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Effect of Utilization of VFTs on Teaching and Learning History and Government in Murang'a County in Kenya

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Abstract

The adoption of Virtual Field Trips (VFTs) as a teaching method has provided opportunities for learners to virtually visit historical sites for learning. However, the effects of utilization of VFTs in instruction on students' performance in History and Government had not been sufficiently researched and documented in Kenya. Therefore, the essence the study was to establish how use of VFTs in teaching and learning affects learners' academic performance in History and Government in Murang'a County in Kenya. The study was guided by Technological, Pedagogical, and Content Knowledge Theory and adopted a Quasi-Experimental Design targeting 35 public sub-county secondary schools with a target population of 3,329 respondents. Schools and teachers were purposively sampled while learners were randomly selected. A sample size of 372 respondents made up of teachers and form one learners of History and Government took part in the study. Research instruments used were learners' questionnaires, interview schedules for teachers, History and Government Assessment Tests, and classroom observation schedules. Piloting was done on all research instruments and reliability accepted r=0.657. Statistical Package for Social Sciences (SPSS) was used to analyze data for descriptive and inferential statistics. The study found that use of VFTs significantly affected learners' academic performance at t (365) = 15.50, p=0.00. The study recommended teacher training institutions to equip teacher trainees with skills to exploit VFTs in teaching. A VFT teaching guideline was developed to assist teachers in preparation and use of VFTs for instructional purposes to improve teaching and learning for better academic performance.

Keywords: *Virtual Field Trips (VFTs), Instruction, Performance, and, Learning*

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1.0 Introduction

Teachers of History have frequently used the lecture method of teaching although it is non-interactive, dull, and unexciting (Mwathwana et. al, (2014). This continued use of the lecture method in teaching History has limited the development of learners' critical thinking and analytical skills that are necessary for a historian. The use of Field Trips has been one of the most appropriate methods of teaching history (Achieng, 2021). Field Trips can bring life into a history class by observing activities and events that mankind went through within a specific time frame. Taking learners on a Field Trip exposes them to real-life and multi-sensory based experiences that inspire them to actively participate in learning (Han, 2021). Such experiences would motivate learners to learn thus improving their academic performance.

The utilization of Field Trip as a method of teaching has been limited by the financial cost implications, planning logistics, time, participation by learners with disabilities, safety, and management of learners (Cheng & Tsai, 2019). These challenges have restricted the use of Field Trips in teaching history. Nevertheless, since Field Trips are very important in teaching History, Information Communication Technology (ICT) can be used to fill this gap. Therefore, Virtual Field Trips (VFTs) would be the best available option for effective teaching and learning of History and Government.

2.0 Literature Review

The utilization of VFTs in instruction has enabled teachers of History to design lessons that are interactive, entertaining, and engaging (Cheng & Tsai, 2019). Such lessons enable learners to develop critical thinking skills that act as a foundational base for conceptualizing historical concepts rather than practicing rote learning (Hehr, 2014). The usage of VFTs in teaching and learning History allows learners to hold discussions with each other and identify connections in historical issues to analyze historical situations for clearer understanding by using technology (Rahman, 2014**)**. Thus, utilization of VFTs in teaching and learning can enhance learners' understanding of the content being taught thereby improving their academic performance. Consequently, the use of VFTs in teaching and learning History provides teachers and learners with ease of access to a variety of historical resource materials. Such resource materials may be used to evoke and develop learners' historical inquiry skills as they learn as well as meet their individual needs (Han, 2021). Also, the use of resource-based VFT materials for instruction can bring out historical issues in engaging sessions that foster collaboration among learners as well as develop historical thinkers, (Amengor, 2017). Additionally, through the use of VFTs, modern teachers of history can adopt learner-centred teaching approaches that enable learners to develop and understand the taught concepts. However, even though VFTs can make instruction lively and interesting, Mwathwana et. al, (2014) and Veeraragoo (2018) noted that to some extent, the teaching of History has sometimes been dull, boring, and unexciting as a majority of teachers of History are yet to embrace ICT in teaching.

