

# Development of WhatsApp for English Learning at Saumlaki State High School Tanimbar Islands

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## Abstract:

The purpose of this study was to describe how WhatsApp media in teaching grammar to students and describe the issue, and action research was conducted on thirty-two second-grade students. The data were collected from a questionnaire and observation checklist to assess students' engagement and how they used WhatsApp in learning. The results indicated that in cycle one, only 22, or 66%, of the students had achieved the passing grade, while in cycle 2, 32 students, or 100%, achieved the passing grade. There was an increase of 34% in students in the second cycle. The researcher finished cycle two because the total number of the student's results was standard score minimum achievement criterion 75. The students learned better in cycle 2. The students were active and participated in learning grammar using WhatsApp as media. The WhatsApp platform had the power to increase students' instructional interaction, mainly student-student interaction, followed by student-content interaction and student-teacher interaction in the teaching and learning process directly or online using WhatsApp as media. The WhatsApp platform provides participants with an open and flexible space for communicating, expressing ideas, and exchanging information, and the critical issue is WhatsApp can help students in learning grammar.

**Keywords:** WhatsApps, Media, Grammar in context, English Learning, student-teacher interaction



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## 1. INTRODUCTION

### 1.1. Background of the research

At the moment, technology in language teaching is obsolete. Indeed, it has been around in language teaching for decades. For instance, tape recorders, language laboratories, and video have been used since the 1960s and 1970s and are still used in classrooms worldwide. The use of technology in the classroom is becoming increasingly important, and it will become a normal part of ELT practice in recent years. As it is pointed out by Gavin Dudeney & Nicky Hockley (2007) that there are many reasons for using technology in a classroom, such as; 1) English as an international language is being used in a technologically mediated context, 2) technology presents students with new opportunities for authentic materials as well as to the wealth of ready-made ELT materials, 3) the internet offers excellent opportunities for collaboration and communication between learners who are geographically dispersed, 4) technology offers new ways for practicing language and assessing performance, and 5) technology is

becoming increasingly mobile. It can be used not only in the classroom or lecture hall. Computer room or self-access can also be used at home, on the way to school, and with internet access.

Technology allows the classroom teacher –considered the 21<sup>st</sup>-century teachers - to become creative and innovative in designing the material and involving the students in using the technology. Smartphones and laptops that connect with the internet as technological innovations have valuable positive aspects in our lives. The internet is growing sustained time faster than ever. SMS massaging on the Mobile Phone is effective in helping learners enhance their vocabulary (Katz & Yablon 2011). WhatsApp is an innovative application platform in the technology available on mobile phones and computers. Since mobile phones became popular, many messaging application services have been launched, but WhatsApp has the most famous among them. WhatsApp Messenger is a cross-platform mobile messaging app that allows you to exchange messages without having to pay for SMS. WhatsApp Messenger is available for iPhone, BlackBerry, Android, Windows Phone, and Nokia; those phones can all message each other. Because WhatsApp Messenger uses the same internet data plan that is used for email and web browsing, there is no cost to message and stay in touch with friends. In addition to basic messaging, WhatsApp users can create groups and send each other unlimited images, videos, and audio media messages (Malhotra & Bansal 2017).

Most of all, WhatsApp is addictive for users to create content based on the platform's functionality. It sends and downloads messages, videos, pictures, and documents. WhatsApp can also create a group and control the online classroom. It is currently available for Android, iPhone, Windows Phone, Nokia Symbian, and Blackberry. It is easy to operate, and there is no additional cost to message friends, and other people as the users already have internet data connection on their phones. Social media communication helps people to make relationships by sending, sharing, or exchanging information ideas in certain communities and networks. It gives change and opportunities to the education (P.D.P.Adi, 2019) field among the school, classroom teachers, and students with similar or common interests, dreams, and goals.

Social media like WhatsApp can initiate the classroom teacher to design the material and activities as a supplement to classroom activities. The model can be flipped by extending the activities outside the classroom by their phone. The provision and access for the students to learn material anywhere, anytime in various content. It can increase the students' capabilities, knowledge, and collaboration. The classroom teachers and students effectively discuss and share the information. Motivate the students to learn based on their needs, make them active in learning the subject efficiently and effectively, and involve them in learning, concentrating, and remembering progressively. As mentioned, the classroom teacher should use this application in teaching and learning.

Based on classroom observations and the interview with the teachers and the student of Saumlaki State High School about integrating technology such as mobile phones and WhatsApps in EFL teaching and learning, the researcher found that the teaching and learning process was carried out in a very traditional fashion. The teacher sometimes uses a textbook. A textbook is the only source of English teaching and learning. The teaching and learning process was very teacher-centered in that the teacher played a major role in the process. The English activities include drilling, reading, answering comprehension questions, and explaining grammar, text structure, and dialogue. The teaching was sometimes carried out using the LCD, computer, and offline audio, but lack of diversity in creating classroom activities. Most of the time, students listened to the teacher's explanation and instruction. The instruction and explanations were given using English and Indonesian. In teaching grammar, the teacher usually copies the material from the books. The teacher stood in the front of the classroom and asked a question, for example, the function and form of the simple present tense, and the students answered with their own perspectives. The teacher continued to write detailed information about the tense on the whiteboard or show it on the PowerPoint presentation. The teacher distributed the exercise papers to the students and asked them to do them, and the students collected their worksheets for the teacher.

Using technology in teaching grammar will be more effective for the students because they will learn online and search for information related to the subject given by the teacher. Technology also can help the teacher to manage time and minimize the hard copy material, and the students will have reference material on their mobile phones without bringing a lot of paper into their homes. On the other hand, most students have mobile Phones. They are familiar with applications like Facebook, Youtube, Line, Electronic dictionary, Instagram, WhatsApp, etc. Unfortunately, they cannot bring their mobile phones into the classroom. Checking with the school teacher about the reason for not allowing the students to bring mobile Phones into the classroom, the teacher responded that the students would use them for interaction with friends and family, which would disturb the lesson. In a further conversation with the teacher about using a mobile phone for English language teaching and learning, the teacher responds that he has no idea about using a mobile phone for learning English.

