

Volume 4 Number 2, July 2024 e-ISSN 2798-6543 p-ISSN 2798-5164

Pages: 104-113

THE EFFECTIVENESS OF WORDWALL GAME-BASED LEARNING MEDIA ON STUDENT LEARNING OUTCOMES OF SIMPLE PAST TENSES

Siti Maslahat^{1*}, Anisa Alawiyah², Ria Dewi Hudayani Sugara³

1,2,3STKIP Bina Mutiara, Sukabumi, Indonesia

Corresponding Author(S): nisaalawi@gmail.com

Abstract:

The research is "The Effectiveness of Wordwall Game-based Learning Media on Student Learning Outcomes on Simple Past Tense". This research was conducted in class IX MTs Al-Hibsiyah Lengkong. The objectives of this study are (1) To determine whether there is an effect of using Wordwall game-based learning media on student learning outcomes of simple past tense, and (2) To determine the effectiveness of using Wordwall game-based learning media as seen from student responses. This research uses pre-Experimental method, with a One Group Pre-test – Post-test design consisting of six meetings including treatment. Sampling using purposive sampling technique, with a total sample of 20 ninth grade students. Data obtained based on test instrument (pre-test - post-test) and questionnaires. The results showed that the post-test results were greater than the pre-test results, which means that students experienced an increase in simple past tense learning outcomes after using Wordwall game-based learning media. The average pre-test score obtained by students is 54.75 and the post-test is 80.75 and the acquisition of the overall N-Gain average value is 58,64%, therefore students scores have increased significantly. The average questionnaire result value is 88.50%, including the "Strongly Agree" category, which means that the use of Wordwall game is very effective to be used as a learning media for students' simple past tense. This is also evidenced by the results of hypothesis testing using Paired Sample t-test through SPSS 22, that the value of Asymp. Sig. (2-tailed) 0.000 < 0.05, it can be concluded that the hypothesis is accepted.

Keywords:

Wordwall; Gamebased Learning Media; Learning Outcomes; Simple Past Tense



Creative Commons Attribution 4.0 International License

INTRODUCTION

Advance in science technology are expected to have a positive influence on various aspects of life, especially in the progress and development of the quality of education and learning processes in schools. Education is an important foundation in the formation of human potential, and in the current context of globalization, the ability to communicate in English is key to accessing international information and opportunities. English is a highly important language given its standing as an international language that is widely used in many different industries. In the context of globalization, English language ability

is a key skill for accessing information, communicating across cultures, and increasing competitiveness in the world of work. But learning English comes with a lot of difficulties, particularly when it comes to formal education. Many influencing factors such as teaching methods, less attractive learning media, as well as differences in students' ability levels. The study aims to improve students' ability to learn English to achieve learning objectives.

While studying English, sometimes there are many problems faced by educators, especially regarding the learning process that is less than optimal. This issue arises from students' lack of interest in their studies, which makes many of them bored while learning English and produces less than ideal learning results. With the innovation in the learning implementation process, it will be a solution in overcoming problem such as reducing boredom of students in learning process. Therefore, the selection of interesting and fun learning media will be an encouragement in learning for students to participate in learning activities, in order for learning to be implemented in an effective and efficient manner.

When used properly, learning media can improve student desire for learning and be a more effective and efficient instrument for accomplishing learning objectives (Sanaky, 2009). The features of learning media can improve the learning experience in the classroom so that it can foster student learning involvement. Thus, learning media can be understood as a tool-hardware of software that teachers utilize to provide students with instruction during the learning process. According to Chang, Gwo-Dong, & Hirose, (2009) in the book "Learning by Playing" state that game-based learning is a popular way to enhance learning, as it makes learning more interactive. Learning through games is more interesting and interactive because students not just learn the material but students are active with their psychomotor which will make students not bored in learning. Gamebased learning is method to introduce elements of educational-based games as a medium that can be used in the learning process (Perrotta, 2013) This game-based learning process utilizes digital games that are used as learning media as a goal to improve understanding and knowledge, learning motivation and is also expected to be a major influence in the success of the student learning process, especially in English language learning.