Nevertheless, in as much as teachers in some countries have embraced use of VFTs in instruction, of History, the biggest challenge has been in preparation and use during classroom teaching (Amengor, 2017). Research indicates that effective use of VFTs in teaching and learning History in the USA has been achieved through the government's ability to train teachers to use ICT and, supplying and maintaining the required infrastructure and tools. Also, in Malaysia, there has been continuous training of teachers to creatively use ICT to utilize VFTs in teaching and learning (Buabeng-Andoh, 2012). Such government support practices have also been observed in schools in Australia, the Czech Republic, France, Britain, Hong Kong, China, and Hungary where there is vibrant use of VFTs in teaching and learning (Dutta, 2018). On the contrary, studies done in Brazil, Greece Sweden, Turkey, Sri Lanka, the Philippines, and India have indicated that there is limited use of VFTs in teaching and learning in schools. This has been limited by poor ICT infrastructure, planning, and lack of skills by both teachers and learners, (Adu & Olatundun, 2013). Such observations are indicators that VFTs have not been adequately utilized in instruction in these countries. Studies from these countries have indicated that there is a need for teachers to be trained in technological skills to enable them to develop good teaching and learning resources and use the internet to access more online materials (Mead et al., 2019). This would enable teachers of History to develop VFTs that allow learners to use multiple sensory abilities to understand taught concepts (Kenna & Potter 2018). As such, effective utilization of VFTs depends on teachers' ability to exploit technology meaningfully to organize teaching and learning resources.

In Africa, studies indicate that for a long time, teachers of History have taught through lectures, presentations, and tutorials to enable learners to rehearse the content taught (Achieng, 2021). However, the use of VFTs for instructional purposes has brought in a new paradigm shift in pedagogical approaches such that few teachers of History in Nigeria and South Africa have been able to use multimedia formats such as videos and animations to prepare asynchronous VFTs that make learning authentic to enhance learners' performance (Ayeni & Afolabi, 2012). Nevertheless, teachers of History in these countries have not delved fully into the use of VFTs to cover actual Field Trips that have become expensive to undertake. This is an indicator that VFTs are yet to be embraced by many as the best option to cover the diminishing use of actual field trips for teaching and learning History.

In Kenya, there was limited literature on the use of VFTs in teaching and learning History and Government. The history of man's past activities can be reconstructed from historical sites (Mead et al., 2019). However, undertaking actual Field Trips to historical sites is an expensive venture. Institutions or learners would have to incur the cost of transport by hiring or fueling buses from schools to areas planned for visits (Langat, 2013). Accordingly, (Kelfine, Maiyo & Okere, 2018) were of the view that logistics for planning Field Trips such as pre-visits, permissions to grant access, entry fees, and support staff during and while on the learning site have enormous financial implications. Besides, a Field Trip may take a whole day or days as students are out of school thus eating on instructional time for other subjects. These challenges were noted to limit teachers from taking learners on Field Trips. Therefore, this offers an opportunity for teachers to use VFTs through which learners can contextualize, recreate, and relive historical places, activities, and events for clearer understanding thus concretizing learning (Zhao et. Al., 2022). Since the use of VFTs in instruction has been noted to concretize learning of abstract concepts and bring reality to the learners in the classroom, it was necessary to examine their effects on learners' academic performance.

3.0 Methodology

The study used Quasi-Experimental Design to establish cause-effect relationships (Kumar, 2018). The design was used to collect qualitative and quantitative data from learners questionnaires, interview schedules, History and Government Assessment Tests and classroom observations schedules to support the study conclusions. The study had two groups: experimental and control groups. The experimental group was exposed to the treatment of teaching through a Virtual Field Trip (VFT) in Form One History and Government. The control group was not exposed to treatment.

3.1 Sampling Techniques and Sample Size

Murang'a County has thirty-five (35) public sub-county secondary schools that had ICT infrastructure and devices since 2012. To get a manageable group, purposive sampling was used to identify four (4) schools for the study. Further simple random sampling was applied to put the selected schools in two groups; control and treatment groups. Purposive sampling was done to identify one (1) History and Government subject head from each of the identified schools to take part in the study. Further, purposive sampling was applied to identify two (2) teachers of History and Government whose classes had been identified for the study. Lastly, two (2) classes of form one learners of History and Government in each sampled school were randomly sampled to take part in the study. Table 1 gives a comparison of the target population to the samples of the study.

