Identify the Learning Management system used by Muffles Junior College and to assess the teachers preferred method of teaching while determining the effectiveness of Online learning.

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Abstract

The recent outbreak of the Corona Virus worldwide has placed an abrupt paused on the day-to-day living of everyone. Where social distancing has become mandatory it was crucial for schools to close, but the learning did not stop, everything is now being done virtually. Muffles Junior College was focused on to determine how the transition to online learning has impacted education and their views on how it contributes to learning. It was determined that the learning management used by Muffles Junior College was Moodle and the teachers used zoom so that they can host lectures. The teachers displayed that virtual lectures were not as effective as face to face learning and that they would refrain from teaching online courses if not mandatory. The research conducted revealed that online learning is easier but not effective for the learning of the students, hence it is recommended that classes return to face-to face to improve the level of education being offered to the students.

Keywords: Learning management systems, virtual learning, effectiveness

Introduction

Technology has advanced beyond one's imagination and it has brought up new ways of doing things for example, learning in today's generation rely so much on technology that it has now been demanded that it be incorporated in every school around the world. Universities in Belize have been quick to adopt to new technologies especially after the covid-19 pandemic everything had to be moved online. Computer, cell phones and new telecommunications are the primary reasons behind shaping higher education in Belize, and so far, technology has already started to change lives in students and teachers in significant ways.

Muffles Junior College is one of the many schools that are adopting to the learning management system (LMS) for example, the E-learning platform. This platform has helped teachers in many ways to support course management and student learning. The learning management system that is currently being used by teachers and students at Muffles Junior College is the Moodle platform along with google meet and zoom. The teachers are encouraged to identify learning objectives and differentiate instruction based on the needs of their students and they can also design follow-up activities when using the E-learning platform (Moodle) to evaluate students' learning and the role technology play in that process.

The purpose of this research is to investigate the impact that the LMS is having on teachers at Muffles Junior College and to also consider the role of task technology and how it is influencing teachers and student's performance using the platform.

Overall, technology plays a vital role at Muffles Junior College and its integration into the education process of its teachers and students learning. With the LMS teachers have experienced increased efficiency and effectiveness on both teachers and students.

Literature Review

Task technology fir (TTF) is basically the utilization of technology to fit a given task, whether workplace, school or other research project type of work. It is basically applying software in a way that is based on research that seek to best satisfy human interaction with application software's for better management purposes. In other words, Learning Management Systems (LMS) one type of Task technology fit are designs to make the workplace more effective for employers and employees and more efficient for customers. This is done in various ways, mostly by designing models based on previous researched identifying the flaws of previous models in regard to human interaction, perception and satisfaction (International Information Management Association, 2017, as cited in Gu, L & Wang, J., 2015). Another way is by designing various (TTF) based solely on customer needs, for example efficiency regarding time and quality service (Gu, L

& Wang, J., 2015). Nonetheless, the research model that seems to be more effective in meeting the anticipated of the needs of its users are those based on the research of previous models. The obvious reason for this is because it builds on the errors, or inefficiencies of the previous models with the intent to improve or innovate.

Ultimately, TTFs are designed to best-fit users' needs. For instance, "TTF explains that technology acceptance is related to how well the technology fits the task requirements, and is defined as the correspondence between task requests, individual characteristics, and the functionality of technology. (International Information Management Association, 2017, as cited in Gu, L & Wang, J., 2015). Nevertheless, one of the limitations of TTF is the human element itself that TTFs were designed benefit in the first place. For instance, "perceived usefulness, satisfaction and task-technology fit are important precedents of the intention to continue using MOOCs" (Ouyang, Y & Tang, C., 2017). In other words, ones 'perceived usefulness' of the service has an impact on further usefulness, not just service itself; and this could be based on valid reasons such as flaws in the system, or based on expected flaws based on previous bad experiences with similar systems. Even the very design of the new model could seem intimidating at first until the user has gotten an opportunity to become well familiar with the system. Nonetheless, not all users wait until they can experience the usefulness of the FFT firsthand. Some are basically turned off from the start if the FFT looks intimidating initially. Therefore, the use of the service is prejudiced, and their response already flawed.

