

LIVEWORKSHEET: THE EFFECTIVENESS OF QUIZ ASSIGNMENT SUBMISSION AMONG SENP

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ABSTRACT

This action research was implemented to improve the delivery of assignments by special education needs pupils (SENP) during home learning session for the subject of Information and Communication Technology (ICT). The target group involves 5 SENP Year 4 pupils, SK Jalan Enam, Bandar Baru Bangi, Selangor. This SENP consists of an autistic pupil, a Down Syndrome pupil and three pupils with intellectual disabilities. Preliminary surveys were carried out through reviewing of pupil's work and observations. Preliminary survey results showed that SENP did not submit the assignments that they were supposed to do. Researcher used Liveworksheet digital application to overcome this problem. The instruments used were through observation method, data collection and questionnaires. The results of the study showed that SENP have shown some improvement in submitting the assignments timely and consistently. The implication of this study is that educators can use the Liveworksheet digital application to attract pupils' attention as well as to improve the submission of assignments among SENP. Hence, educators should use variety of other applications of game-based systems during home learning and continue to seek out these innovative approaches. SENP really enjoy the online digital application as determined from verbal feedback and their request in play Liveworksheet.

Keywords: Liveworksheet, special education need pupil, ICT, home learning

1. Introduction

Nowadays, technology continues to grow rapidly in our culture. Cell phones, laptop, computers, tablets, Smart Boards and televisions are some examples of devices used to obtain and project information. Teachers use technology during home-based learning as an effort to make learning easier to access, creative and fun.

As all teachers are struggling with the new norm, special education teachers in particular are facing unparalleled challenges transitioning both their teaching, pupils and families to home-based instruction tailored to each pupil's needs (Fleming 2020).

Education process is constantly changing. Pupils are no longer required to sit at their desks and take notes during lectures. Now, the lessons are much more interesting and interactive. Interactive learning is a practical and realistic approach to education. Interactive learning actively involves pupils with the material. It enlivens the classroom for both pupils and teachers. Lectures stress more on discussions while pupils and teachers become partners in the process of acquiring knowledge (News Straits Times 2021).

Pupils with learning disabilities often have difficulty in submitting their quiz assignments. In today's technology-driven world, pupils are rarely seen without a technological device such as a cell phone, tablet, or laptop. One potential method that may help special education needs pupils (SENP) to learn accordingly is the usage of technology. It was observed that when technology was introduced as a learning tool during home-based learning, excitement built, and motivation was very high. Technology continues to advance both inside and outside in today's 21st century classroom. According to Musti Rao (2017), when technology is integrated in a meaningful way, the benefits apply to both the teacher and pupils. The specific digital online application used was Liveworksheet which was an online application game-based response system (GSRs). Pupils who are offered technology-based learning will submit their assignments accordingly and perform better than those without the use of technology.

Therefore, the objectives of this study are:

1. Examine the differences in quiz submission among SENP using Liveworksheet
2. Identify the effectiveness of Liveworksheet among SENP

2. Literature Review

2.1 Special Education Need Pupils

Special Education Need Pupils (SENP) are pupils who find it harder than other pupils to make progress. For this research, SENP refer to the primary school pupils in year 4 who have learning disabilities. These pupils need a specific and appropriate curriculum that can benefit them in developing their individual potential (Heward, 2003).

2.2 Liveworksheet

Liveworksheet is an interactive worksheet online with self-correction made by the teachers or users from around the world. It transforms traditional printable worksheets (doc, pdf, jpg) into interactive online exercises with self-correction known as "interactive worksheets" (Liveworksheet 2021).

2.3 The Effectiveness of Online Application in Assignment Submission among SENP

Interactive learning is a practical approach that helps pupils become more interested in learning and obtain more material, strengthen their problem solving and critical thinking skills (Novikova et. al 2020). Quizizz, Wordwall and Kahoot! are popular online sites which allow teachers and pupils to create online games and play games created by users from around the world. Sites like Canva allow teachers and pupils to express their creativity through power point presentations, posters, social media and banners.