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Table 1: Target Population to Sample

S/No	Description	No of Schools	Sample size	% sampled
1	Schools	35	4	11.4%
2	Teachers	89	12	13.5%
3	Learners	3,240	4 schools x 2 classes of approximately 45 learners = 360	11.1%
4	Total population	3,329	372	11.2%

Source: Murang'a County Office

Table 1 indicates that four (4) schools were derived from the entire Murang'a County to be used in the study. Two (2) schools were involved in the study as the control group while the other two (2) were in the treatment group. One (1) History and Government subject head from each school under study and two (2) teachers from each identified school were involved in the study thus a total of twelve (12) teachers. Also, two (2) classes of approximately forty-five (45) form-one learners in each of the identified schools participated in the study either as a control or treatment group giving a total of three hundred and sixty (360) learners. Therefore, the total sample size was three hundred and seventy-two (372) respondents.

3.2 Research Instruments

These are tools that a researcher uses to collect, measure, and analyze relevant, suitable, and necessary data for the study to safeguard the integrity and sustenance of research questions (Kumar, 2018) and minimize errors likely to affect the results and ensure accuracy and informed decision-making (Cohen, Manion & Morrison, 2013). In this study, four self-constructed research instruments were used. There were questionnaires for learners of History and Government, interview schedules for teachers of History and Government, History Government Assessment Tests, and, classroom observation schedules. The varied instruments were for triangulation and to complement research findings to make valid conclusions and compensate for insufficient data.

3.3 Piloting

Piloting was done to establish the suitability and adequacy of research instruments used in the study (Mugenda & Mugenda, 2012). In this study, the questionnaire, interview schedule, History and Government Assessment Tests and classroom observation schedule were piloted. During the study, two form one classes with 94 learners were purposely sampled for convenience purposes. The chosen schools were excluded from the actual study. Piloting helped to determine if the research instruments were in tandem with the study objectives and identified ambiguities and inconsistencies. Similarly, piloting also assisted in the review of language used, wording of statements, and their relevance with the sole purpose of revising and modification for clarity of the instruments to ensure they are valid for data collection. Further, the reliability of research instruments was by interrogating responses from two different visits and comparisons made using Pearson's Correlation Coefficient. A reliability of r=0.657 was established.

3.4 Logistical and Ethical Considerations

Researcher got research authorization from all the relevant offices. To ensure proper ethics, all sources of information have been acknowledged and given citations where necessary. Ethics was also observed during data collection, analysis, and reporting of the study findings. Respondents were informed of their free will to take part in the study. They were also assured that their names would forever remain anonymous, and any information given was used for research purposes only. The researcher was objective on any information given, avoided bias in the study, and used appropriate research methodology to draw correct conclusions. Finally, interpretations were done as per the data collected from the field and studies conducted by other scholars.

4.0 Result and Discussion

The generated data was interpreted and analyzed to derive discussions for the study. The discussions were intended to examine the effect of utilization of VFTs on learners' performance in History and Government.

4.1 Instruments Response Rate

There were several research instruments that were used in the study. They included learners questionnaires, interview schedules for teachers, History and Government Assessments Tests, and classroom observation schedules. The instruments were administered to teachers and learners for purposes of data collection and triangulation of the findings. The response rates of the research instruments used in the study were as in Table 2.

Table 2: Research Instruments Response Rate

	Description	**Learners**		**Teachers**		
S/No	Instruments	Population	Sample	Population	Sample	Percentage
1	Questionnaires	381	381			100.00%
2	Tests	396	367			92.68%
3	Interviews			12	12	100.00%
4	Observations			4	4	100.00%

Table 2 shows that three hundred and eighty-one (381) form one learner of History and Government were issued with questionnaires which were collected immediately after completion of filling. Also, three hundred ninety-six (396) form one learners were given pretests and posttests and three hundred and sixty-seven (367) did both tests giving a completion rate of 92.68%. The questionnaires and test return rates were high enough for data analysis. Further, all the teachers who were anticipated to take part in the interviews were available and did the interviews willingly from the start to the end. Consequently, four (4) classroom lesson observations were conducted as envisioned.