Wordwall game as an interactive learning media because this game uses a combination of colours, moving images, and sounds to attract students' attention to fun English learning. Wordwall game is expected to help students understand English subject matter and increase their enthusiasm. Wordwall is an application designed to help teachers create lesson quickly (Le Tieu Thi, 2021). It provides many interactive format available in this app, such as matching, quiz, crossword, anagram, wordsearch, grouping, labelling, gapfilling and many more that can be created according to the needs material and students. Students may learn and have fun with a range of educational activities on the Wordwall website (Jonathan, et al., 2023). With their computers and other devices, students can use it with ease. Wordwall game-based learning are apps for digital game-based learning that let teachers create game-like quizzes using color, motion, and sound combinations. Students can use it easily through their devices and laptops. This wordwall game is considered user-friendly, makes it easy for people to explore their creative side, and can benefit teachers who want to get their students interesting in learning.

From the explanations above, it can be concluded that Wordwall game is one of the gamebased learning media that is used as a web-based learning media that uses a combination of colors, moving images, and sounds to attract students' attention to fun English lesson. Wordwall game is expected to help students understand English subject matter and increase their enthusiasm. Many applications can be accessed online that can help you in learning in the modern era. Wordwall game is expected to increase students' interest and can improve students learning outcomes. Learning outcomes are skills that a person receives after participating in learning activities (Hernandez, Arellano, & Cristian, 2016). Student learning outcomes include the achievement of knowledge, skills, and attitudes acquired by students as a result of the learning process at school or other educational environments. This can be reflected in academic grades, concept mastery, and students' practical abilities. In the context of English language learning, learning outcomes include students' understanding of grammar, vocabulary, listening, speaking, reading and writing. Evaluation of English learning ca involve tests, projects or activities that measure students' ability to use and understand English. The test that teachers can give can be formal or informal tests, summative or formative tests.

The goal of this study is to determine the extent to which students' learning outcomes for the simple past tense are improved by using the Wordwall game as learning tool, as well as the impact of this media on those results based on student replies. By involving technology that is engaging and relevant to the digital generation, it is expected to shift the traditional learning paradigm into a more enjoyable and effective learning experience. Thus, this research not only tries to address the challenges in improving English language skills, but also seeks to formulate innovative solutions that can increase the attractiveness and effectiveness of learning, contributing to strategic thinking with the development of relevant education according to the demands of the times. The aspect that is improved in this study is learning outcomes of simple past tense which is one part of Grammar. Grammar is one of the important parts in English language learning. Grammar is an explanation of the principles used to construct sentences as well as an explanation of the meanings that these forms express (Thornbury, 1999). Meanwhile Lin, (2010) assets that grammar is the foundation of language and a tool for improving learners' understanding of the target language. Learners can employ the systematic principles of word order and structure provided by grammar to develop their own written and spoken discourse.

Language use can rapidly become chaotic and difficult to understand without proper grammar (Brown, 2014). Basically, grammar is used in spoken and written language, so that learning English avoids grammatical errors. In English teaching and learning grammar has a huge effect in helping students to master the main target of English learning in communication. Therefore, is foundation of language, because if grammar is good then the English used will also be good. Brown and Pearson, (2010) state that we use the simple past tense when talking about actions and events that we think happened in the past. This indicates that the simple past tense describes the conclusion of an earlier actions. Simple past tense is used to express events that have happened in the past or that have passed even in the near future. For previous time, the simple past tense is most frequently used (Handayani, et al.2013). In some cases, the past tenses are used to describe situations and events in the past. In addition, the past tense has a special use in reporting speech or thought. So it can be concluded that simple past tense is a simple verb

JEdu: Journal of English Education

Pages 104-113, Volume 4, Number 2, July 2024

form to show that an event occurred in the past. Simple Past Tense is the same as Simple Present Tense and has two forms, namely verbal and nominal forms.

Based on the findings the authors' observation of MTs Al-Hibsiyah English language learners, interesting in learning is still lacking so that learning outcomes are also less than optimal. Many students are bored and even dislike learning English itself, on the basis that it's hard to understand English. Furthermore, the learning media used by teachers in less interesting, so students look bored when learning. Therefore, students English language skills are quite low and minimal. In overcoming these problems, innovation in the learning media and teaching methods will make students more excited and more enthusiastic in learning English. However, in building students' enthusiasm for learning of course, teachers must have interesting learning methods including the use of learning media. Therefore, the researcher chose to use Wordwall game-based learning media where the process involves smartphones, laptops, in focus, and so on. It is anticipated that the adoption of Wordwall game-based learning materials will enhance students' English learning outcomes, particularly in the simple past tense.