I further showed him how mobile Phones, especially WhatsApp, can be used as media for language learning. He seemed interested in that learning model. Then I asked the teacher if mobile phones could be used for teaching. Will the students be allowed to bring their mobile phones into the classroom? The teacher responded that they could if it is used for learning. Listening to the teacher's response, I discussed with the teacher that I intend to do action research on using WhatsApp in collaborating with him.

Therefore the researcher intends to do technology research specifically on the WhatsApp application as media to teach grammar to second-grade students of Saumlaki State High School as a reference for school and classroom teachers to teach English to use WhatsApp as media. I focused on grammar because students

can practice their grammar interactively in the context. All users can use the WhatsApp platform. Those devices can interact with and message students and classroom teachers through various media such as text, images, audio, and video messages. Some previous relevant studies reported multiple findings of using technology in English teaching and learning. Aal, Parmar & Pate (2014) reported that students bring their mobile phones into the classroom to learn using WhatsApp. The classroom teacher can easily incorporate the students into the WhatsApp group. The teacher makes the classroom group on WhatsApp easier by adding the students with the phone number. Taking part in the platform of WhatsApp, the student will interact by sending the message, sending the picture, video documents, and motion symbols to reply to questions from the teacher and have interaction to comment and correct their friends' ideas.

In another study, Rambe & Chipunza (2013) stated the use of mobile devices to leverage student access to collaboratively-generated resources: A case of WhatsApp instant messaging found that the student was motivated and confident to express themselves freely and minimize the teacher center. The students enjoy learning by showing their technical skills by sharing and searching for information on this platform. Tawiah et al. (2014) conducted similar research and reported that students are interested in using WhatsApp content platforms to chat and share information more than a mobile voice call. Last, the study by Maureen & Salma (2018) and the findings showed that using smartphones in the classroom has the most positive effects on students learning the language. The classroom teachers can use and manage the teaching-learning process inside and outside the classroom. Based on the fact revealed about using WhatsApp in English language teaching and learning, the research is interested in exploring its potential more by conducting action research in collaboration with the English school teacher at second-grade students of Saumlaki State High School.

## 1.2. Statement of Problem

The limited knowledge and comprehension in education regarding the curriculum to acquire the technology in the teaching and learning process helps them to understand the material in context (Okojie, Olinzock, & Okojie-Boulder, 2006). Teaching and learning in the 2<sup>nd</sup> grade of Saumlaki State High School didn't permit the students to bring their mobile phones into the classroom because they spent more concentration on operating their mobile Phones for chatting, playing games, and browsing unaffected content; this will be disturb teaching and learning process. On the one hand, the school provided internet wires that the teacher and the students could access. Almost all the students in the second grade of Saumlaki State High School have mobile phones, but the school rules restrict bringing them into the classroom.

Unconsciously there are many applications feasible for the student to learn the language online and offline. Learning English using the Mobile Phone with the application WhatsApp as social media account, students prepare their homework, interact in the English language, create short presentations, autonomous learning, and share document, pictures, videos, and voice messages.

The classroom teacher directly teaches and interacts with students by sharing various sources regarding videos, e-books, and voice messenger.

The teacher waits for the student's response and interacts. The classroom happened online in the classroom or outside the classroom. The interest in using a specific type of technology in learning English is popular nowadays. The school requires teachers and students to use educational technology while preparing for their class assignments. The researcher assumes that Using WhatsApp as a media is an effective way regarding technology in teaching grammar to second-grade students of Saumlaki State High School.

### **1.3. Research Questions**

From the background of the research, the researcher maintains the research questions as follows:

1. How can the use of WhatsApp media promote teaching grammar in context?
2. What are the students' learning outcomes after using WhatsApp media to teach grammar in context?
3. How does WhatsApp media affect students' attitudes toward learning grammar in context?

### **1.4. Suggested Solution**

Based on the research questions, the research suggested that using WhatsApp as media in teaching grammar can help students learn the language quickly regarding standard digital technology. Also, they can perform on the WhatsApp platform among their friends and the teacher.

#### **1.4.1. Theoretical Significance**

This research contributes to this study by integrating technology in EFL teaching and learning digital technologies progressively getting their way into teenage individuals worldwide. The advantages of technology integrated into the environment; increases individual motivation and feeling involved, increased social awareness and independence, and offers opportunities for authentic target language use. Technology in teaching and learning processes improved the student learning center and autonomous learning. It can also help the teacher prepare lessons and learn due to digital technology. Technology has become a new era in the 21<sup>st</sup> century. It could be the choice for researchers in future decisions on further research in his field.

### **1.5. Scope and Limitations**

This research focuses on using WhatsApp as media in teaching grammar to second-grade students of SMA Negeri 1 Unggulan Saumlaki. The research design used is qualitative Classroom Action Research (CAR). The sample of the research is second-grade students of SMA Negeri 1 Unggulan Saumlaki. This research was done based on the phase of the cycle determined by the researcher.

## 2. THEORY

### 2.1 Development of WhatsApp Platform

WhatsApp is a cross-platform mobile messaging application allowing users to exchange messages in real-time without paying for SMS (WhatsApp, 2013). Moreover, Figure 1 is a blog diagram of WhatsApp Forming technology which consists of several components, including a Web Server, Database, Linux Kernel, CPU, and Internet environment, while Figure 2 is an example of an IoT Cloud application used by Brand Samsung Smartphone. It is available on different devices, including personal digital assistants, smartphones, and tablets. All users of those devices can interact and message each other through various media such as; text, images, audio, and video messages. Furthermore, media is anything available to distribute information from information sources to receiving information and stimulating the students to learn. Media is a source of learning components which stimulates the students to learn.