4.2 Demographic Data

The study intended to establish the demographic information of teachers and form one learner of History and Government. Their distribution was as follows:

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4.2.1 Demographic Information of Teachers of History and Government

The teachers' demographic information sought to establish their gender. Table 3 shows the findings from the respondents

Table 3: Demographic Information of Teachers of History and Government (N=12)

S/No	Description		Male	Female	Total
1	Sex		5	7	12
2	Age	Below 30 years	1	2	3
		31 to 40 years	2	3	5
		41 to 50 years	1	2	3
		Above 50 years	1	0	1
		Total	5	7	12
3	Teaching Experience	Below 10 years	2	3	5
		11 to 20 years	2	3	5
		Over 20 years	1	1	2
		Total	5	7	12
4	Interviews	Population	5	7	12
		Respondents	5	7	12
		Total	5	7	12
5	Lesson observations	Population	2	2	4
		Respondents	2	2	4
		Total	4	4	4

Table 3 shows that five (5) male teachers and seven (7) female teachers were involved in the study. From the table, it is clear that both male and female teachers were almost evenly distributed in teaching History and Government in form one classes in the schools under study thus fair representation of gender in the study. Additionally, it was necessary to establish the age of teachers involved in the study. From Table 3, it indicates that three (3) teachers had ages below thirty (30) years and five (5) were between 31 and 40 years. Similarly, three (3) teachers had ages ranging from 41 to 50 years while one (1) was above 50 years. Consequently, the teachers involved in the study had a blend of experienced and less experienced professionals. From the data, five (5) teachers had taught for less than 10 years, while five (5) had taught for between 11 to 20 years and two (2) had over 20 years of teaching experience. Further, twelve (12) interviews were conducted where five (5) teachers were male and seven (7) were female. Lastly, four (4) classroom observations were conducted and both genders had a representation of two (2) teachers. Therefore, from Table 3, it was clear the gender involved in the study was

well-balanced. Secondly, the teachers involved had ages spanning across the years of the teaching fraternity as expected. Thirdly, teachers with diverse teaching experience were involved in the study. Thus, teachers' representation in the study can be said to have been appropriate to give reliable information. Lastly, all teachers who were targeted to take part in the study were available and willingly took part in interviews and lesson observation.

4.2.2 Demographic data of the learners

Form one learners were sampled for this study. All the learners in each sampled school took part in the study since History and Government is a compulsory subject in form one. Their representation is as indicated in Table 4.

Table 4: Demographic Information of the Learners

Gender	Respondents	Tests (%)	Respondents	Questionnaires (%)
Male	188	51.2 %	156	46.6 %
Female	179	48.8 %	179	53.4 %
Total	367	100.0 %	335	100.0 %

From Table 4, it is clear that 188 boys (51.2%) and 179 (48.8%) girls took tests before and after the teaching and learning process. Thereafter, questionnaires were administered and after cleaning, 156 (46.6%) of the boys and 179 (53.4%) of the girls were observed to be valid for data analysis. From the study, both genders were well represented during the time the tests and the questionnaires were administered. Also, it was noted that the number of boys who took the tests was more than those who completed the questionnaires fully. This implies that there was a possibility of several boys missing classes in comparison with the girls.

Distribution of Control and Treatment Groups

Consequently, the study was intended to establish the effects of VFTs on learners' academic performance in History and Government. The findings on the effects of VFTs on learners' performance were generated from learners' pretest and posttest assessment results. To achieve this, schools were randomly categorized into control and treatment groups. The groups were categorized as Figure 1.

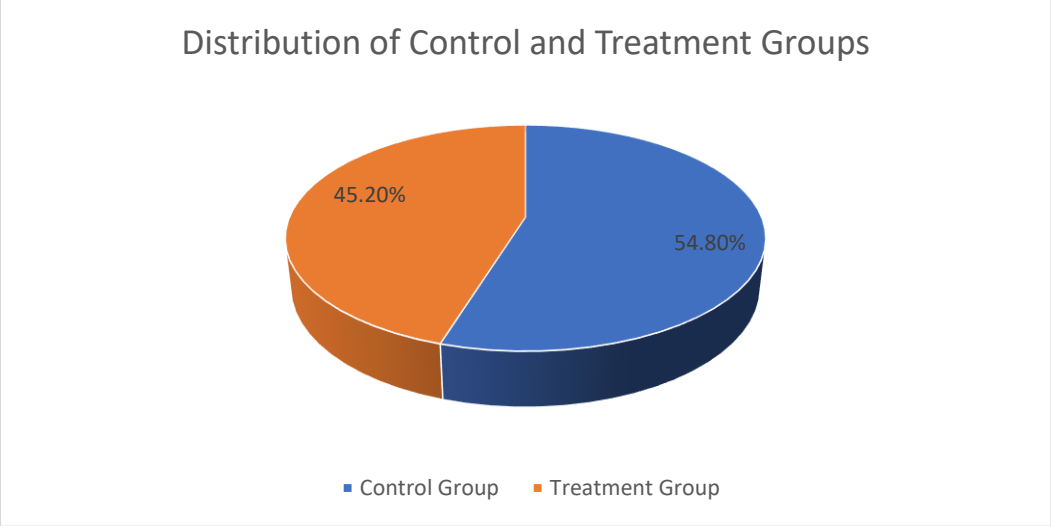

Figure 1: Distribution of Control and Treatment Groups

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4.3 Effect of VFTs on Learners' Performance

