 52.14%, 75.71% and 96.07%. The observation checklist and notes showed that they improved their behaviour in learning as they increased their communication and engaged active participation during the activities.

Gilakjani (2012) agreed that kinaesthetic learners favour interaction with the physical. Therefore, the use of hand gestures in digital video had greatly improved the pupils' phonemic awareness because it had helped them to recognise the sounds of phonemes better and increase their phonemic awareness.

Research Question 2: How does the use of hand gestures in digital video improve my teaching practice?

Based on the results from the tests, pupils' work and observation checklists, the use of hand gestures in digital story improved my teaching practice as I found it to be effective in helping the pupils to improve their phonemic awareness. The observation notes written before and after the implementation had also shown a change on the pupils' behaviour in their communication and participation. They were scared to learn English because of their low proficiency level in using the language. However, they increased their communication and participated actively in the English lessons after the implementation. Phajane (2014) suggested the use of gestures, body and facial expression could help the learners to better understand. This indicates that when the participants understood the lessons better through the gestures, they were more willing to take part in the activities and thus this increased their communication and participation.

Conducting this action research has helped me to become a reflective teacher. Reflection-action is the practice of a profession, there are uncertain, conflicting and unusual situations that require professionals to create innovative solutions and build new action strategies to resolve it (Fagundes, 2016). I realised phonemic awareness is the key to a better comprehension in English and correct reading technique. The use of hand gestures in digital video is one of the new interactive strategies for the pupils in learning phonemes. This study shows that it not only improves their phonemic awareness in pronunciation, and somehow it would help to improve

their reading comprehension, and it attracts their attention to learn English. Thus, the experience gained from this study could help me to develop my professionalism in the future teaching career.

E. Conclusion

In conclusion, this study on the use of hand gestures through digital video had improved pupils' phonemic awareness as well as their communication and participation in the classroom. The strategy that I used for this study can be accessed through the videos on YouTube. The pupils can watch it for self-access learning while the teachers can use it as a resource in teaching and learning. If the teachers can integrate technology into daily teaching, then it is an effort to strengthen the active involvement of students in their own education.

I would like to propose the next researchers to use hand gestures in digital video to teach single letter phonemes, diagraphs and also graphemes. It would be great for the future researcher to use not only hand gestures but body movements as well. When using hand gestures, the movement is limited on the use of hands only. But, if the researcher uses body movements, the pupils would enjoy the lesson as they can move freely in the class while learning phonemes.

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