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Gear Up 2.0: The Effectiveness of Using Molecule Technique to Improve Writing Skill for Year 4: A Case Study

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Abstract

Writing skill is one of the most arduous skills to learn compared to other skills like listening, speaking, or reading. Hence, **Gear Up 2.0: Molecules Technique** was introduced to young learners. This case study was carried out in a primary school, with an experimental design involving 36 participants from Year 4. This study aims to investigate the effectiveness of using the Molecules technique to improve pupils' skills in writing simple sentences and to understand the pupils' perceptions towards the use of the Molecules technique to improve writing skills. Data was obtained through a questionnaire. The outcome of this study proves that the Gear Up 2: Molecule Technique is very effective for beginner English as a Second Language (ESL) Malaysian primary school pupils. The pupils show positive perceptions towards the use of the **Molecule Technique** in the writing of simple sentences.

Keywords: Writing Skills, Simple Sentences, English as a Second Language Classroom

Introduction

In the teaching realm, we cannot deny that language has become one of the main priorities for everyone. Based on the researchers, writing skill is pivotal in learning English, notably in an English as Second Language classroom. According to Cole and Feng (2015), writing is one of the back-breaking tasks in ESL classrooms that young learners experience. Findings from Azizah (2009), showed that English proficiency among young learners in Malaysia was low. Premilah et al (2017) claimed that writing skill is the most difficult to master as it requires pupils to think critically to generate ideas and construct sentences and paragraphs at the same time. There are some findings from Fareed et al (2016) that opined learning and teaching writing skills are quite worrying as writing skills have been neglected and are even increasingly underestimated as it is quite difficult for young learners. Some scholars also claimed that the factors that cause the issue of writing inefficiency are generally weaknesses in the systematic presentation of ideas, less structure and lack of grammatical knowledge.

Yunus and Chien (2016) supported the findings and have the same opinion that young learners have minimal knowledge of constructing sentences and have problems using suitable words and organizing their writing mechanics. Based on studies, scholars claimed that young

learners have struggled to develop their writing skills due to a lack of knowledge of writing structure. There is a basic or primary structure that needs to be remembered before a writing simple sentence and eventually develops into compound or complex sentences. Gear Up 2.0: Molecule Techniques is one of the most innovative concepts to develop writing skills. In the 4 C, education has been incorporated with 21st century learning style in teaching and learning. As a researcher, I believe that coming up with new techniques can overcome young learners' difficulties, especially in writing. Undoubtedly, combining this new technique with the 21st century learning style can accelerate pupils' understanding, instil positive vibes in beginners and engage more pupils in an English as A Second Language Classroom via novel ways so that more beginner pupils can cope. Thus, this study aims to improve writing skills through Molecule Techniques.

Objective

- a. To study the effectiveness of using the Molecule technique to improve pupils' writing skills in simple sentences;
- b. To know the pupils' perceptions towards the use of the Molecule technique to improve writing skills

Problem Statement

The transition from level 1 to level 2 is one of the biggest challenges for Year 4 pupils. This is because level 2 often emphasises four skills, which are listening, speaking, reading and writing. Some scholars stated in their findings that the amount of English used in class increases at level 2, which pressures young learners greatly because the young learners are unprepared to go to the next level. A teacher has to know how to deal with the issue and find a better solution to grasp their interest and boost their motivation to improve their writing skill.

As we all know, there are specific knowledge requirements that are compulsory for Year 4 to Year 6 pupils. They have to achieve passing grades at the end of Year 6. Most scholars claimed that the demands on pupils require the development of each ability emphasised in the core content. In addition, educators must consider each pupil as an individual learner and make effort to adopt and adapt the teaching materials to the topics in teaching and learning. Skolverket (2019) opined that teachers should be responsible to create the best possible environment for pupils' learning and achievement. Most scholars agreed and supported that teachers should have the expertise in using variant methods, techniques and approaches to support the pupils as this is crucial for the outcome of learners' achievement.