Further, to establish the effect of VFTs on learners' performance, it was necessary to recognize their prior knowledge of the topic of interest before commencing teaching and learning of the topic. Thus form-one learners in the identified schools were exposed to a pretest. Thereafter, learners were put into two groups. The control group was taught using traditional methods of teaching while the treatment group was taught using a VFT. After teaching learners through the identified topic, a posttest was administered and their performance was recorded. From the findings, the boys' performance was as in Table 5.

Table 5: Boys Performance in History and Government Test

S/No	Description	Pretest		Posttest		Posttest minus pretest	
	Groups	Control	Treatment	Control	Treatment	Control	Treatment
1	N	104	84	104	84	104	84
2	Mean	2.89	2.86	7.71	10.77	4.81	7.90
3	Standard Deviation	0.88	0.80	1.65	1.46	1.51	1.62
4	T	T (186) = 0.203		T (186) = -13.442		T (186) = -13.333	
5	P	0.838		0.00		0.00	

The findings from Table 5 indicate that mean score for the pretest was almost similar to a control group (M = 2.89, SD = 0.88) and treatment group (M = 2.86, SD = 0.80) conditions t (186) = 0.203, p = 0.838 indicating no significant difference. After teaching, a post-test was done and the results of the control group was (M = 7.71, SD = 1.65) and treatment group was (M = 10.77, SD = 1.46) conditions t (186) = -13.444, p = 0.00. These findings indicate there was a significant difference in performance of boys between control and treatment groups. This can be attested by the results of post-test minus pre-test that indicated M = 4.81 and SD = 1.51 for control group and M = 7.90 and SD = 1.62, for the treatment group, conditions t (186) = -13.333, p = 0.00. Therefore, the difference in performance of boys was a result of the treatment given to learners.

Similarly, it was necessary to establish the performance of the girls involved in the study. The findings were as indicated in Table 6.

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Table 6: Girls Performance in History and Government Test

S /No	Description	Pretest		Posttest		Posttest minus pretest	
	Groups	Control	Treatment	Control	Treatment	Control	Treatment
1	N	97	82	97	82	97	82
2	Mean	2.70	2.69	7.69	10.74	4.98	8.04
3	Standard Deviation	0.81	0.74	1.81	1.53	1.69	1.54
4	T	t (177) = 0.05		t (177) = -12.228		t (177) = -12.602	
5	P	0.96		0.00		0.00	

From Table 6, the control group pretest had M = 2.70 and SD = 0.81. Treatment group had M = 2.69 and SD = 0.74 with conditions t (177) = 0.05 and p = 0.96 indicating no significant difference. The post-test results for the control group were M = 7.69 and SD = 1.81 while treatment group was M = 10.74 and SD = 1.53 with conditions t (177) = -12.228 and p = 0.00. From these observations, it can be said there was a significant difference in performance of girls between control and treatment groups. Further, from the table, there was a significant difference between the post-test and pre-test results. The difference as seen in the table is M= 4.81 and SD = 1.69 for control group and M = 8.04 and SD = 1.54 for the treatment group, conditions t (177) = -12.602 and p = 0.00. These findings from the performance of boys and the girls indicate that the pre-test in both categories had no significant difference. However, after teaching, there was a significant difference in performance in both categories. This is an indicator that the VFT used in teaching and learning had a positive effect on learners' performance.

Further, the boys' and girls' performance was analyzed together and the results were as indicated in Table 7.