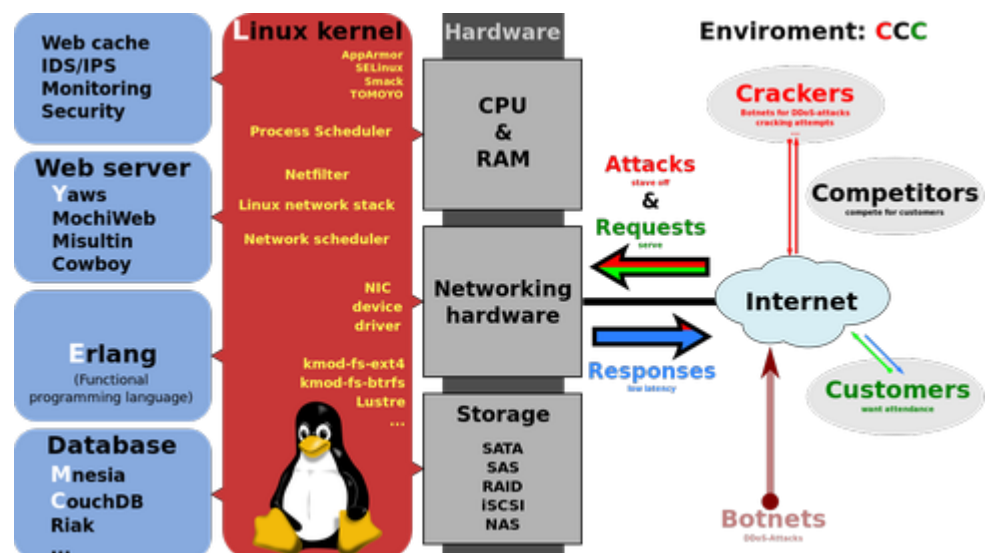


Figure 1. WhatsApp forming technology

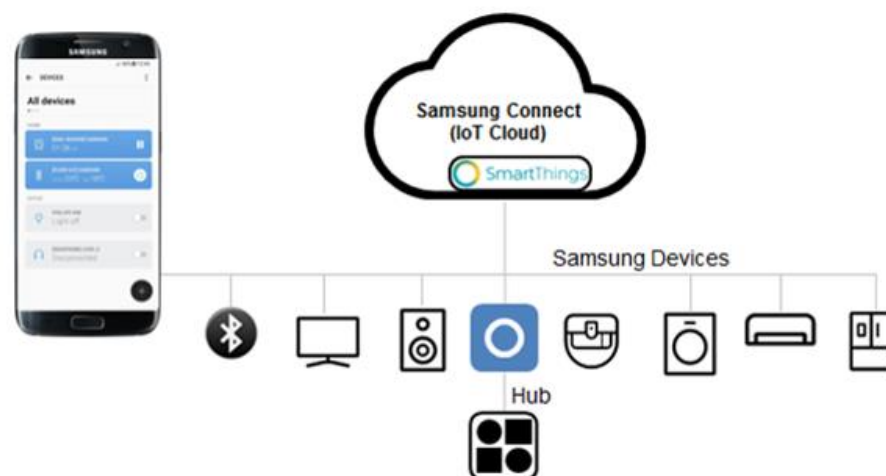


Figure 2. Samsung Connect IoT Cloud

The classroom activity will be more effective, and the classroom activities become more challenging for the learners Gagne 1979. Moreover (Brigs 2006), The things medium content of instructional that the teacher in teaching and learning process can use. Furthermore, Grammar in Context, Grammar has been variously defined in the literature. According to Fennell (2002), grammar explains how a particular language works, i.e., grammatical facts about that language. These facts are related to each other in many ways, and their relationships explain how language works. Coelho and Rivers (2003) define grammar as a set of language patterns that show relationships among words in sentences. These words are formed in different combinations to create sensible sentences. Furthermore, the Literature review discussed seven parts: language learning technology, English grammar, and the implementation, grammar in context, Using technology in teaching grammar, WhatsApp, previous research, and the concept of a framework.

## **2.2 Development of WhatsApp in the education classroom**

(Bar-Tal & Asterhan, 2017) The teacher can create the classroom activity in the group on WhatsApp, using WhatsApp directly applicable peer-to-peer sharing to study the lesson provided by the teacher, share the resources, and efficiently coordinate the collaborative task. The students can present on WhatsApp to do their various activities, communicate, or study the lesson provided by the classroom teacher. The students can also share their points of view or ideas using the WhatsApp platform.

(Bouhnik and Deshen, 2014), The classroom used WhatsApp to manage the matters. The sending the information and working the in the WhatsApp group and creating innovative learning in the positive social atmosphere in the classroom and flipped classroom, facilitating students to share the information. The teacher uses it to share the learning material and create the instruction and questions.

In the twenty-first century, education has been more affected by technology. The teaching and learning process can provide online language learning (OLL) through the web-facilitated hybrid of entirely virtual classes in the proper way regarding the curriculum. Related to the content nowadays, almost everyone around the world uses technology to communicate, browse and complete their needs. The content of the curriculum also adopts technology, and the advantage of building education is easier to access. The young generation becomes professionals in operating and using technology online and offline (R. J. Blake, 2007). Technology helps the students and the teacher enhance their teaching and learning performance. The impact of technology cures the problem for the students and the teacher in the education process. The technology also accomplished students acquire the language by browsing the resources related to the subject they will learn before the class begins with the teacher.

Technology has appeared in the teaching and learning process with different platforms, but regarding the education context—E-learning models on web 2.0 technologies. The use of technology exists, called lifelong learning or continuous form learning for the users. There are six web 2.0 technologies implemented in education institutions as follows:

1. Blogs
2. Podcasts
3. A microblog (e.g., Twitter)
4. A collaborative writing tool (e.g., Google D & S)
5. Two SNSs (e.g., Facebook and YouTube)

### 2.3. Using Technology in Teaching Grammar in Context

The student nowadays is called the digital Native, meaning that they are a generation that grew up and magnetism technology. They are familiar with the technology in the context of their social environment. They use technology to communicate and find resources to complete their needs. A lifestyle of the students in this digital era According to Eaton (2010), today's students the students, for now, days are tech-savvy. They can access the world and references at their fingertips—the creator and not perform as the users in line with tech-savvy. Technology is helpful in the teaching process and makes it easier for the teacher to prepare the teaching instrument without focusing on the hard copy, as evidenced by the traditional education belief that using technology makes it easier for the teacher to be more innovative in teaching. Old, authoritative, "teacher-centered" approaches to teaching are giving way to more collaborative and interactive techniques.