Most researchers mentioned that writing in English during Year 1 to Year 3 does not receive as much attention as the Year 4 to Year 6 syllabus since most pupils are just starting to learn writing in their first language during Year 1. There is evidence that the researchers agreed that the lack of ability to write in English might become an obstacle when starting Year 4, which was mentioned by L2. It is very sad to face the reality in which the young learners have no ideas and experience of writing simple sentences when starting Year 4. Cameron (2001) stated that young learners can only make sense of a new language within their world knowledge, which might be limited. A teacher must adapt the teaching to a level that is suitable for young learners. Based on some teachers' perspectives, it can be troublesome since the learners are from different levels of proficiency.

The second major problem that teachers faced is the fact that most of the pupils are having dilemmas in writing simple sentences. A researcher has to find the best solution to

overcome pupils' problems in writing. If pupils know the correct technique or method to write a simple sentence, they could produce longer sentences and create more detailed writing compared to writing aimlessly. Therefore, it is pivotal to determine the technique and strategy to scaffold the young learners to produce longer and more detailed simple sentences. For this study, the researcher will look into the role and the effectiveness of using Molecules techniques which include Mind Maps, Visual Aids and Wh-questions to assist Year 4 pupils in brainstorming to write a simple sentence. Sala and Redford (2012) mentioned that adapting innovation can produce good quality writing. Hence, it can be concluded that using *Molecule* techniques can enhance pupils' interest and creativity and can develop their thinking skills.

Literature review

Writing

Premilah et al (2017) defined writing skills as the language skills which are used to interact indirectly without having face-to-face interaction or two-way communication. We can say that one of the aspirations within the Standards-Based Curriculum for Secondary Schools (KSSM) is to develop students with 21st- century skills that emphasize thinking as well as life skills with the integration of values. They aim at arming students with characteristics which enable them to compete globally, one of which is thinking skills. One of the goals of ESL learners is to learn to produce a well-thought-out piece of writing with specific writing techniques, approaches, and methods that must be in place to meet the needs of the young learners.

The Aminuddin Baki Institution (2017) emphasized that in teaching and learning, there are four elements which include communication, collaboration, creativity, and critical thinking which are known as the 4C's. As an educator, I took the initiative to integrate 2C's which are creativity and critical thinking to boost young learners' interest in writing. I came up with intervention and innovation geared towards enrichment to develop writing skills among the Year 4 pupils. Here, the ***Gear Up 2.0*** version for the level two pupils is an inciting activity to improve Year 4 pupils writing skills.

Mind mapping

The mind mapping technique was first popularized by an author and consultant named Tony Buzan who was also called "The father of mind mapping". Buzan (1993) opined that mind mapping is an instructional strategy where the learners locate "supra-ordinate concepts on paper and subsequently link sub-ordinate concepts as appropriate." According to Buzan (2002), mind mapping is a creative and effective way to map our ideas when writing. In addition, there is a study that shows mind mapping is a tool that helps the user to overcome problems when reorganizing ideas and also acts as prior knowledge when writing.

Based on some empirical studies, Khushair (2016) opined that mind mapping can boost pupils' interest in writing which improves their writing skills significantly. Apart from that, there is a study that shows mind mapping as one of the most effective techniques, methods, and approaches to improve writing skills. Syeda (2016); Al Naqbi (2011), claimed that mind mapping helps learners to make sense, organize thoughts and create connections.

Based on Riswaanto and Purta (2012), indirectly emphasised the correlation between mind mapping and language subjects which improved writing for beginners. In addition, there is also a study viewed from learners' IQ which showed the correlation between mind mapping and teaching language that demonstrated impressive results especially in developing writing skills. Suyanto (2010) opined that mind mapping and teaching of languages are one of the

best combinations to develop pupils' writing skills. It will be useful and undeniably important for beginners. From different scholars, it can be concluded that using the mind mapping technique will be able to ensure maximum understanding. There is a study which has proven that using mind mapping is one of the helpful mechanisms especially in remembering and creating creative and, meaningful learning environments to develop writing skills (Gomez & King, 2014). In addition, Kele (2012) opined that young learners can assimilate themselves with the steps of writing. Firstly, they need to grasp new data, be able to think critically and also develop their conceptual schema. To sum up, some scholars believed that mind mapping is one of the crucial methods to improve writing skills.