METHOD

This research method is something that must be prepared before the researcher goes directly to field. The research methodology employed in this study is a pre-experimental method using a quantitative approach, which is used to find particular therapies for other people in controlled circumstances. According to Creswell (2016: 13) when attempting to ascertain the potential causes and effect of independent and dependent variables, the experimental design is employed. This entitles making an effort to control every variable that affects the outcome aside from the independent variable. Dependent variables, rather that only independent variables, influence the results in pre-experimental research (Sugiyono, 2016: 74) The experimental class was the only one employed the study as a results. In this research design, the author will use the research design "One-Group Pretest-Posttest Design".

The study's population consisted of 75 students from three classes at MTs Al-Hibsiyah Lengkong. The sampling technique in this study was purposive sampling, a nonprobability sampling approach. In order to ensure that purposive sampling is pertinent to the research design, it is carefully chosen. Ten male and ten female students each made up the 20 samples used in this study, which came from the entire ninth grade student.

No	Class	Gender	Total of Students	
NO		\mathbf{M}	${f F}$	Total of Students
1.	VII	17	18	35
2.	VIII	9	11	20
3.	IX	10	10	20
Total num	ber of students			75

Table 1 describes the number of participants and the gender involved in each class. Class VII consists of 17 males and 10 females, class VIII consists of 16 males and 19 females, and class IX consists of 10 males and 10 females.

This research instrument will be used in the form of measuring student learning outcomes in mastery of simple past tense, so the instrument use to test there are pre-test, post-test and questionnaire. In this study, researchers used several procedures to collect data: in collecting data, researcher made observations first to find out the state of the school to be studied. The researcher then administered a pre-test, followed by the treatment, and a follow-up test in the form of a post-test. Finally, the researcher gave out questionnaires to the student in order to ascertain the efficacy of the treatment that had been administered. Researcher employed written assessments in the form of essays and multiple-choice questions on simple past tense content for this test. There were ten multiple-choice questions and ten essay question in the test, pre-test uses questions in the form of test papers in general. The researcher will administer a post-test consisting of 10 multiple-choice and 10 essay questions. The implementation of this post-test uses questions that students do through google form.

RESULTS AND DISCUSSION

Results

The aim of this study was to ascertain whether employing Wordwall Game-based learning materials significantly affects students' learning results when it comes to basic past tense content. From March 5, 2024, to May 29, 2024, MTs Al-Hibsiyah Lengkong served as the study site. This research instrument will be used in the form of measuring student learning outcomes in mastery of simple past tense, so the instrument use to test there are pretest-posttest and questionnaire. The data generated from this data analysis process are pre-test, post-test scores and questionnaire. The description of pretest-posttest data from student learning outcomes simple past tense using Wordwall Game-based learning media is as follows:

Table 2 The Comparison between Pre-test and Post-test Score

No	Subjects	Pre-test	Post-test	N-Gain	Percentages
1	Student 1	40	75	0,58	58,33
2	Student 2	60	80	0,50	50,00
3	Student 3	50	70	0,40	40,00
4	Student 4	40	70	0,50	50,00
5	Student 5	40	65	0,42	41,67
6	Student 6	55	85	0,67	66,67
7	Student 7	60	80	0,50	50,00
8	Student 8	70	90	0,67	66,67
9	Student 9	70	95	0,83	83,33
10	Student 10	50	90	0,80	80,00
11	Student 11	50	85	0,70	70,00
12	Student 12	50	80	0,60	60,00
13	Student 13	60	85	0,63	62,50
14	Student 14	40	75	0,58	58,33
15	Student 15	60	85	0,63	62,50
16	Student 16	60	80	0,50	50,00
17	Student 17	50	80	0,60	60,00
18	Student 18	75	95	0,80	80,00
19	Student 19	65	80	0,43	42,86
20	Student 20	50	70	0,40	40,00
	Average	54,75	80,75	0,59	58,84%

Table 4.1 describes the pre-test data results can be described using statistical data as follows the total number of pre-test results is 1095; Average value 54.75 and standard

JEdu: Journal of English Education

Pages 104-113, Volume 4, Number 2, July 2024

Deviation 10.572; While the post-test results are 1615; the average value is 80.75 and the Standard Deviation is 8.315. In contrast, the differential or N-Gain score, has an average of 0.59 or a percentage of 58,84%.