Table 7: Effect of VFTs on Boys and Girls' Performance

S/No	Description	Pretest		Posttest		Posttest minus pretest	
	Groups	Control	Treatment	Control	Treatment	Control	Treatment
1	N	201	166	201	166	201	166
2	Mean	2.80	2.78	7.70	10.76	4.90	7.97
3	Standard Deviation	0.85	0.78	1.73	1.49	1.61	1.58
4	T	t (365) = 1.57		t (365) = 12.87		t (365) = 15.50	
5	P	0.196		0.00		0.00	

From the data, a t-test was done to compare the performance of learners in the control and treatment groups before the commencement of teaching the identified topic. From the table, the results of the pretest showed there was no significant difference in the scores for the control group (M=2.80, SD= 0.85 and treatment group (M= 2.78, SD 0.78, conditions; t (365) = 1.57, p=0.196. These results indicate learners' prior knowledge had no significant difference and therefore any change that may occur later may be a result of the treatment given. After teaching

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had been carried out, a posttest was given and data was analyzed. From the data, a t-test was done on learners' posttest results. The results generated indicated that there was a significant difference in the scores for the control group (M=7.70, SD=1.73 and treatment group (M=10.76, SD 1.49, conditions; t (365) =12.87, p=0.00. These results suggest that teaching with or without VFTs affects learners' academic performance. Specifically, this means teaching had a positive effect on students learning thus better performance.

Further analysis was done to establish if the use of VFTs in teaching would affect learners' academic performance. A t-test was carried out to compare the difference between learner posttest results and pretest results. The results of the posttest minus the pretest indicated a significant difference in the performance of the control group (M=4.90, SD=1.61 and treatment group (M=7.97, SD 1.58, conditions; t (365) =15.50, p=0.00. These findings suggest that the use of VFTs in teaching had a positive effect on learners' academic performance. Thus, the use of VFTs in teaching and learning History would marginally improve learners' academic performance.

Accordingly, teachers' views regarding the effects of VFTs on learners' academic performance were collected using interview schedules. The target population of teachers was made up of teachers who had used VFTs and those who had not used VFTs. Teachers' views were as in the figure 2.

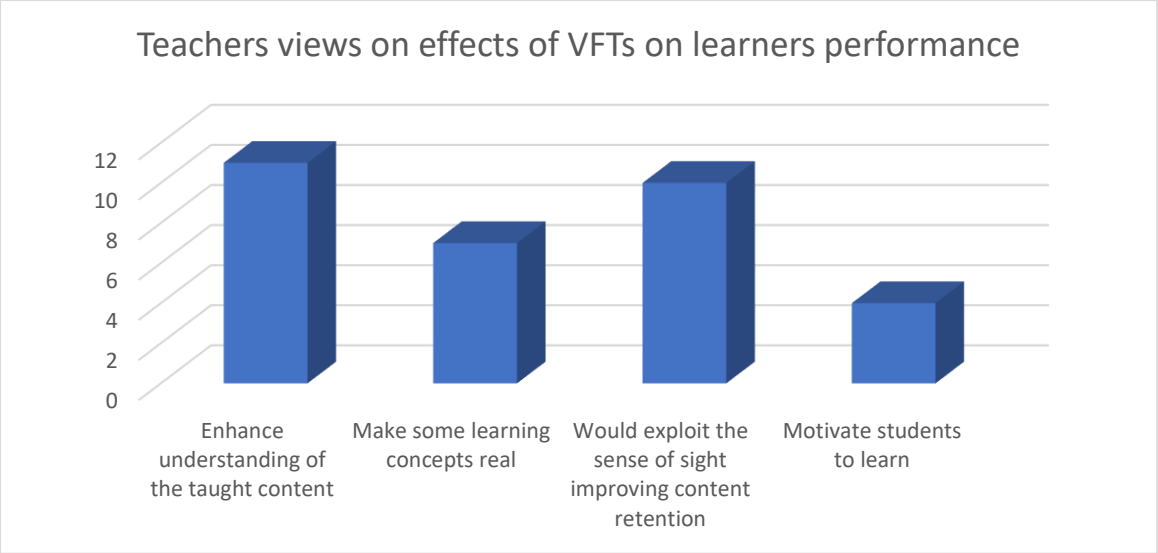

Figure 2: Teachers Views on Effects of VFTs in teaching and learning

From the interviews conducted, seven (7) teachers stated that using VFTs in teaching would make some learning concepts real and thus concretize learning. Also, eleven (11) teachers indicated using VFTs would lead to a better understanding of the taught content. Further, four (4) teachers felt VFTs would motivate students to learn and ten (10) teachers opined that the use of VFTs would exploit the sense of sight thus improving content retention. These views validated testament of the results realized after VFTs were used in teaching and learning.