Nonetheless, "task complexity, self-efficacy, and learning climate and task technology fit influence e-learning effectiveness and that task, individual and technology characteristics are important predictors on e-learning" (Gu, L & Wang, J., 2015). In other words, the usefulness of TTF is more than what meets the 'eye of the beholder'; it is a little more complex than what it may appears to be on the surface. The usefulness or efficiency of TTF is determined by multiple factors as stated above, and therefore must be taken into consideration in evaluating its productivity or innovative advancements. For instance while using LMS, a type of TTFs it was found that "whilst task–technology fit had a strong influence on perceived impact of the LMS on learning it only had a weak impact on outcomes in terms of student grades" (McGill, Tanya J. & Klobas, Jane E, 2009). In other words, as stated before prior "perceived impact" does have its role, but the actual results were indicated by the grades of the students. This indicated that whatever perception the users of this LMS had it was not as effective as it was intended to be.
These factors make it difficult at times to ascertain the true benefits of TTFs, or what works and what really works.
Nonetheless, ultimately 'the proof is in the pudding'. For instance, "With the advancement in computing and communication technologies, more tasks are accomplished effectively and efficiently using information technology as tools. Learning is one of such tasks (IEEE *Xplore*, 2021). TTFs have been proven to improve learning and customer satisfaction in many ways. As stated before, the

problem is not in the application software itself, but in the utilization of it and user's expectations. This of course, is as stated before also, the fault lies in the very human element that these systems are designed to aid in efficiency.

Therefore, the focus should be more on the proper training of how to properly benefit from TTFs than on the mere implementation of them, as if though that alone is a means to an end. Such perception only increases the gape of perception wider, allowing for more flaws in the system to be magnified instead of minimized. Ultimately, one must concluded that "if technology provides features that are useful to an end user, then it will have a positive impact on their performance" (Cane. S & McCarthy. R, 2021). In other words, the technology itself cannot the be the problem or solution alone, TTFs like other technological tools are merely tools, and therefore must be considered and utilized as such; then one can see the true benefit of using TTFs. Additionally, "Performance impacts will occur when the technology meets the users' needs and provides features that support the fit of the requirements of the task (Cane. S & McCarthy. R, 2021).

Methodology

The research intends to Identify the Learning Management system used by Muffles Junior College and to assess the teachers preferred method of teaching while determining the effectiveness of Online learning. The Task Technology Fit was utilized to measure the success of the Learning Management Systems. To collect data questionnaires were distributed to the teachers at Muffles Junior College. Enough time was given to fill out the questionnaire. A total sample size of 13 participants was selected, but only 12 participated in the completion of the survey.
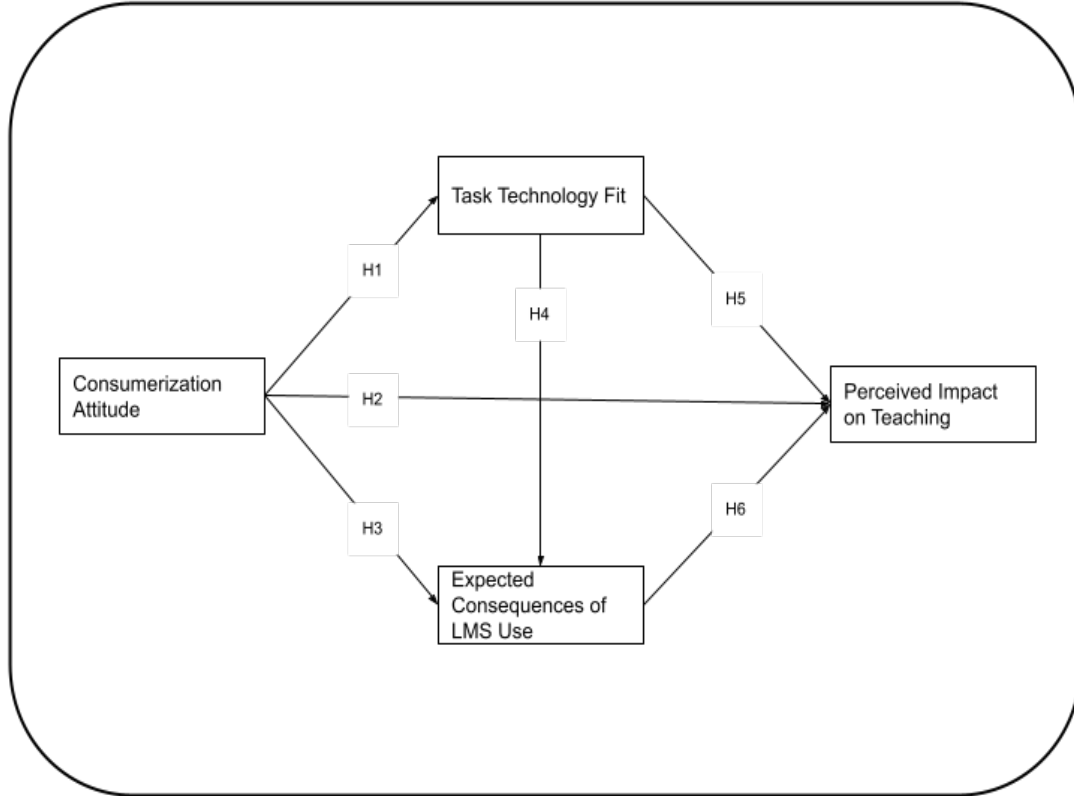
Figure 1.