Below is a frequency data table of pre-test and post-test results based on the frequency and percentage results.

 Table 3 Frequency Distribution Data Pretest-Posttest

No	Interval	Classification	Frequency		Percentage	
	mtervai	Classification	Pre-test	Post-test	Pre-test	Post-test
1	86-100	Very Good	-	4	-	20%
2	76-85	Good	-	10	-	50%
3	66-75	Fairly	3	5	15%	25%
4	56-65	Poor	6	1	30%	5%
5	< 55	Very Poor	11	-	55%	-
Total			20	20	100%	100%

Tabel 2 describes the pretest-posttest results have a difference, which means the is an improve on students learning outcomes. Therefore, it can be concluded from all the pretest and post-test data that there is an increase in student learning outcomes on simple past tense material after using Wordwall Game-based learning media. So the students' ability to learn grammar on simple past tense material using Wordwall Game-based learning media is increasing, which means that this media has succeeded in improving student learning outcomes.

Next the data acquisition, researcher used a questionnaire given to students. The number of this questionnaire is 12 statements with 20 students as respondents. Below is written some data on the results of research on questionnaires that have been given to respondents.

Table 4 Respondents' Ouestionnaire Scores

No	Subjects	Scores	Max	Percentages
1	Student 1	58	60	96,67%
2	Student 2	50	60	83,33%
3	Student 3	56	60	93,33%
4	Student 4	55	60	91,67%
5	Student 5	55	60	91,67%
6	Student 6	60	60	100%
7	Student 7	50	60	83,33%
8	Student 8	49	60	81,67%
9	Student 9	59	60	98,33%
10	Student 10	55	60	91,67%
11	Student 11	52	60	86,67%
12	Student 12	50	60	83,33%
13	Student 13	51	60	85%
14	Student 14	57	60	95%
15	Student 15	55	60	91,67%
16	Student 16	48	60	80%
17	Student 17	55	60	91,67%
18	Student 18	51	60	85%
19	Student 19	48	60	80%
20	Student 20	48	60	80%
	Total		1062	

Total 1062

Average 88,50 % Description Strongly Agree

From the calculation of the results of 12 questionnaires which the author gave to 20 students of class IX MTs Al- Hibsyiah Lengkong. In the effectiveness of the use of Wordwall Game-based learning media on student learning outcomes on simple past tense material is included in the "strongly agree" category. This can be seen from the results which state that the average questionnaire value of 88.50 % is the strongly agree category. Therefore, this Wordwall Game-based learning media is very effective to be used as a grammar learning media on simple past tense material in class IX MTs Al-Hibsyiah Lengkong.

The data analysis was carried out, namely the normality test, homogeneity and hypothesis test, as for analyzing questionnaire data, researcher used validity and reliability test using SPSS 22. The data analysis is carried out based on the results of data obtained from the results of research conducted in class IX MTs Al-Hibsiyah Lengkong. The results of the analysis in this study can be seen based on the research objectives, namely as follows:

Table 5 Test of Normality

One-Sample Kolmogorov-Smirnov Test

		Pretest	Posttest
N		20	20
Normal Parameters ^{a,b}	Mean	54.75	80.75
	Std. Deviation	10.572	8.315
Most Extreme Differences	Absolute	.173	.164
	Positive	.173	.136
	Negative	140	164
Test Statistic	_	.173	.164
Asymp. Sig. (2-tailed)		.117°	.164°

Table 4 describes the significant value of Asymp. Sig (2-tailed) is larger than > 0.05 based on the results of the normality test above. Pre-test data were 0.017 > 0.05, while post-test data were 0.164 > 0.05. It follows that the data is normally distributed based on the criteria used to make the above Kolmogorov-Smirnov normality test decisions. As a results, the presumption or prerequisite of normalcy has been satisfied.

Table 6 Test of Homogeneity Variances

Levene Statistic	df1	df2	Sig.	
1.930	1	38	173	

Table 5 describes about Test of Homogeneity of Variance, the significance value (Sig.) of the student learning outcomes variable on simple past tense material is greater than > 0.05. With the amount of data on student learning outcomes 0.173 > 0.05. So it can be concluded that the data on student learning outcomes on simple past tense material in class IX MTs Al-Hibsiyah Lengkong are the same (homogeneous).