The findings on the significant effect of the use of VFTs on learners' academic performance have been corroborated by studies done in other areas. In 2015, Obadiora (2016) conducted a study on the use of VFTs in the teaching and learning of Social Studies in Osun State Secondary Schools in Nigeria and found that the use of VFTs in teaching and learning resulted in a remarkably significant improvement in learners' achievement in academic performance, findings that were later validated by Ikwuka & Adigwe (2018) and Mead et al., (2019). These

findings resonate well with the findings of this study which established the use of VFTs had a significant effect on learners' academic performance. Accordingly, Kenna & Potter (2018) established that when teachers used VFTs during classroom instruction, learners improved in academic performance. Consequently, studies by Marshall & Higley (2021) indicated use of VFTs and involvement of students in the preparation and presentation of teaching content in classrooms had positively transformed students' learning and boosted their self-esteem which in turn enhanced their academic performance.

On the contrary, Hehr (2014) and Cener, Acun & Demirhan (2015) in his studies observed that the use of VFTs in teaching and learning did not reveal that their use in teaching could be directly attached to improved academic improvement. The assertion that there was an improvement needed further inquiry to establish what necessitated the improvement. Also, a study by Abdullah, et. Al., (2016) established learners who had used VFTs through Video Assisted Learning (VAL) and those who were taught traditionally had no statistical difference in academic performance. However, they agreed VAL encouraged learners to learn more as compared to traditional classroom teaching. From these findings, it was not clear if there were differences even if it was not statistically significant.

Consequently, Zhao, et al, (2022), Tedla (2012), and Cheng & Tsai (2019) opined that the use of VFTs may not necessarily have an improvement in performance though repeated use of VFTs may sustain learners' emotional engagement. This statement is contradictory. The essence of any teaching resource is to appeal to the learners to engage and focus their mental faculties in learning. Once this is achieved, it is expected learners will learn. Therefore, if VFTs can sustain learners' emotional appeal, their impact would have a lasting memory and by extension enhance memory and understanding. Additionally, the use of VFTs in teaching was noted to reduce cognitive learning load that is predominant in teaching and learning social sciences while improving learners' performance in tests, (Cheng & Tsai, 2019: Achieng, 2021: Lufutu, 2017). Further, Zhao, et al., (2022) and Cliffe (2017) established that the effect of VFTs in teaching and learning gradually reduced with their continued utilization. This assertion was contrary to findings by Whitesell (2015) and Das (2021) which indicated that the continuous use of VFTs was able to sustain motivation to learn as well as maintain a rising trajectory in learners' academic performance.

These contrary observations do not however indicate that the use of VFTs does not lead to improved academic performance but rather makes them clear. From the study, specific questions were set based on the topic on which the VFT was used. A pretest was given and the results of the control and treatment groups indicated their performance was not statistically significant. Further, post-test results from both groups indicated differences in academic performance. It was not enough to say that the obtained results indicated enhanced academic performance. Rather, it was necessary to establish if the difference in the performance of posttest results minus pretest results was significantly different. From the findings, it was clear the academic performance results of the learners were statically different, and therefore the use of a VFT in teaching enhanced teaching and learning. As such, the use of VFTs in teaching was effective as learners' achievement in post-test scores in the treatment group was much higher than the pre-test scores of learners in the control group. From this study, the use of a VFT in teaching and learning History and Government had a significant effect on learners' academic performance as compared to other conventional methods of teaching. As such, this study envisages a situation where it can be possible for teachers to plan, prepare, and use VFTs for effective teaching and learning.

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5.0 Conclusion

The purpose of this study was to examine the effect of utilization of VFTs on learners' academic performance in History and Government in Murang'a County in Kenya. The study used Quasi quasi-experimental pretest posttest design with a sample size of 372 respondents made up of teachers and learners. Both quantitative and qualitative data were generated and analyzed using SPSS. From the study, descriptive and inferential statistics in the form of t-tests were used to show the effect of VFTs on instruction. From the study, it was evident that VFTs positively influenced learning by bringing reality into the classroom and motivating learners to learn thereby enhancing content retention during teaching and learning. This was validated by History and Government Assessment Test results where learners exposed to treatment group performed better than those in the control group. Also, the difference between posttest and the pretest results of the treatment and control groups were statistically different meaning the differences in performance were as a result of using VFTs in instruction.