H1: Consumerization attitude will negatively influence perceived task-technology fit.

H2: Consumerization attitude will positively influence perceived impact on teaching.

H3: Consumerization attitude will negatively influence expected consequences of LMS use.

H4: Task–technology fit will have a positive influence on expected consequences of organizational LMS use.

H5: Task–technology fit will have a positive influence on perceived impact on teaching.

H6: Expected consequences of LMS use will positively influence perceived impact on teaching.

Construct Instrument

The questionnaire utilized for the research was premised on the Task Technology Fit. The measurements used to measure the success model of the Learning Management System were information quality, system quality, complementary technology quality, computer self-efficiency measure, service quality, user satisfaction, use, and perceived net benefits. Information quality, which deals with the quality of the information that Moodle, provides and how it helps the user to use the system. In addition, there is a System that deals with the quality of the system (Moodle) itself. Service quality measures the degree of the service provided by the system. User satisfaction deals with the satisfaction of the user by the system. The information system perceived benefit is the achievement of an organization and achievement of the user objectives by using the information system (Moodle & Zoom). The questions were by using a measuring scale of 1 - 5, with 1 being disagreed and 5 being strongly agreed.

Table 1: Measurement Items for Questionnaire

Construct	Survey Questions
Background Information	Q1. Please Indicate your gender Q2. Please indicate your age range Q3. Please indicate your highest degree attained Q4. Please indicate which learning Management System (LMS) you used
Teaching Preferences	Q1. I prefer teaching face-to-face rather than online. Q2. I am more effective teaching face-to face than online Q3. Students learn more in face-to- face classes than online. Q4. I would want to teach some online courses after the Junior College resumes face-to-face teaching. Q5. I would want to teach all my courses online after the Junior College moves back to face-to-face teaching. Q6. I would not want to teach any online courses after the Junior College moves back to face-to-face teaching.
Prior Learning Management	Q1. Please state the number of semesters you have used Moodle.

System (LMS)	Q2. I used Moodle to facilitate teaching face-to-face classes prior to the Junior College's move to online delivery.
	Q3. I have taught classes utilizing an LMS other than Moodle.
	Q4. How many semesters have you taught using an LMS other than Moodle?
	Q5. I used an LMS other than Moodle to facilitate teaching face to face classes (prior to online delivery)
	Q6. I plan to continue using Moodle to enhance my teaching after we return to face-to-face teaching.
	Q7. I would like to continue using my preferred LMS to enhance my teaching after we return to face-to-face teaching.

Task - Technology Fit	Q1. Moodle fits well with the way I like to teach online.
	Q2. Moodle is compatible with all aspects of my online teaching.
	Q3. Moodle is easy to use.
	Q4. Moodle is user friendly.
	Q5. It is easy to get Moodle to do what I want it to do.
	Q6. Moodle is easy to learn.
	Q7. It is easy for me to become more skillful at using Moodle.
	Q8. New features of Moodle are easy to learn.
	Q9. Do you think the output from Moodle to the students is presented in a useful format?
	Q10. Can you provide accurate information to your students with Moodle?
	Q11. Can you provide up-to-date information to your students with Moodle?
	Q12. Can you provide information students need in time using Moodle?
	Q13. Can you provide information that seems to be just about exactly what your students need with Moodle?