The results of Pede's (2017) study show that the use of the Kahoot application has enhanced vocabulary learning and understanding in Science subject among SENP. This enhances their concentration and memory so that pupils do not forget quickly because of the features of the software which have interesting pictures, colours and music. This statement is supported by Plump et. al (2017) where the music, colour and fun provided by the Kahoot application can encourage pupils to focus more and to make a positive impact in the classroom.

In Singapore, research conducted by Gloria et. al (2017) on four teachers and four SENP showed that mobilizing training in a digital application may be one means to efficiently adapt evidence-based practices for community settings. This result was in line with research conducted by Grinias (2017) in US on the usage of competitive quiz-based games for comprehensive exam review. It was reported by pupils to be both helpful and fun in a quantitative analysis course. She also recommended developing question banks using the Kahoot! platform. It showed that 50% of US teachers use Kahoot! in order to address the need for flexible and adaptable assessment.

The Liveworksheet platform facilitates free use and development of quiz games, primarily by US middle and high school teachers and their pupils. Teachers can both create their own quizzes as well as access more than 30 million public quiz games available on the Liveworksheet website. Helen Colman (2020) stated that there were nine ways of to assess pupils' learning online. Drag-and-drops are a type of assessment that show a learner's ability to link information and apply knowledge to solve a practical problem. Both images and text in a drag-and-drop activity, giving it a real-world feel that is both challenging and engaging.

These interactive game methods were combined in assignments inspired by Jean Piaget and Lev Vygotsky's Theory of Cognitive Development. According to him, learning can occur through play, formal instruction, or work between a learner and a more experienced learner. Teachers must actively assist and promote the growth of their pupils, so that pupils can develop the skills they need to fully participate in our society. Therefore, interactive quizzes are able to attract SENP to respond and have interest in answering each assignment given using the Liveworksheet quiz. This will increase in assignment submission among SENP.

The interactive quiz approach provides a variety of positive impacts on SENP in developing their potential. The gamification approach enhances the motivation of SENP to continue learning while completing assigned tasks. The findings of the study by Gooch et al. (2016) suggest that the use of 'classDojo' gamification in teaching has increased motivation among dyslexic pupils in primary school. High motivation leads to the achievement and accomplishment of pupils with special needs academically.

According to Abrams and Walsh (2014), pupils can have control over learning with the use of technology because they can choose to play the game again outside of class and could decide the amount of time they wish to spend reviewing the material. Pitchford et. al (2018) stated in his study on 33 primary school SENP in South Africa, that each SENP had made some progress in learning basic mathematics with technology intervention, as all SENP had passed at least one topic included in the apps.

3. Methodology

This study was conducted in Bandar Baru Bangi, Selangor, Malaysia in ICT subject for 10-year-old SENP.

3.1 Participants

Five male SENP with different ability level participated in this study. Three of the children were enrolled in special education programme under intellectual disability, one child under Autistic category while another child under Down Syndrome. Their cognitive and adaptive functioning fell within the moderate intellectual disability range. Specifically, the children were recruited based on the less frequent in submitting quiz via Whatsapp group or turn in through Google Classroom.

3.2 Data Collection

Three types of data were collected over the two-month period from the SENP through observation, the frequency of quiz submission and questionnaire.

3.3 Research Intervention

Before producing the Liveworksheet interactive quiz, a study implementation schedule was prepared in order to see the progress of this study. It was implemented for the purpose of improvement and modification of the planned activities.

Table 1: Research Intervention

No	Activity	Date
1.	Identify the SENP problems	15 January 2021
2.	Action Plan – Making Interactive Quiz	25 January - 27 February 2021
3.	Research Intervention	25 January - 27 February 2021
4.	Research Reflection	5 Mar 2021

3.4 Making Liveworksheet

Each person can use this Liveworksheet platform to create their own interactive worksheets or use those provided by other teachers. There is a collection of thousands of interactive pages covering many languages and subjects. It's very simple to create your own interactive worksheets in Microsoft Word. Liveworksheets allows you to turn your traditional printed sheets (doc, pdf, jpg, etc.) into interactive online exercises with self-correction, called "interactive worksheets". Pupils can fill in worksheets online and send their answers to the teacher. This is good for pupils (it motivates), for the teacher (it saves time) and for the environment (it saves paper) (Liveworksheet 2021).