6.0 Recommendation

From the study, it is believed that the stakeholders in education will consider the benefit of VFTs in teaching and ensure VFTs are utilized for effective learning of History and Government in secondary schools. Secondly, the concerned stakeholders could guide teachers to use the guidelines proposed in preparation and use of VFTs for instruction as indicated in Figure 3.

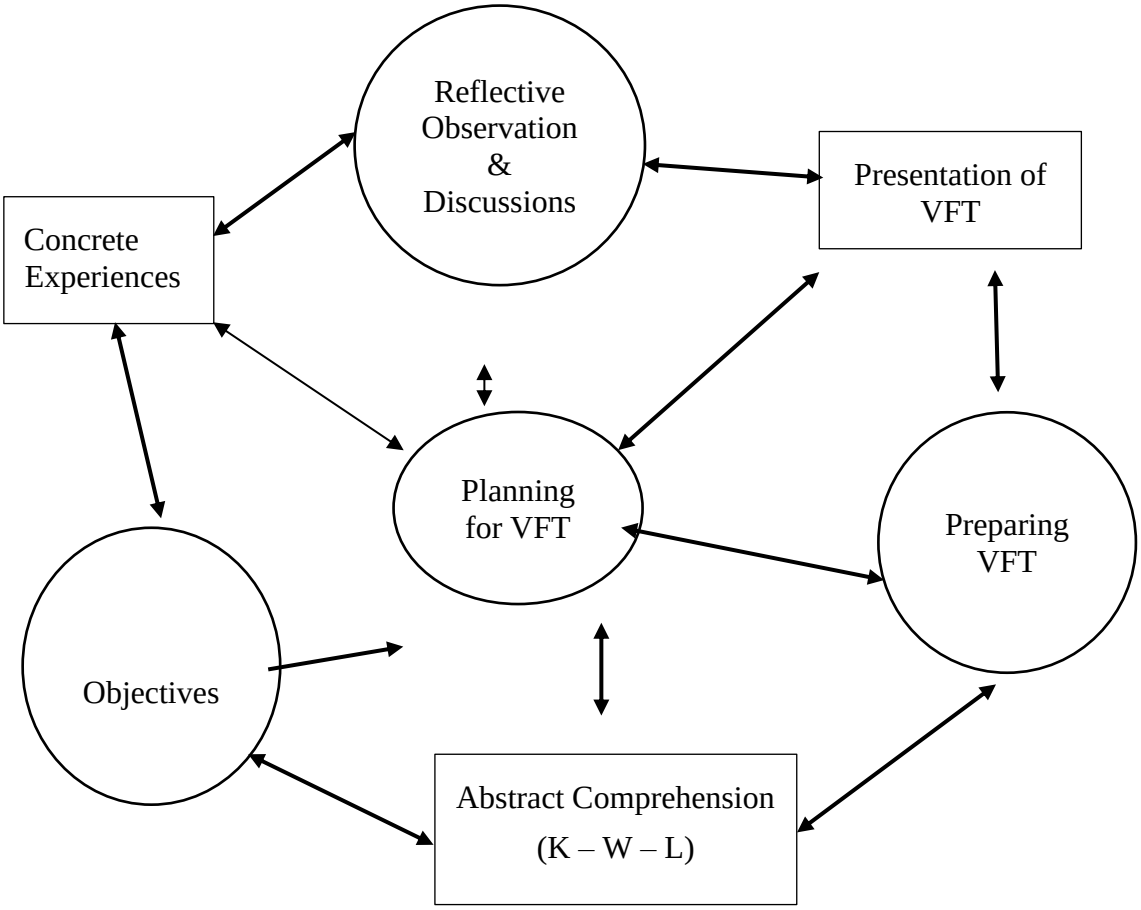

Figure 3: Guidelines for VFTs for learning

The use of VFTs in teaching and learning is one of the ways to apply experiential learning in History and Government. The choice of a VFT for teaching requires prior planning for effective content delivery during instruction. Each prepared VFT must be grounded on the expected lesson objectives creating ground for preparation and presentation of a VFT for learning. While presentation is ongoing, learners should be encouraged to take notes for reference for discussions to be done later. Learners should be allowed to watch a VFT repeatedly where possible to immerse themselves in the experiences of the topic as planned and envisioned. Also, a teacher should guide learners to reflect on the observations made from the VFT and also encourage learners to discuss, review, and demonstrate what they have learned through questions, presentations, and assignments to concretize their learning experiences.

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