Language skill is also provided in technology; listening, speaking, reading, and writing as well as all competencies (grammatical, sociolinguistic, discourse, and strategic). The functions of technology give a lot of surplus in teaching grammar with technology more challenging for the learner in learning the language. Communication in the use of language can provide as good as well within the structure of the language in the essential point of "the system of rules and principles underlying the form and meaning of words, phrases, clauses, and sentences" (p. 1). The point of the teaching-learning process is how the students can use the language n the right rule of language. The students will be more enthusiastic and motivated to learn the language if the teacher provides the newest method and technique in teaching and learning. (Dontcheva-Navratilova, 2013), There are many technologies that learners can use to learn the language to learn grammar in the context. The teachers actively involve the students in learning grammar (Ellis, 2006, p. 84).

Grammar instruction has moved memorization of rule or dialogue and concentrated communicative competence and includes the technology and use as "the ability to communicate using readily accessible L2 technology aids, the ability to make appropriate linguistic choices in face-to-face, remote, written, oral

modes, and the ability to choose appropriate technologies for communication and language learning" (Chappelle, 2009, p. 750). Technology has many functions of challenges related to teaching grammar from a meaning-based and communicative perspective. The technology that can be used to help the students in teaching and to learn from low-tech (for example, audio recorders) through the interactive often- termed Web 2.0 technologies (for example, wikis, blogs) to high-tech options now available (for example, speech recognition, virtual reality devices or spaces) and into the increasingly intelligent options of the future (for example, gesture-based devices, digital gaming). Regardless of the technology used for grammar teaching, the trend in language education is to create innovative grammar tasks that are fully integrated into the course and use intelligent and interactive technologies.

## 2.4 Mobile Technologies for Grammar Learning

Mobile phones are prevalent communication tools used by most people worldwide. Mobile phones are also the content of applications that can use by a user for different purposes. The unique mobile phone that the users can bring everywhere they go. Cellular data and the internet are used in the mobile whether the users want to access for communication or online use the internet based on their needs. The students, as the tech-savvy, are familiar with the mobile phone. The students used mobile phones to communicate with their family, friends, teachers, or anyone they wanted to share by texting or phone calls. There are many functions of the mobile phone to help students increase their ability related to education and their need preset in education but using the mobile Phone need guidance from the teacher to educate the students on how to use a mobile phone to achieve their learning goal.

Students use mobile phones to communicate and share an idea by phone or texting, and the students can use them to enhance their language skills and ability among students. (Saadiyah, Piktialis 2013& Greenes, 2007), The students use a mobile phone to transferrin their English knowledge. Classroom-based training is one of the approaches to the knowledge transfer method. The utilization of mobile technologies in education is generally called mobile learning or simply m-learning. M-learning is introduced globally as a flexible learning approach nowadays. M- learning takes learning to individuals, communities, and countries previously too remote, socially or geographically, for other types of educational initiative (Traxler, 2009). However, Siraj (2004) estimated that the school has a huge potential to implement mobile learning in its curriculum. Mobile-based approach to teaching and learning English grammar is unique in that it allows the language learners to benefit the learning process in a ubiquitous and more personalized manner. This approach can also enrich, animate, or add variety to the conventional grammar learning method as it is digitally designed, flexible and mobile - i.e., anytime and anywhere.

## 2.5 ESP8266 Node MCU (IoT Module) and WhatsApp Connectivity

One of the Internet of Things developments or novelties is using the IoT Module. The calibrated ESP8266 Node MCU can send messages to WhatsApp. Of course, this can be done by calibrating the programming on the ESP8266. The ESP8266 module is one of the modules used to build an IoT-based system. This module is equipped with a WiFi module that can connect to servers. The essential steps that must be performed sequentially are CallMeBot WhatsApp API, Getting the CallMeBot API KEY, CallMeBot API, Installing the URLEncode Library, and Sending Messages to WhatsApp – ESP8266 Code.

Furthermore, the settings or calibration on the ESP8266 to WhatsApp are done using the WhatsApp Bot. the steps are as follows: How to Get the CallMeBot API KEY, and the picture is shown in Figure 4.

1. Add the phone number +62 xxxx xxx xxxx to your Phone Contacts.
2. Send the following message: "I allow callmebot to send me messages" to the new Contact created (using WhatsApp, of course);
3. Wait until you receive the message "API Activated for your phone number. And show the APIKEY is XXXXXX" from the bot.