The worksheets need to be converted to pdf format. After that, the training in pdf format needs to be uploaded to the Liveworksheet website. The exercise will be done interactively based on picture to word matching or picture to picture matching or word pronunciation based on pictures or spelling words according to SENP level of ability and mastery. There are 3 types of mastery level of pupils, namely:

- a) Group 1 (students A and B): unable to read or write
- b) Group 2 (student C): can recognize and write with the help of the teacher
- c) Group 3 (students D and E): can read and write with minimal teacher assistance

Therefore, 3 types of assignments were provided according to their ability level after the learning session. For SENP who showed improvement in answering questions, they were

allowed to try other assignments (higher level) assigned to their peers. When they have fun doing the assignments, then only they will submit the assignment consistently.

In addition, SENP can perform the quiz at any time and repeatedly according to their own sweet time. This can provide an opportunity for SENP parents and families to find the right time to do the assignment according to their children's mood. It can also attract pupils to complete a given task apart from giving fun to SENP to focus more on play-based learning online.

For group 1 who cannot read but can understand through pictures, an exercise in the form of picture matching is given. In addition, the pronunciation can also be heard when pupils click on the word to make it easier for them to listen and follow the pronunciation correctly. They are able to practice it under the supervision of their parents and family. Examples of exercises are as shown in Figure 1 below:

Figure 1: Click on the speaker, listen to the word and choose the picture correctly



For group 2 who can recognize words, they can adapt to match pictures with words repeatedly. Examples of exercises are as in Figure 2 below:

Figure 2: Match the words and picture, Choose the correct answer based on the picture

Link to this worksheet: <https://www.liveworksheets.com/ka160705> Copy Custom link

Padankan gambar berikut dengan perkataan yang betul

Papan Kekunci

Unit Sistem

Monitor

Tetikus

Link to this worksheet: <https://www.liveworksheets.com/jn163343> Copy Custom link

Pilih perkataan yang sesuai berdasarkan gambar yang diberi

komputer meja
unit sistem

For group 3, they will click on the correct answer choice based on the given picture. They also match the pictures to the functions of the equipment. Examples of exercises are as shown in Figure 3 below:

Figure 3: Match the picture based on the devices' function

Link to this worksheet: <https://www.liveworksheets.com/jn163343> Copy Custom link

Pilih dan padankan ciri-ciri yang sesuai.

Saya diciptakan dalam pelbagai saiz. Saya juga boleh dibawa ke mana-mana tanpa wayar penyambung. Siapakah saya?

Saya diletakkan di atas meja. Komponen saya terdiri daripada monitor, unit system, papan kekunci dan tetikus. Siapakah saya?

Saya bersaiz kecil seperti buku. Saya mudah dibawa ke mana-mana. Manusia memanggil saya "Tab". Siapakah saya?

Saya bersaiz tapak tangan. Saya boleh membuat panggilan telefon mudah alih. Saya digunakan melalui skrin sentuh dan stilus. Siapakah saya?

Saya merupakan komponen kecil dalam peralatan tertentu. Saya diarahkan untuk melakukan satu pekerjaan sahaja. Siapakah saya?

In addition, such interactive worksheets take full advantage of new technologies used in education: they can include sounds, videos, drag and drop exercises, arrow connections, multiple choice and even oral exercises that pupils must perform with a microphone.