I-think programme in Malaysia

In Malaysia, the I-Think Programme has been introduced by the Malaysian Education Development Programme. The main goal is to provide a new policy for educators in teaching and learning especially in developing writing skills. Aionon, Haniff & Goh (2016) claimed in their studies that the programme is a part of the National Education Transformation plan to mould young learners to be critical creative thinkers in learning. It is one of the ways to encourage young learners to be analytical, innovative, think out of the box and give suggestions or ideas to solve problems.

The Malaysian Education Development Plan 2013-2025 emphasises the concept of high-order thinking skills (HOTS) which is one of the platforms capable of embedding the next generation with critical and creative thinking skills. Here, thinking maps are used as a tool for teaching and learning especially in developing writing skills. On the other hand, the implementation of the I-think Programme is an effort to create a new culture or trend by fostering HOTS indirectly and nurturing a culture of lifelong learning, the ability to solve problems and the ability to generate creative solutions among the young learners.

Why it is called Molecules Technique?



Figure 1: Molecules

A molecule is defined as a group of atoms bonded together, representing the smallest fundamental unit of a chemical compound that can take part in a chemical reaction. Using scientific terms and theories for this case study in improved writing skills among young learners. Both concepts have become a backbone to the whole process of simple writing sentences.

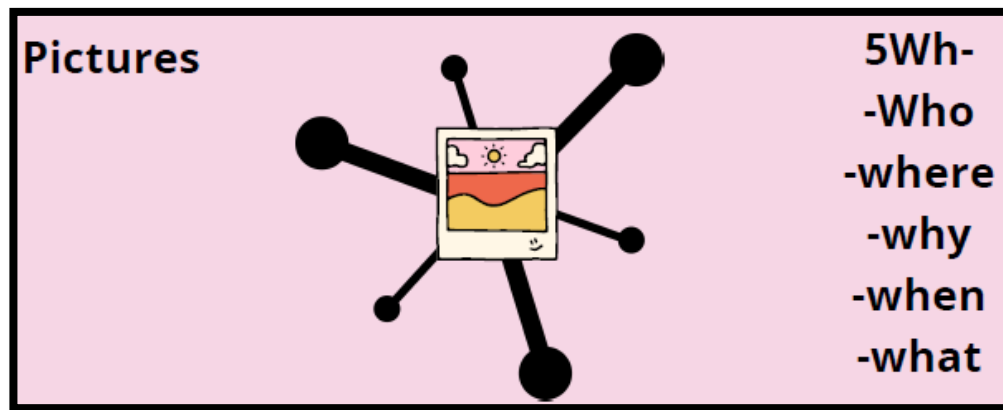


Figure 2: Gear Up 2: Molecule Technique

I came up with the idea of a combination of mind maps, visual literacy and Wh-questions.

a. Visual literacy

Different perspectives and definitions of visual literacy were given by many scholars. What is visual literacy? Wileman (1993) claimed that visual literacy is the tool to interpret and understand data or information presented in pictures, pictorial or graphic images. Hence, this innovation utilises the pictures as the nucleus of the Molecules map. The reason why a picture is chosen as the centrepiece in the Molecule Technique is because “a picture is worth a thousand words”. It is proven and shown that a picture is more effective in communication than a mere verbal description, especially for the beginners. Stokes (2002) opined that using visuals in teaching will result in a greater degree of learning. Based on Aschawir (2014), visuals can develop pupils’ writing performance. This is because pupils will use five key components which are content, organisation, vocabulary, language use and mechanics to develop their writing skills. The findings from the researcher are able to help the English as a second language learners to show interest and concentrate more on the writing task. The result of Wahyuningsih’s (2011) study highlights the positive impacts of the utilisation of pictures, especially in boosting pupils’ motivation and improving their writing performance.