Figure 3. ESP8266 Node MCU sends a message to WhatsApp

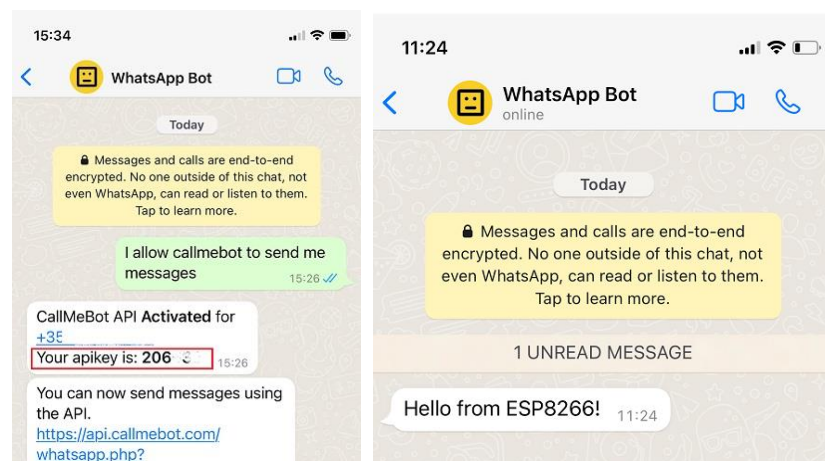


Figure 4. WhatsApp Bot and successfully message send from EP8266

```
#include <ESP8266WiFi.h>
#include <ESP8266HTTPClient.h>
#include <WiFiClient.h>
#include <UrlEncode.h>

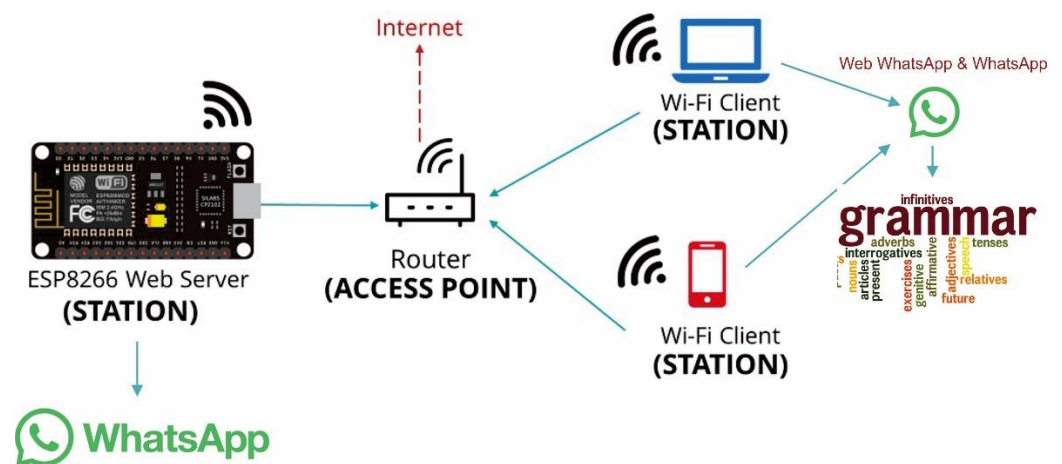
const char* ssid = "REPLACE_WITH_YOUR_SSID";
const char* password = "REPLACE_WITH_YOUR_PASSWORD";
```

```
String phoneNumber = "REPLACE_WITH_YOUR_PHONE_NUMBER";
String apiKey = "REPLACE_WITH_YOUR_API_KEY";
```

An essential thing to connect to the server is Library and Internet server connectivity, including the SSID and Password to be able to connect to the server. Furthermore, on the client side, namely the phone, it needs to be initialized on ESP8266 as a Web Server that is used to send messages, namely String phoneNumber and String apiKey, to send messages to WhatsApp automatically. Several other settings are needed to connect the Phone and WhatsApp application and the ESP8266 Node MCU; after everything is successful, a message will automatically appear on the client, as shown in Figure 4.

### 3. METHOD

Several methods are used in this research, including a technical approach to transmitting data through the ESP8266, Internet server, and client work, as shown in figure 5. The Questionnaire method includes the research design, the research site, participants, data collection, research procedure, data analysis, and study results.



**Figure 5.** Connectivity of ESP8266 in the internet server and WhatsApp on the client

Furthermore, The questionnaire used inside the classroom in this research is as follows in table 1. we immediately discuss the questionnaire. This is one of the essential methods, even though it is conventional to determine the level of success of the method used.

**Table 1.** Test Rubric Score System

Grade	Score	Category	Description
A	85-100	Excellent	Students have mastered 40 - 50
B	75-84	Good	Students have mastered 30 - 39
C	65-74	Fair	Students have mastered 20 - 29
D	55-64	Poor	Students have mastered 10 -19
E	<54	Very Poor	Students have mastered <9

Before the action, the researcher and the school teacher discussed the materials and prepared the lesson plan in which WhatsApp was used as a medium for grammar practices. The plan for the action in cycle one consists of four meetings in two weeks.

**Table 2.** The Plan for the Action in Cycle 1 in Week 1 Meeting 1

Week	Topic	Subtopic	Instructional activity	Implementation Strategy
Week 1 Meeting 1	Procedural Text	<ul style="list-style-type: none"> <li>- Noun phrase.</li> <li>- (countable &amp; uncountable</li> <li>- Action verb</li> <li>- Adverbs in procedural text</li> <li>- Language function (noun phrase and adverb of procedural text)</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Inside the classroom</b></li> <li>- Reading</li> <li>- Identify language (noun phrase and adverb of procedural text</li> <li>- Discuss vocabulary &amp; grammar</li> <li>- Construct sentences (using WA as media for practices in small groups)</li> <li>- <b>Outside the classroom</b></li> <li>- The conversation about a favorite menu for breakfast and lunch (practice grammar in context)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Inside the classroom</b></li> <li>- The teacher split the students into four groups</li> <li>- Lecturing/explanation</li> <li>- Small group discussion</li> <li>- Small group practices</li> <li>- Feed back</li> <li>• <b>Outside the classroom</b></li> <li>- Appointed the time</li> <li>- Use WhatsApps</li> <li>- The students connect to the internet at home</li> </ul>

**Table 3.** The Plan for the Action in Cycle 1 in Week 1 Meeting 2

Week	Topic	Subtopic	Instructional activity	Implementation Strategy
Week 1 Meeting 2	Tips in procedural text	<ul style="list-style-type: none"> <li>• Tips to make orange juice</li> <li>• Experience cooking food</li> </ul>	<ul style="list-style-type: none"> <li>• <b>In the classroom</b> <ul style="list-style-type: none"> <li>- Identify language (noun phrase and adverb in the text "Making Orange Juice")</li> <li>- Discuss vocabulary &amp; grammar</li> <li>- Construct sentences (using WA as media for practices in small group)</li> <li>- Discuss</li> </ul> </li> <li>• <b>Outside the classroom</b> <ul style="list-style-type: none"> <li>- Describing a process using an action verb (in WhatsApp)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Inside the classroom</b> <ul style="list-style-type: none"> <li>- The teacher split the students into four groups</li> <li>- Lecturing/explanation</li> <li>- Small group discussion</li> <li>- Small group practices</li> <li>- Feed back</li> </ul> </li> <li>• <b>Outside the classroom</b> <ul style="list-style-type: none"> <li>- The teacher split the students into four groups</li> <li>- Appointed the time to use WhatsApps</li> </ul> </li> </ul>