4. Results

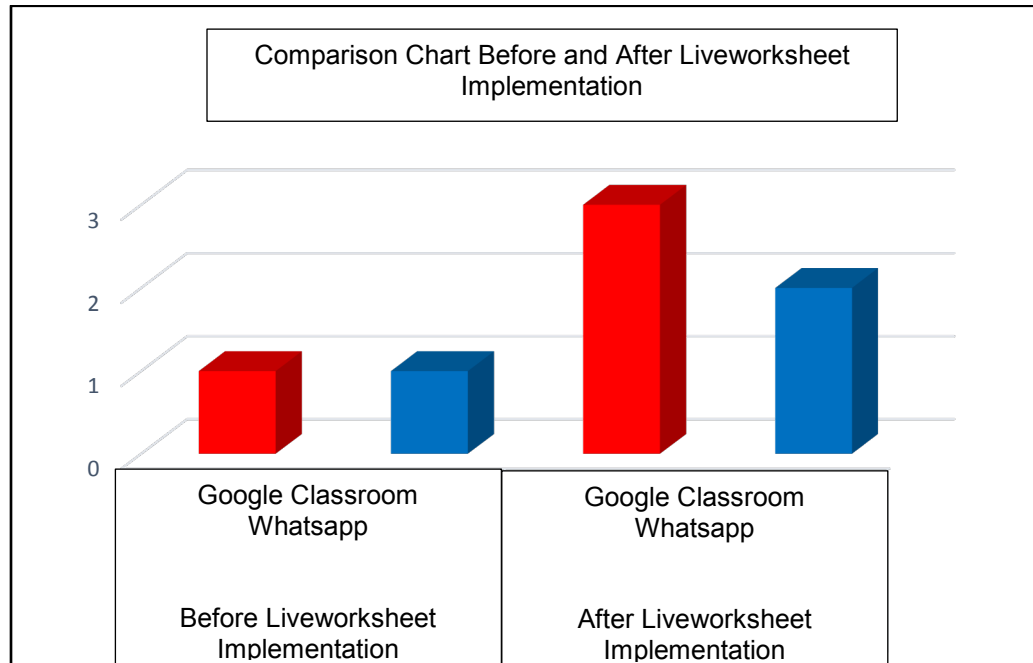
The purpose of this study was to examine the effectiveness of the digital application Liveworksheet in assignment submission among SENP in ICT subject.

Based on the observation method and assignments submitted through Google Classroom and Whatsapp, pupils were excited to submit assignments as it is fun to play while learning through interactive quizzes using this Liveworksheet platform. The data was analysed based on the frequency of assignments submission. A comparison before and after the Liveworksheet implementation can be shown based on Table 2 and Figure 4 below.

Table 2: Comparison between Submission of Assignments

Assessment	Submission Medium	Number of Pupils
Before <i>Liveworksheet</i> implementation	Google Classroom	1
	Whatsapp	1
After <i>Liveworksheet</i> implementation	Google Classroom	3
	Whatsapp	2

Figure 4 : Comparison Chart



From the data comparison of before and after the implementation of the digital application Liveworksheet showed that there was an increase in the assignment submission using Google Classroom and Whatsapp. The results of this study showed that all SENP were able to submit their assignments during home-based learning after Liveworksheet