Besides, Werff (2019) opined that teachers can utilize pictures for students to practice structures of simple sentences, especially for the English as a second language learners. Wright (1989) also agreed that visuals play a crucial role in developing interest and motivation, a sense of language context and also a specific reference for writing simple sentences. Most scholars agreed that using visuals is one of the simplest and easiest methods to brainstorm ideas before writing a simple sentence. Mcwan (2015) opined that pictures provide associations for writing a simple sentence. It is very convenient for the beginners to write a simple sentence with visuals. Moreover, Zarei and Salimi agreed that visuals are one of the easiest ways for simultaneous attention as the building blocks of second language learning. Furthermore, the researcher believes that the power of using visuals and Wh-questions in the **Molecule** Technique stimulates curiosity and provides rich opportunities for language enrichment. It also helps pupils to think about what they want to convey and helps pupils to decide and represent their ideas by using the **Molecule** technique. Some scholars agreed that using the Mind Mapping in Molecule technique is a very effective technique for Second Language Learners.

The reason behind adding Wh-questions in Molecule Technique

Most scholars agreed and stated that Wh-questions are one of the best approaches to improving pupils' writing skills, especially in the beginner stage. The young learners will be able to organise their ideas more efficiently to construct simple sentences. One of the researchers opined that using a mind map and Wh-questions is effective to assist students in brainstorming.



Figure 3: Wh Questions

Based on Rafika (2014), using Wh-questions is one of the best initiatives to scaffold pupils to write a simple sentence. Not only that, the pupils are able to generate ideas by answering the Wh-questions. Some scholars opined that using Wh-questions and pictures would ease the young learners. Hence, it can be said that Wh-questions would ease the pupils to accumulate ideas and guide them as they are writing a simple sentence on their own initiative. Most scholars believed that Wh-questions give visual clues and pupils can use Wh-questions to identify the information from each part of the generic structure of the simple sentence. For example, **“What, Who, When, Where and Which”** questions can be used to generate ideas to write sentences. In other words, most scholars agreed and opined that using visual, Wh-questions in the mind map is expected to improve their achievement in writing.

Bloom Taxonomy

Bloom's Taxonomy is one of the frameworks that are the most widely used in schools nowadays. The purpose of the framework is to promote higher forms of thinking in education, especially for younger learners. The researcher indirectly implemented different levels of Bloom's Molecule Techniques to composite simple sentences as it is one of the best platforms to apply prior and new knowledge in developing the questions about a picture.