**Table 4.** The Plan for the Action in Cycle 1 in Week 2 Meetings 3 and 4

Week	Topic	Subtopic	Instructional activity	Implementation Strategy
Week 2 Meeting 3	Descriptive text (describe people)	<ul style="list-style-type: none"> <li>• Present tense</li> <li>• Complete the sentences</li> <li>• Using verbs in the sentences</li> <li>• Create sentences using emojis</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Inside the classroom</b> <ul style="list-style-type: none"> <li>- Reading</li> <li>- Discuss vocabulary</li> <li>- Identify verb tense</li> <li>- Practice describing favorite, important people using WhatsApp</li> </ul> </li> <li>• <b>Outside the classroom</b> <ul style="list-style-type: none"> <li>- Practice describing people (family)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Inside the classroom</b> <ul style="list-style-type: none"> <li>- The teacher split the students into four groups</li> <li>- Lecturing/explanation</li> <li>- Small group discussion</li> <li>- Small group practices</li> <li>- Feed back</li> </ul> </li> <li>• <b>Outside the classroom</b> <ul style="list-style-type: none"> <li>- Appointed the time</li> <li>- Use WhatsApp features (movies, videos, Picture/camera)</li> </ul> </li> </ul>
	Descriptive text (describe a place)			

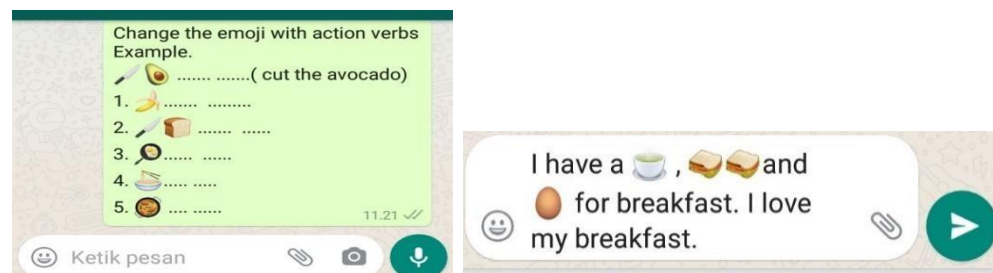
Week	Topic	Subtopic	Instructional activity	Implementation Strategy
Week 2 Meeting 4		<ul style="list-style-type: none"> <li>expressed feeling</li> <li>Agree and disagree</li> </ul>	<ul style="list-style-type: none"> <li>Inside the classroom               <ul style="list-style-type: none"> <li>- Reading</li> <li>- Discuss vocabulary</li> <li>- Identify verb tense</li> <li>- Practice describing a place using</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Inside the classroom               <ul style="list-style-type: none"> <li>- The teacher split the students into four groups</li> <li>- Lecturing/explanation</li> <li>- Small group</li> </ul> </li> </ul>

#### 4. RESULT AND DISCUSSION

The first meeting of the first cycle was conducted on February 19, 2020, from 10:55 o'clock until 11: 35 in the morning. The lesson focused on procedure text. The topic was food and drink. The teaching and learning procedure was divided into three: Pre-teaching, while teaching, and post-teaching. In the pre-teaching, the teacher brainstormed the topic using pictures and questions. The whole class discussed vocabulary related to the topic, such as ingredients, materials, nouns, action verbs (pour into, stir) adverbs (such as first, next, slowly). While teaching, students read the text. The teacher reviewed the text structure with the students. After that, the students underlined the text's adverb of time and verbs. In the next activity, the teachers explained to the student and asked them to match the words on the left and the right! the students did the task based on the instruction provided by the teacher. Later the teacher and students discuss the answer, such as four pieces, 5 cups, brown, soft, two teaspoons, fresh, white, palm, Japanese, ten pieces, and sugar, tofu, and chilies.

In the post-teaching, the teacher and the researcher ask the students to prepare their WhatsApp and connect to the internet. The students were cited in the group. Every group put their answer on the WhatsApp platform. The researcher provided instructions to the class using WhatsApp. During this time, students practice using action verbs in procedure text. The activities were about changing the memory with words or phrases, for example.

*Practice 1.* Instruction: Change the Emoticon with an action verb, for example:



(a)

(b)

**Figure 6.** (a,b) Use emoticons and verb and words/noun phrases

*Practice 2.* Instruction: change Emoticon with words/noun phrases  
Teacher: "I have a cup of tea, two slices of bread, and an egg for breakfast."

*Practice 2*

Instruction: Complete the sentence by changing the Emoticon with a word!



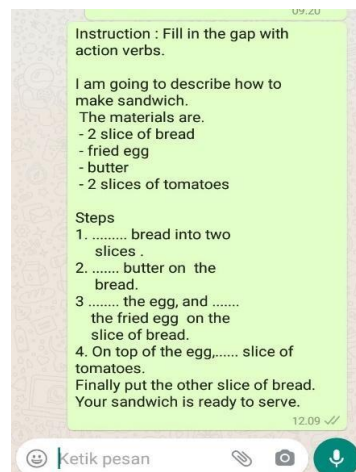
(a)



(b)

**Figure 7.** (a,b) Complete the sentence with Emoticon and other combinations

Instruction: Respond to the question Teacher: "What did you have for lunch?"



(a)



(b)

**Figure 8.** (a,b) Change Emoticon with words to describe Jokowi's family



(c)



(d)

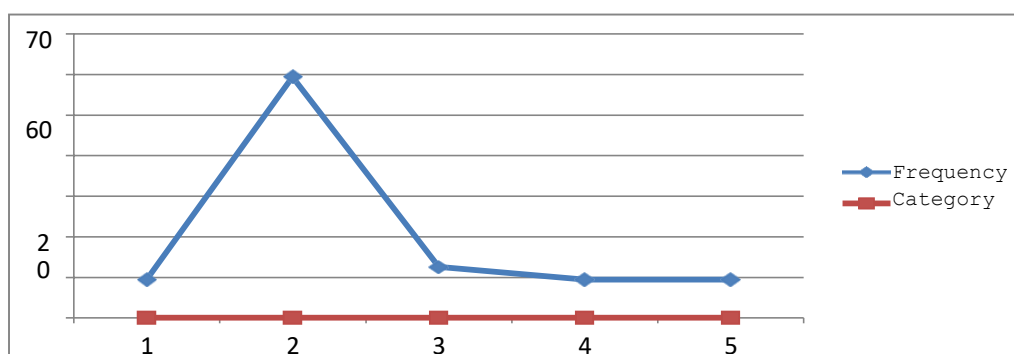
**Figure 9.** (c,d) Input image and describe objects

To investigate students' grammatical use in English, the researcher conducted the post test after the students joined the teaching and learning process and used WhatsApp as media inside and outside the classroom.