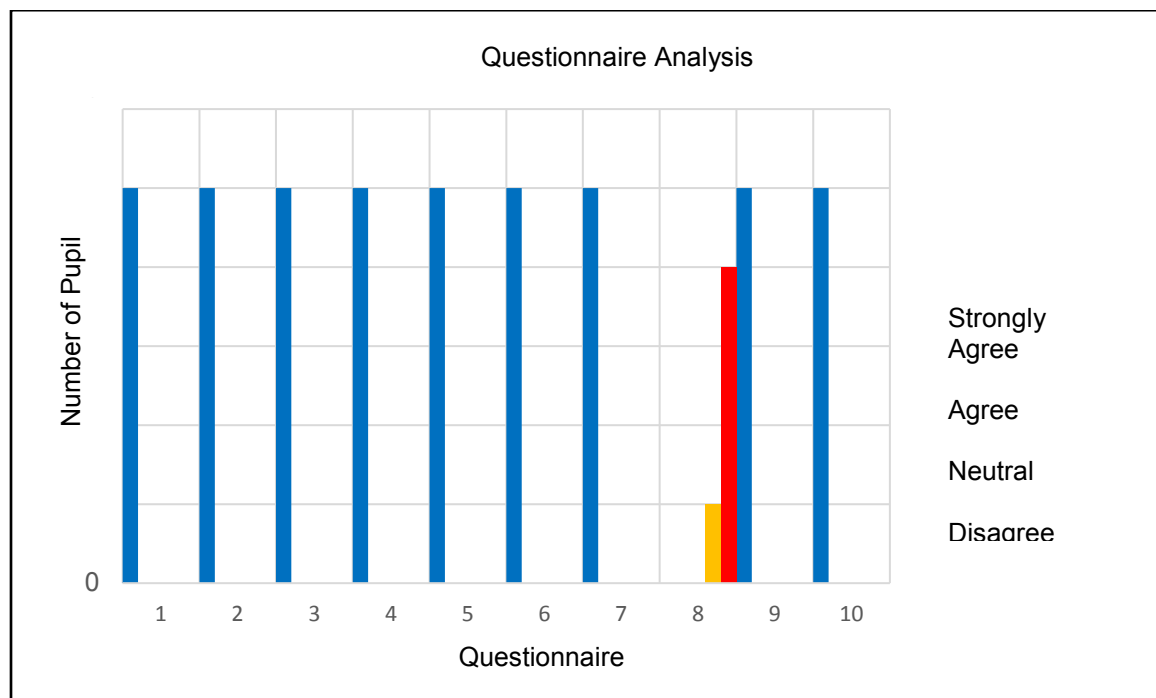
implementation. These findings corroborate the findings of Abrams and Walsh (2014), in which pupils' language acquisition increased with the use of online video games.

Previously, only one SENP submitted his assignments via Google Classroom and WhatsApp, but after the Liveworksheet digital application was introduced, all the five SENP managed to submit their assignments very well and consistently (3 SENP submitted assignments via Google Classroom while 2 SENP submitted their assignments via WhatsApp). This proves that the use of interactive quiz is effective in influencing the submission of assignments among SENP.

These findings are in line with the study of Pitchford et al. (2018) on 116 grade 1 students in Malawi who showed SENP could interact better through the use of digital applications and they were able to get past at least one topic. This shows that the use of digital applications can attract the SENP to send their assignments since they have understood the topic studied. This is supported by Kang and Chang's (2019) study in Taiwan which showed a gamification approach (digital games) helped 6 Autistic pupils to bathe without their parental assistance. This shows that the approach of using digital applications plays a very important role in helping SENP to focus better on their lesson and subsequently submit their assignments.

Questionnaires were given to SENP to identify their level of enjoyment in answering this interactive task which has influenced them to submit the assignment. In this questionnaire, five points Likert scale was used to analyse the SENP responses: 1 - strongly agree, 2 - agree, 3 - neutral, 4 - disagree or 5 - strongly disagree in the statement. This Likert scale is used because it is easier to administer the data. These findings show that all SENP gave very positive responses. Based on the analysis of the questionnaire, a histogram graph based on frequency can be shown as below:

Figure 5 : Questionnaire Analysis based on Liveworksheet Implementation



Based on Figure 5, it showed that all SENP showed positive responses (strongly agree) towards the statements except for statement number 8 which is 'I do not understand the content of learning when teacher uses Liveworksheet digital application during home learning'. One pupil disagrees and four strongly disagree. This shows that all SENP agreed and had fun with the Liveworksheet digital application during home-based learning. They were excited and happy to perform the tasks.

5. Conclusion

In conclusion, it was found that the use of this digital application is very beneficial in helping SENP to submit their assignment consistently as they are involved in play-based learning. They love to do the assignments but are unaware that the learning process takes place during playing. Therefore, teachers should be keen and creative in choosing the right teaching approach so that pupils with special needs can become skilled people in line with the Philosophy of Special Education. Digital online application actually has a positive impact on education and the findings of previous studies suggest that the gamification approach is appropriate for the teaching and learning process of students with special needs.