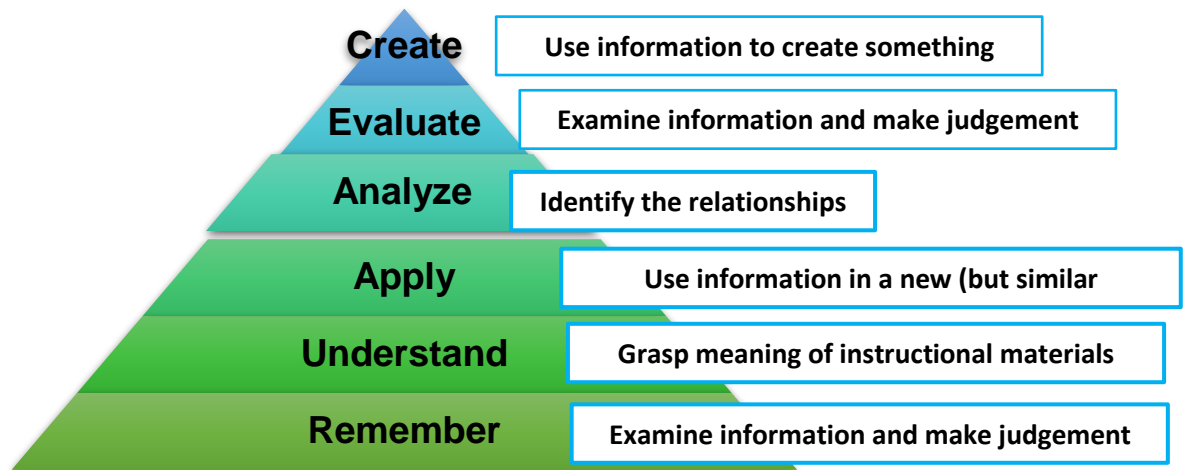


Figure 4: Bloom Taxonomy

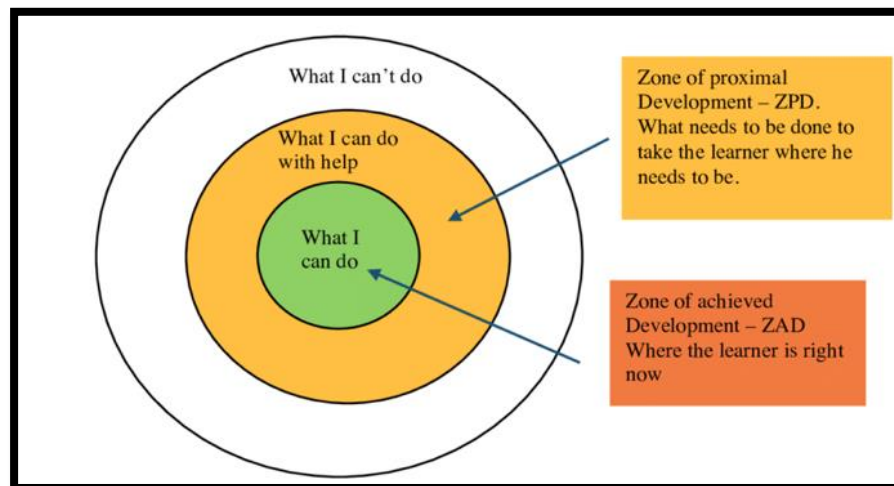


Figure 5: Vygotsky Zone of Proximal Development-ZPD

Vygotsky developed ZPD and defined it as the distance between the current developmental level as determined by independent problem-solving. Some scholars stated that ZPD acts as a problem solver or mentor to guide weak people until they master the lesson. The molecule Technique is one of the ways that the researcher directly facilitates the young learners to write better simple sentences.

Well said that the use of the Molecule Technique can provoke the pupils' interest and encourage them to actively participate in teaching and learning. It is in line with what Harmer (1998) mentioned that teachers play a vital role to increase pupils' motivation level and learners' interest.

Teachers have to play a vital role in motivating young learners (Ur, 1993). Moreover, Brown (1994) claimed motivation is an inner drive, passion, emotion or appetite or desire to move one to a particular action. Based on some empirical studies, most researchers opined that motivation is the degree of striving to achieve goals or aims. Additionally, Brophy (1998) also shared that motivation is a theoretical construct used to explain the intention, desire and tenacity of behaviour to achieve the goal or aspiration. Furthermore, Elliot et al (2000) also supported motivation as an internal state that prompts one to move on a particular path.

Hence, the researcher believes that ‘the *Molecule Technique*’ was able to radiate positive vibes and inspire young learners to write confidently.

Research methodology

The researcher will discuss methodologies which include selected participants, the research setting, design, procedures, add-ons, data-collecting procedures and instruments involved.

a. Research participations

36 students from Year 4, including 18 girls and 18 boys, were selected for this study. The researcher selected the participants of the study by using the purposive sampling technique. The researcher believed that the characteristics of the pupils were in line with the objective of this study. Most of the pupils selected either scored Band 1 or Band 2 in English writing. According to the researcher, the selected pupils were having obstacles on how to write simple sentences.