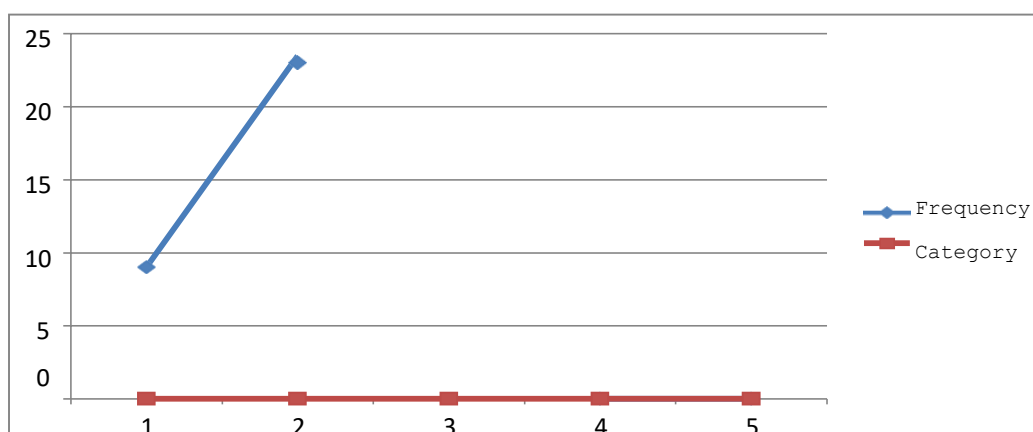
**Table 5.** Rubric Score System

Grade	Score	Category	Frequency	Percentage (%)
A	85-100	Excellent	3	9,4%
B	75-84	Good	19	59,4%
C	65-74	Fair	4	12,5%
D	55-64	Poor	3	9,4%
E	<54	Very Poor	3	9,4%

Table 5 explains that 32 students followed the post-test, there were three students (9,4%) obtained excellently, 19 students (59,4%) obtained good, four students (12,5%) obtained fair, three students (9,4%) obtained poor and three students (9,4%) who received very poor. The result of the analysis is described in the bar chart in Figure 10. and Figure 11 is a Students' Results after Test Cycle 2.



**Figure 10.** Students' Results after Test Cycle 1



**Figure 11.** Students' Results after Test Cycle 2

Furthermore, Tables 6 to 10 are the result of an analysis of Students' Cycle 1 & 2 Reflection, the development of the questionnaire inside the classroom, the

result of the questionnaire outside the classroom, and The Improvement from the Rubric Score System, The results of the analysis are described in detail.

**Table 6.** Students Cycle 1 Reflection

No	Comparator	Before action	After action	Reflection
1	Students collaborated in learning using WhatsApp	The students worked on their own and were careless with their friends	The students worked collaboratively but lack the group participation	<ul style="list-style-type: none"> <li>- The students had strong individualistic perspectives and needed to help each other.</li> <li>- Lack of comprehension used WhatsApp as media.</li> <li>- Lack internet connection</li> <li>- Lack of teacher control</li> </ul>
2	Students were enthusiastic in order on the instruction on WhatsApp	Students were enthusiastic but only for the new teacher	Students were more enthusiastic about using WhatsApp as media than before	Students who were enthusiastic and responded to feedback so much more in using WhatsApp as media.
3	Students did the assignment with the responsibility	The students who do the assignment but cheated on their friend's answer	Students answered but did not independently	Students' participation and responsibility in doing the task sharing and asking their friend's opinions.
4	Students are actively doing the assignment and interacting in the WhatsApp board.	The students were sometimes active and interacted with their friends on WhatsApp group	The students and the group who were actively interacting on the WhatsApp board were increased	The student's interaction and participation in the group and the internet connection while they worked at home

**Table 7.** Students' cycle 2 Reflection

No	Comparator	Cycle 1	Cycle 2	Reflection
1	Students collaborated in learning using WhatsApp	The students worked on their own and were careless with their friends	The students collaborated better in work and helped each other	The students collaborated very well, and they shared their knowledge with each other
2	Students were enthusiastic in order on the instruction on WhatsApp	The students were enthusiastic but only for the new teacher	The student's enthusiasm was increased significantly	The student's enthusiasm for learning English was so much improved
3	Students did the assignment with the responsibility	The students who do the assignment but do their friend answer	The students did the task autonomously and did the task better	The students incredibly did the task in the WhatsApp group
4	Students are actively doing the assignment and interacting on the WhatsApp board.	The students were sometimes active and interacted with their friends in the WhatsApp group	The students were active and interacted among themselves and the teacher on WhatsApp	The student's interaction and participation were increased in the group, and they have a connection with the internet

**Table 8.** Result of the questionnaire inside the classroom

	Questions item	Frequency	Percent(%)
1	Do you use WhatsApp to communicate?	30	93,75
2	Do you prefer to use WhatsApp for texting?	19	59,4
3	Do you use WhatsApp for texting, sharing files, videos, pictures, and send voice messengers?	24	75
4	Are you interested to learn grammar using texting platform on WhatsApp?	22	68,8
5	Do you interact with your teacher and friends, use WhatsApp?	22	68,8
6	Do you think WhatsApp can help you to share your knowledge with others?	28	87,5
7	Do you think to learn by using WhatsApp as Do media facilitate your online and offline learning?	14	43,75
8	Do you like learning by doing?	23	71,88
9	Do you prefer to communicate directly?	27	84,38
10	Do you interested to read the texting message on WhatsApp?	23	71,87

**Table 9.** Result of the questionnaire outside the classroom

	Questions item	Frequency	Percent (%)
1	Are you interested in learning the grammar on WhatsApp?	22	68,75
2	Do you get the explicit instruction from your teacher?	30	93,8
3	Do you learn the language independently?	15	46,9
4	Do you have time to prepare the task before Do you apply it on WhatsApp?	19	59,4
5	Do you feel free to create your answer on WhatsApp board?	29	91
6	Are you interested in the material provided by your teacher?	28	88
7	Do you understand well the content of the material?	21	66
8	Are you enthusiastic about learning grammar by using WhatsApp as media?	14	44
9	Do you easily read the content of the material provided by your teacher?	31	96,9
10	Do you believe that WhatsApp is the application that helpful for learning grammar?	20	62,5