Table 7 Paired Sample t Test

Paired Samples Test									
		Paired Differences							
		95% Confidence							
			Interval of the						
			std. std. Error Difference						Sig. (2-
		Mean	Deviation	Mean	lower	upper	t	f	tailed)
Pair 1	Posttest - Pretest	26.000	6.806	11.522	22.815	29.185	17.085	19	.000

Table 6 describes about the t-count value (17.085)> t-table (1.729) and Sig. (p) (0.000) < α (0.05). These results show that the t-count value is greater than the t-table and the probability of significance is less than 0.05, so Ha: accepted and Ho: rejected. If Ha is accepted then the hypothesis reads "There was a significant effect in the use of Wordwall Game-based learning media on student learning outcomes of simple past tense in class IX MTs Al-Hibsyiah Lengkong.

Discussion

In this study, there were six meetings: two for the pre- and post-tests, as well as questionnaires, and four for treatment. During the first meeting, students took a pre-test administered by researchers to gauge their understanding of basic past tense content. Using the Wordwall Games, the researcher carried out the research treatment throughout the second through fifth meetings. Students' interest in the Wordwall Game-based learning media for simple past tense material increased after being explained, even though they were still a little unclear about how to play at the evaluation of the first treatment. Students studied regular and irregular verbs used in simple past tense sentences throughout the first treatment.

Even though they were still figuring out how to play the Wordwall games, the pupils seemed to appreciate and be interested in learning. By the time of the second treatment evaluation, the students were beginning to grasp how to use Games Wordwall for gaming. Data analysis was done following of the treatment and the post-test. The information gathered demonstrated a substantial difference in student results between the pre-test and post-test. The significant value (2-tailed) of 0.000, which is less than 0.05, lends support to this. This suggests that while Ho is rejected, Ha is accepted. This demonstrates how using wordwall games to teach simple past tense content to students can improve learning outcomes. In addition to the findings from the pre-test and post-test, the researchers also examined the information from the student questionnaire. This survey is intended to determine the impact of using Wordwall games as a learning tool on students' acquisition of basic past tense knowledge.

According to the questionnaire results, students responded well to Wordwall game-based learning materials. From the calculation of the results of 12 questionnaires related to the effectiveness of the use of Wordwall Game-based learning media on student learning outcomes in simple past tense material, which the author gave to 20 students of class IX MTs Al- Hibsyiah Lengkong. From some of the respondents' results above, it shows that all students fall into the strongly agree category. The strongly agree opinion states that students agree with all statements in the questionnaire. Therefore, students agree on the effectiveness of using Wordwall game-based learning media on simple past tense.

Furthermore, this Wordwall game can help students acquire concepts more easily, build critical thinking abilities, enhance their learning outcomes, and learn more collaboratively with one another, claim Cojocariu & Boghian, (2014). So from the results of all data shows that there was an effectiveness of the use of Wordwall game-based learning media on students learning outcomes of simple past tense in ninth grade of MTs Al-Hibsiyah Lengkong. From the explanation and data described above. The goal of the first study, which was carried out by Gilang M, Nadiroh, and Fauzi, was to gather empirical information about the Effect of Interactive Media Learning Wordwall on Learning Outcomes PPKN. The impact of interactive media learning Wordwall on students' learning outcomes is determined by the study's findings. Purwitasari conducted a second study with the goal of determining if students who use Wordwall applications for their instruction may grasp vocabulary more quickly than those who do not. The study's findings suggest that using a wordwall application can enhance vocabulary mastery. The third earlier study was then carried out by Sengaloun X, Yovi A.S., and Titik U. Finding out how well wordwall media supports the retailing film's learning objectives is the aim of this study. According to the study's findings, wordwall media can assist merchandising companies.

Based on the previous discussion, educational materials based on Games Wordwall can assist students in achieving better learning results when it comes to basic past tense content. This medium offers a wide variety of game templates that can be customized to fit the curriculum. Students learn while playing this game, which gets them engaged and enthusiastic about studying. This game is also playable both offline and online and is quite simple to operate. According to the study's findings, students find interactive learning materials like Wordwall games more appealing than traditional ones. Prior to utilizing this media, the students appeared disinterested and bores with studying English. However, students are more excited about learning now that they are utilizing engaging and dynamic learning resources like Wordwall game. Thus, it can be said that using Wordwall game-based learning media to teach English is highly successful, particularly when teaching simple past tense content.