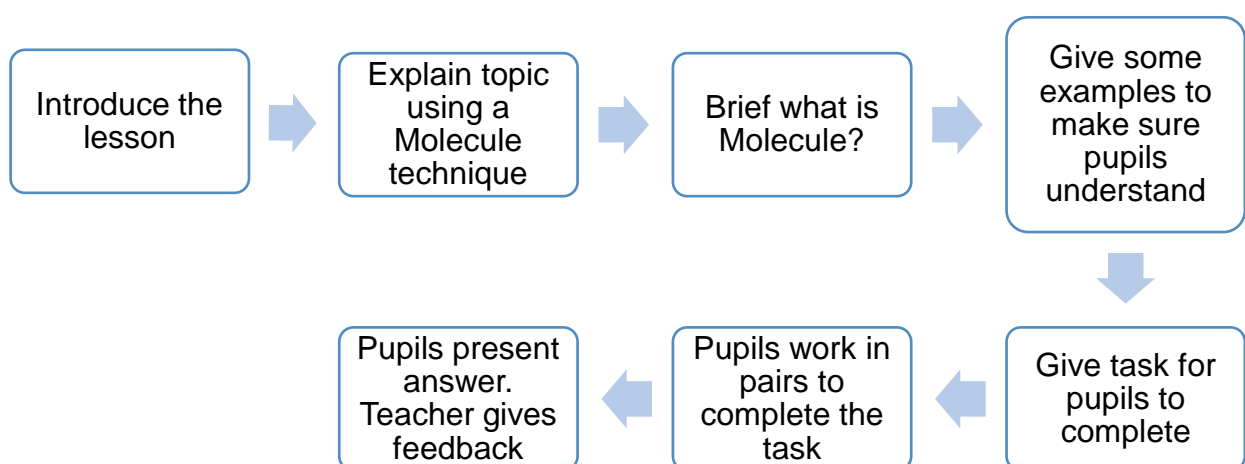
b. Research setting

This study was carried out at a National Primary School located in Jenjarom. The school was chosen for this study because the researcher works at that school. Therefore, the Year 4 learners are suitable candidates for this research, which is tailored to the learners’ English writing skills through the integration the of Molecule Technique.

c. Research design

Many studies have been conducted that exhibited the significance of using mind mapping techniques to improve writing skills (Adam et al., 1971). A case study design was chosen because the small number of pupils made it possible to give more attention to pupils who are having difficulty in writing a simple sentence. A researcher can easily keep track of pupils’ progress in writing skills.

a. Intervention procedures



Pupils will be introduced to the lesson and the topic will be explained by the teacher using a Molecule Technique. Then, the teacher will brief the idea of the Molecule Technique simply. The teacher then gives some examples until the learners understand it. After that, the teacher

randomly asks the learners to construct sentences. Later on, the learners are divided into pairs and given tasks to complete. Pupils will present their answers and the teacher will give feedback.

b. *Data-collecting procedures and instruments*

The researcher used a questionnaire to collect the research data. Most scholars believed that the research instruments selected should correspond to the data one wishes to collect based on the objective stated (Tan & Wan, 2019). The research instrument used was a five-item survey questionnaire. For this, five-point Likert scale was utilized to measure pupils' opinions and feelings regarding *Gear Up 2.0* as well as how effective the *Molecule Technique* was in helping them to write simple sentences. A *Google Form* was used to survey the questionnaire.

Findings

To study the effectiveness of using the Molecule technique to improve pupils' writing skills in simple sentences

The main aim of this study was to examine the effectiveness of using the Molecule technique to improve pupils' writing skills among Year 4 pupils. Here, the researcher decided the pupils' gender as a second independent variable. The researcher chooses 16 boys and 16 girls from the same class as the participants.

Table 1

Demographic of Year 4 pupils

Gender	Frequency	Percent (%)	Valid Percent(%)	Cumulative Percent (%)
Boys	18	16.7	16.7	66.7
Girls	18	16.7	16.7	100.0
Total	36	100.0	100.0	

The researcher collected data through the analysis of information gathered from the pupils' achievement test. The results are presented in the table.