Expected consequences of LMS use	Q1. Using Moodle will help me to accomplish my online teaching more quickly.
	Q2. Using Moodle will improve my online teaching performance.
	Q3. Using Moodle will increase my online teaching productivity.
	Q4. Using Moodle will enhance my effectiveness as a teacher while teaching online.
	Q5. Using Moodle will make it easier to complete my teaching tasks while teaching online.
	Q6. Using Moodle will give me greater control over my teaching tasks while teaching online.
	Q7. Overall, I think that Moodle will be useful in my ability to teach online.
	Q8. Using Moodle will improve the quality of my online teaching.

Perceived Impact on Teaching	Q1. Moodle has a large positive impact on my effectiveness and productivity as an online teacher.
	Q2. Moodle is an important and valuable aid to me in my online teaching.
	Q3. I teach better online with Moodle than without it.

Consumerization Attitude	Q1. If I could choose my own Learning Managements System, it would fit well with teaching online.
	Q2. If I could choose my own Learning Managements System, it would fit well with helping me to be efficient in teaching online.
	Q3. If I could choose my own Learning Managements System, it would be compatible with my online teaching.
	Q4. If I could choose my own Learning Managements System, my online teaching performance would improve.
	Q5. If I could choose my own Learning Managements System, my online teaching productivity would improve.
	Q6. If I could choose my own Learning Managements System I would work faster while teaching online.

Data Analysis

All Models
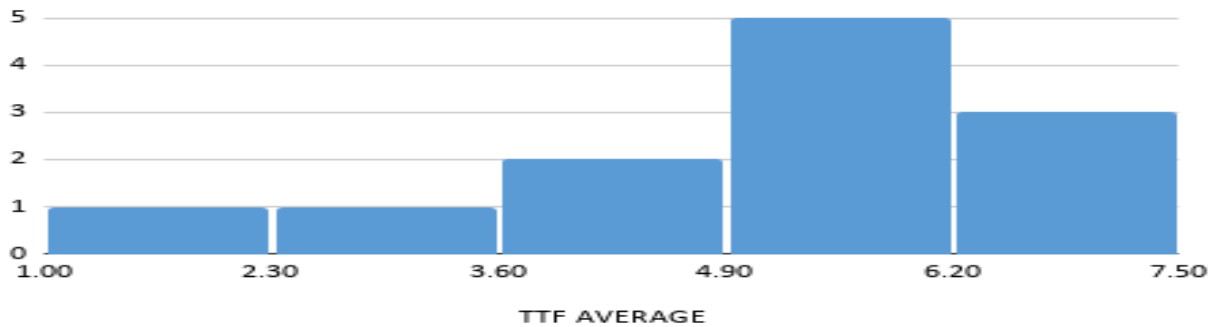
Histogram of TTF AVERAGE

Figure .1

In Figure .1 Task Technology at Muffles Junior College, the teachers were comfortable with the change from face to face teaching to online classes, few of the teachers found the transition difficult.
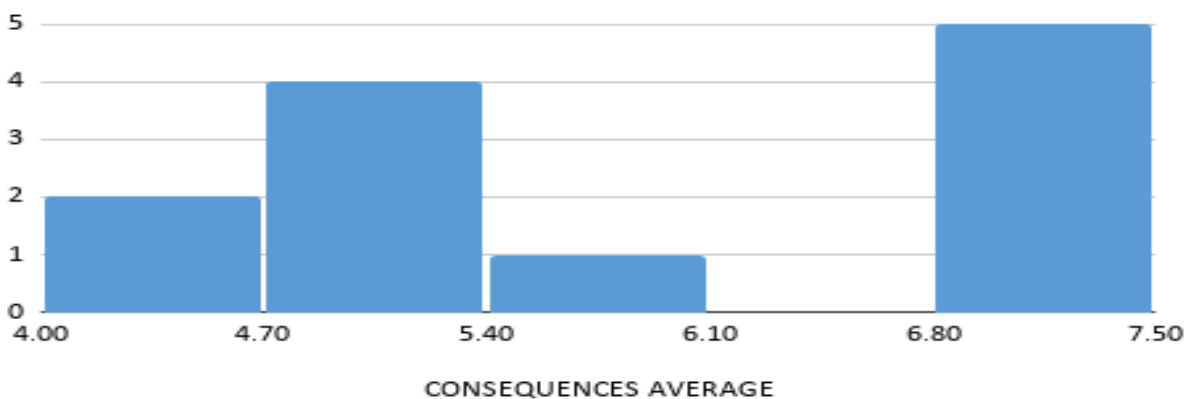
Histogram of CONSEQUENCES AVERAGE