**Table 10.** The Improvement from Rubric Score System

Grade	Score	Category	Post Test				Category
			Cycle 1		Cycle 2		
			Fq	(%)	Fq	(%)	
A	85-100	Excellent	3	9,4%	9	29,5%	Improved
B	75-84	Good	19	59,4%	23	71,5%	Improved
C	65-74	Fair	4	12,5%	-	-	-
D	55-64	Poor	3	9,4%	-	-	-
E	<54	Very Poor	3	9,4%	-	-	-

## 5. DISCUSSION

In this part, the researcher will explain the implementation of WhatsApp as media that could enhance students' grammar. According to Alabdulkareem (2015), the teacher and the students used smart devices to communicate with each other. Education absorbed technology as the media or tools to facilitate the students in learning. There are many applications developed to assist language learning. WhatsApp became the application that drew teachers' interest to use it in teaching. Many teachers nowadays use WhatsApp in teaching and learning processes (Arifani, Asari, Anwar, & Budianto, 2020). This technology is used to help students learn the English Language as Foreign Language by flipped classroom focused on English Language Teaching (ELT).

In this study, the teacher and students used WhatsApp, available on the smartphone, to facilitate English grammar teaching and learning. English teacher has never used WhatsApp in Saumlaki State High School to facilitate English learning. The introduction of using WhatsApp in teaching and learning has received positive responses from the teacher and students. The data from the questionnaire indicated that students were very interested to learn English through WhatsApp. They like the material and believe their English could be improved. Most students were motivated to learn. They engaged very well in learning, especially when they were put in a small group. This is similar to the findings by Nitza & Roman (2016), which also showed that learners became more enthusiastic about learning individually and in a group when the teacher created a WhatsApp group.

Hamad (2017) said that students are learning the English language by using WhatsApp "Experience Share" the technology grow-up in our life some of the applications are used to complete our needs. The result of the grammar test indicates students' improvement in using grammar. The data approved that the process of cycle two was improved and all students passed the standard score minimum achievement criteria 75, and the percentage of students' achievement was more than 80% based on the standard score minimum achievement criteria requirement.

Learning the language through WhatsApp increases the students' vocabulary comprehension and learning from their friend's mistakes. The researcher distributed the questionnaire for the student's activity inside and outside the classroom. The data show that the students a lot of students use WhatsApp to communicate. It means that the students were familiar with WhatsApp to communicate with each other and interact with students and the teacher. The students also participated in the group, and they collaborated with the group. The students use the mobile phone application to access information and enhance their knowledge. The teaching and learning process used WhatsApp in the classroom to create a group. The education principle needs to be considered in using technology in the classroom. Bouhnik, Deshen, & Gan, 2014 provided that the students interact through their mobile phones. WhatsApp is one of the application's unique features; it enhances communication in the group; according to (Mbukusa, 2018), WhatsApp has become a famous application used teaching and learning process the students learn the language using their mobile phones. WhatsApp became the instant message. It is used as a feature of the application to enhance communication within a group (Bouhnik, Deshen, & Gan, 2014).

WhatsApp facilitates students learning activities As media. Teaching and learning process to learn the language. They were using WhatsApp as media is helpful, easy, and fun. The students have motivation and inspiration when they learn material using WhatsApp as media (La Hanisi, Risdiany, Dwi Utami, & Sulisworo, 2018); The learners of the English language need to guide to build their English skills and the writing process used approaches. Learning the language and interactive online develop a prototype of the Internet Writing Resource for the Innovative Teaching of English (iWRITE) (Hegelheimer & Fisher, 2006). WhatsApp is an application on a mobile phone that is available to develop students' writing skills online. The students learn the language in a group to do the assignment (Fattah, 2015).

Technology in teaching grammar encourages the student's mindset of grammar and is more helpful in communicating (Saeedi & Biri, 2016); WhatsApp technology has been of immense value and used as a tool in teaching and learning. It could be accessed online and offline inside the classroom (Abraham & Fanny, 2019). WhatsApp group is recommended as an efficient technique to increase the student's verbal performance. The students interact in a group with their friends and the teacher (Minalla, 2018); Learning a foreign language will be effective using mobile-assisted language learning (MALL). Learning the language using WhatsApp makes learning more interesting because the students use emoticons and images to write their responses on the WhatsApp board, Soria, Gutiérrez-Colón, & Frumuselu, 2020).

## 6. CONCLUSIONS

This study has highlighted the use of WhatsApp as media in learning grammar. The result of the research showed that WhatsApp is beneficial to the student's understanding of grammar. They are using WhatsApp to allow teachers and students to communicate efficiently. This application facilitated the teacher and the students to communicate efficiently. Learning is furthered by the teacher's guidance, creating a supportive atmosphere, creating an online classroom, sharing knowledge, and inspiring dialogue. The teacher creates a WhatsApp group. The teachers make the classroom and encourage the students to provide their tasks. The teacher initiates the topic and the grammar material. The student is easy to understand the content of the lesson. The teacher used WhatsApp to improve the student's opinions, participation, and interaction in the group. Whether students' activities inside the classroom and outside the classroom. The surplus using WhatsApp makes it easy for the teacher and the students. WhatsApp allowed the students to help each other and facilitated the student's interaction and participation. The students helped one another even though some didn't understand the material's content. The students can easily ask their friends online using the mobile Phone (Bouhnik and Deshen 2014). However, as the participants, students have positive perceptions of the formal use of WhatsApp to support their learning of grammar. It can be said that the integration of WhatsApp into their education will be easy, interactive, and valuable. Students get positive feelings and intentions regarding the possible use of WhatsApp in their formal learning.

## AUTHOR CONTRIBUTIONS

Conceptualization; Piter Titirloloby [P.T], methodology; [P.T], validation; [P.T], formal analysis; [P.T], investigation; [P.T], data curation; [P.T], writing—original draft preparation; [P.T], writing—review and editing; [P.T], visualization; [P.T], supervision project administration; [P.T], funding acquisition; [P.T] have read and agreed to the published version of the manuscript.

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## CONFLICTS OF INTEREST

The authors declare no conflict of interest

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