Table 2

Means and standard deviations of Year 4 pupils' writing skill achievement

Achievement	N	Mean	St
High	20	2	7.28011
Intermediate	14	2	13.24236
Low	2	2	16.02775
Total	36		

From the analysis, the researcher highlighted that most of the pupils were able to get high achievement in writing after using the Molecule Technique. The researcher stated here that there were positive impacts on using the Molecule Technique in their writing.

To know the pupils' perceptions towards the use of the Molecule technique to improve writing skills

Next, the researcher presents the data of this study. The researcher analyses the pupils' perception of the use of the Molecule technique to improve writing skills. A Google Form was used to survey pupils' perception of writing a simple sentence. Here the pupils' results were as follows:

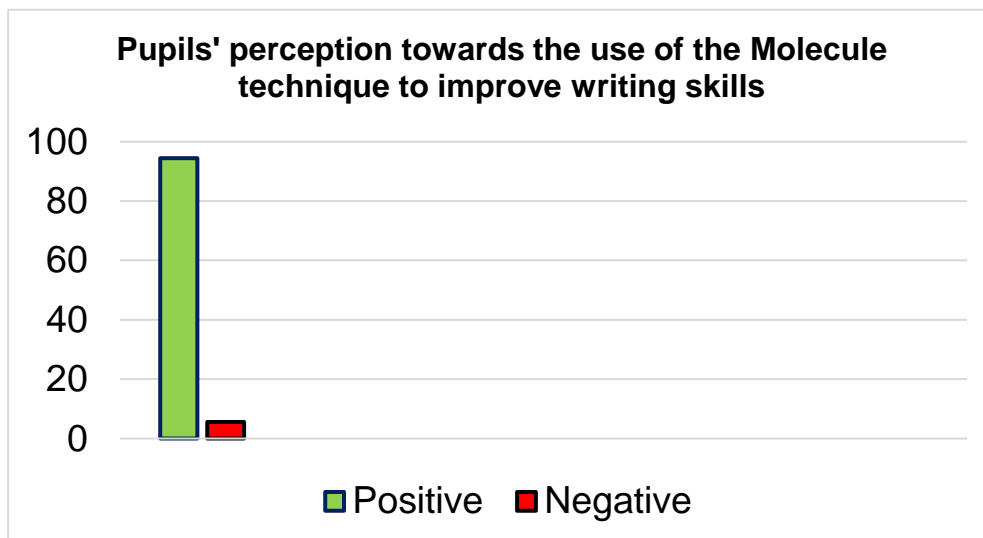


Figure 6: Pupils' perception towards the use of the Molecule Technique to improve writing skills.

The researcher identified that there was positive and negative perception of the use of the Molecule Technique in learning writing. Based on the findings, the researcher found that 34 of 36 pupils (94.4%) had a positive perception of the use of the Molecule technique in learning writing. While 2 of the pupils (5.6%) had a negative perception of the use of the Molecule Technique. Hence, using the Molecule Technique to meliorate pupils' writing skills was successful and assisted them in learning writing.

Table 3

Results of questionnaire on Pupils' perception towards the use of the Molecule Technique to improve writing skills.

Items	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q1	I know what the Molecule Technique was before this.	56% (20)	44% (16)	-	-	-
Q2	Using Gear Up 2.0 makes me understand more and also writes simple sentences.	-	-	-	22% (8)	78% (28)
Q3	Using the Molecule Technique motivates me to write	-	-	-	17% (6)	83% (30)
Q4	The molecule Technique makes learning easier.	-	-	-	11% (4)	89% (32)
Q5	I enjoy using Gear Up .	-	-	-	8% (3)	92% (33)

The data was collected and analysed to determine if the use of **Gear Up 2.0** can assist young learners to better develop their ideas, resulting in longer and more detailed writings.