CONCLUSION

Based on the research finding and discussion, the researcher can conclude that using Wordwall games as a learning media has a beneficial effect on student learning outcomes of the simple past tense in MTs Al-Hibsiyah Lengkong's ninth grade. Improvement student learning outcomes of simple past tense after learned using Wordwall game based learning media. It can be seen the average results of the students' pretest and posttest how this, 54.75 was the average score for students on the pretest, and 80.75 was the average score for students on the posttest. Based on the hypothesis test results "Paired-sample ttest" show that the significance value is 0.000 < 0.05, which means Ha is accepted and Ho is rejected. From the results of the calculation of the questionnaire that the author gave to students, that the average value of the questionnaire is 88.60% which is a "strongly agree" category. Therefore, there is a positive effect of using learning media based on Wordwall Games on student learning outcomes of simple past tense. Therefore, Wordwall gamebased learning media can help students achieve better learning outcomes in simple past tense.

Suggestion

JEdu: Journal of English Education

Pages 104-113, Volume 4, Number 2, July 2024

Based on the conclusion in this research, the researcher gave some suggestion there are:

- 1. The researcher suggested that English teachers apply Wordwall Game-based learning media as an alternative media to teach students.
- 2. Students should be very motivated and enthusiastic about learning English, especially when it comes to basic past tense grammar.
- 3. Students must actively engage in the process of learning English in class by posing questions, providing answers, engaging in discussion, and helping others, especially when it comes to mastering the simple past tense.
- 4. The content in the simple past tense, including the vocabulary and usage of V₂, should be better understood by the students. Additionally, they must to be able to form simple past tense phrases correctly.

Researchers suggest to future researchers to use this research as a reference or source of information for the same research problem, which contains the effect of using Game Wordwall-based learning media on student learning outcomes on simple past tense material.

REFERENCE

- Brown, H. D. (2014). Priciple of Language Learning and Teaching. Ally & Bacon.
- Chang, M. R., Gwo-Dong, K. C., & Hirose, M. (2009). Learning by Playing Game-based Education System Design and Development. Banff, Canada.
- Cojocariu, V. M., & Boghian, I. (2014). Teaching the Relevance of Game-Based Learning to Preschool and Primary Teachers. Procedia - Social and Behavioral Sciences, 142. doi:10.1016/j.sbspro.2014.07.679
- Creswell, John W. (2016). Research Design, Pendekatan Metode Kualitatif, Kuantitatif, da Campuran. 4th es. Yogyakarta: Pustaka Belajar.
- Handayani, N., Isyam, A., & Firawati. (2013). Teaching Learning Processes Simple Past Tense and Simple Future Tense and Their Perception. Journal of English Language Teaching, 1(2).
- Hernadez, A. F., Arellano, P. P., & Cristian, J. M. (2016). The Learning Outcomes in the Study Program Formal of School Subjects Belonging to the General Training Area at UJAT: A Syntactic and Semantic Analysis. Acotaciones.
- Jonathan, B., Zou, G., Tabroni, I., Malia, J., Nurmayanti, N., & Arthaningtyas, K. (2023). Optimizing the Use of Wordwall Educational Games Aplication. JETE: Journal *Emerging Technologies in Education, 1*(3).
- Le Tieu Thi, P. (2021). Incorporating Internet-Based Application in Teaching Integrated Language Skills to EFL Students. Advances in Social Science, Education and Humanities Research 533, 49. 48-52. DOI: 1.02991/assehr.k.210126.006
- Lin, H. C. (2010). "A Case Study: An ESL Teacher's Beliefs and Classroom Practices in Grammar Instruction". Unpublished Thesis, Kent State University, Kent, Ohio, USA.
- Sugiyono. (2016). Metode Penelitian Kuantitatif, Kualitatif Dan R & D. Bandung, Jawa Barat, Indonesia: ALFABETA cv.
- Thornbury, S. (1999). How to Teach Grammar. England: Pearsond Education Limited. Retrieved March, 16. 2021. https://journalnerhct.files.wordpress.com/2024/09/how-to-teach-grammar-scottthornbury.pf