Online assessments are a critical part of eLearning and should be undertaken with the same level of care and rigor that put into creating the learning content. There are many software tools that allow teachers to generate engaging tasks. Teachers need to choose the way to assess pupil learning and a related tool to align needs and the results to achieve. A change in attitude can be seen where previously it was very difficult to submit assignments because they quickly got bored with printed sheets. The excitement of SENP had a positive impact on the acceptance of this new subject. Most SENP are able to answer quizzes well and submit assignments faster than before. As a teacher, creativity should play an important role in helping teachers produce fun and effective learning and teaching process especially during home-based learning. Therefore, it is good to encourage all teachers to produce interactive assignments in order to improve SENP assignment submission consistently. It's essential to use this assessment type to enable pupils to apply knowledge in a real-life situation.

References

- Abrams, S.S. & Walsh, S. (2014). Gamified vocabulary: Online resources and enriched language learning. *Journal of Adolescent & Adult Literacy*, 58(1), 49–58. doi:10.1002/jaal.315
- Amran, H. A., Majid, R. A., & Ali, M. M. (2019). Cabaran Guru Pendidikan Khas Pada Abad Ke 21. *International Journal of Education, Psychology and Counseling*, 4(26), 113-122.
- Chen, S., Mulgrew, B. and Granta, P. M. (1993). *A Clustering Technique For Digital Communications Channel Equalization Using Radial Basis Function Networks*. IEEE Trans. on Neural Networks, vol. 4, pp. 570-578.
- Fleming, N. (2020). *New Strategies in Special Education as Kids Learn From Home*. Edutopia, The George Lucas Education Foundation, March, 27.

Helen Colman (July 2020). *9 Ways to Assess Online Student Learning*. iSpring. <https://www.ispringsolutions.com/blog/8-ways-to-assess-online-student-learning>

Hill, R. M. (1997). The Single-Vendor Single-Buyer Integrated Production–Inventory Model With A Generalized Policy. *European Journal of Operational Research*, vol. 97, pp. 493-499.

Grinias, J. P. (2017). Making A Game Out Of It: Using Web-Based Competitive Quizzes For Quantitative Analysis Content Review. *Journal of Chemical Education*, 94(9), 1363–1366

Kang, Y. S., & Chang, Y. J. (2019). *Using Game Technology To Teach Six Elementary School Children With Autism To Take A Shower Independently*. *Developmental Neurorehabilitation*, 22(5), 329-337.

Liveworksheets platform website. URL: <https://www.liveworksheets.com/>

Nahmod, Diana. (2017). *Vocabulary Gamification Vs Traditional Learning Instruction In An Inclusive High School Classroom*. Theses and Dissertations.

Normah Jantan. (2016). *Penerapan Budaya Kreatif dan Inovatif Di Kalangan Pelajar Politeknik Merlimau, Melaka*: Politeknik Merlimau.

News Straits Times, 2021. 17 May 2021

Novikova Ye. B, *Using Liveworksheets To Diversify Language Lessons*, Вісник ХНАДУ, вип. 91, 2020. DOI: 10.30977/BUL.2219-5548.2020.91.0.221

Pede, Joseph, (2017). *The effects of the online game Kahoot on science vocabulary acquisition*. Theses and Dissertations. 2405. <https://rdw.rowan.edu/etd/2405>

Pitchford NJ, Kamchedzera E, Hubber PJ and Chigeda AL (2018). *Interactive Apps Promote Learning of Basic Mathematics in Children with Special Educational Needs and Disabilities*. *Front. Psychol.* 9:262. doi: 10.3389/fpsyg.2018.00262

Vidmar, R. J. (August 1992). *On the use of atmospheric plasmas as electromagnetic reflectors*. *IEEE Trans. Plasma Sci.* [Online]. 21(3). pp. 876-880. Available: <http://www.halcyon.com/pub/journals/21ps03-vidmar>