Based on Table 1, 20 out of 36 participants or 56% of them strongly disagreed with item Q1 (I Know what *Gear Up 2: Molecule Technique* before this), whereas another 16 of them (44%) disagreed with the statement given. For the next item Q2 (*Using Gear Up 2.0 makes me understand more and also write simple sentences*) 28 or 78% of the participants strongly agreed with the statement, whereas 8 or 22% of them agreed with the statement. On the other hand, 17% or 6 participants agreed with item Q3 (*Using Molecule Technique motivate me to write*), whereas 30 or 83% of them strongly agreed with the statement. In addition, for item Q4 (*Using Molecule Technique makes learning easier*), 89% or 32 of the participants strongly agreed with the statement, whereas 11% or 4 of them agreed. Last but not least, 92% or 33 of them strongly agreed with item Q5 (I enjoy using the *Molecule Technique*), whereas 8% or 3 of them agreed with the statement.

The young learners displayed a great interest in using the Molecule Technique. The data provided demonstrated that the learners were more aware when using Molecule Techniques to construct sentences. The technique used was more comprehensive, especially for beginners or pupils with mixed abilities. The last item was a subjective question. Overall, the responses from the learners were positive and they had fun. Based on the survey, Pupil 1 commented "Molecule Technique provides excitement and helps me construct the ideas." Pupil 2 responded "...it's very effective and efficient for us to learn how to write a simple sentence whereas Pupil 3 commented "...it's a very new thing for me and it was easy to understand. Lastly, Pupil 4 commented, "I will keep practising myself to better write simple sentences in an essay." Through this data, it can be interpreted that learners have limited knowledge of the Molecule Technique. The usage of the Molecule techniques was new to them. Nevertheless, the learners performed well after they were introduced to the new techniques to develop their writing skills.

Discussion

The effectiveness of the *Molecule Technique* to improve Year 4 pupils' English Writing Skill

Based on data analysis, the Year 4 pupils' writing ability was enriched and the reader's attention was engaged after the use of the *Molecule Techniques* in their compositions ranging from simple sentences to descriptive writing. Their sentences were unstructured and as a result, the reader was demotivated to continue reading the sentences. The lack of knowledge to construct sentences, and their unattractive style of writing contributes to their poor proficiency level in writing skills. It is noticed and reported that when pupils used the *Molecule technique* in their writing, their performance improved significantly. The researcher believes the Year 4 pupils could transform monotonous writing into captivating occurrences, improving their writing skills. By incorporating the use of the Molecule Technique in their writing, pupils can master impressive writing skills. Some researchers opined that the right technique, approach, strategy and method can make the processes of teaching and learning more alive and conducive. It is shown by their class participation. Overall, it can be justified that, if the learners enjoy the class, they will be motivated to learn, hence it will improve their learning performance. In addition, the learners' essays connected theoretical notions, set up colours, and enhanced the magic of writing. By integrating the Molecule Technique in writing, the learners can draft their own identity, harmonize with the *Molecule Technique* and transcend their writing skills hence, transforming into better writers.

Pupils' perceptions and expectations towards Gear Up 2.0: Molecule Technique to enhance writing

Based on the evidence and findings, the learners were found to be more motivated when writing the sentences. We can identify that most participants chose "Strongly Agree" and "Agree" for all items in the questionnaire after using the Molecule Technique. When applying the Molecule Technique in writing, the young learners were conscious of using correct guidelines to construct sentences by using the **Molecule Technique**. On top of the evidence and data, the researcher revealed that most of the participants gained the confidence to write sentences. Beginners have the unbridled spirit and enthusiasm that drive them to use the **Molecule Technique** to upgrade their writing skills.

Conclusion

In a nutshell, the researcher has looked at the impact of countervailing undertaken by young learners. Using the Molecule Technique can enhance the pupils' writing. Skills. The present study highlights that a short period of practicing to construct simple sentences helped a lot especially in boosting their interest and also increasing their writing fluency. Based on these findings, the importance of focusing on the structure of sentences, constructing simple sentences and having a central spotlight solely on grammatical accuracy rather than fluency are highlighted. Further studies are required to overcome the limitation of the present study and will focus on using the Molecule Technique to write descriptive writing, free writing or creative writing.

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