Figure .2

Figure .2 depicts how the teachers at Muffles Junior College quickly engaged in using the LMS quickly even though it was new to them.
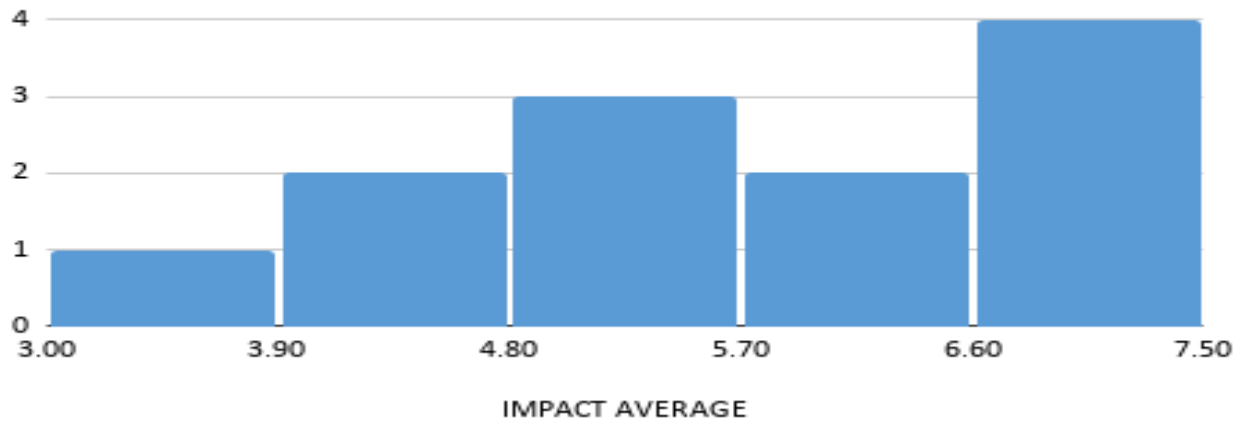
Histogram of IMPACT AVERAGE

Figure .3

Figure .3 depicts the positive impacts that teachers have gone from a classroom to using moodle as their main platform for teaching. As seen in this chart it very few of them that have a negative impact using online teaching.

Histogram of CONSUMERIZATION AVERAGE
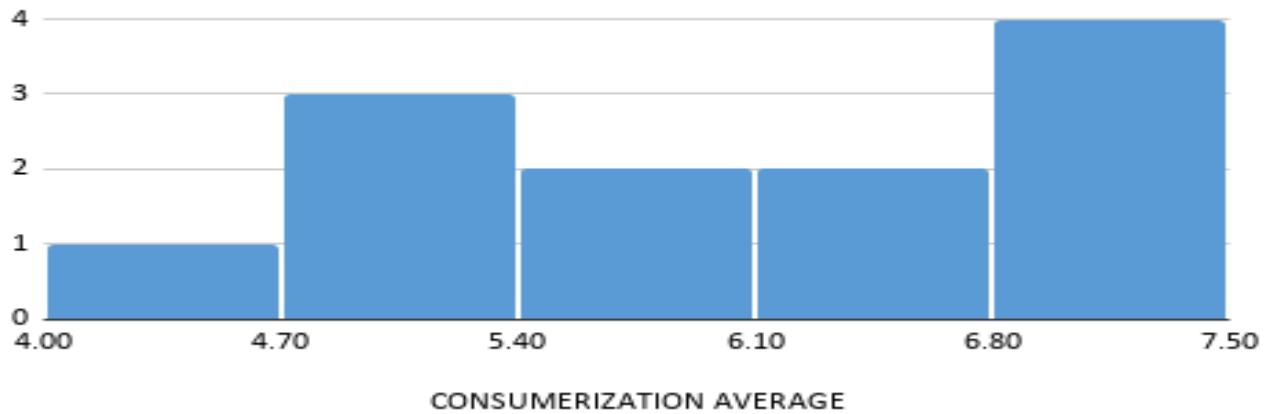
Figure .4

Figure .4 with these new technology teachers at Muffles Junior College has an innovative technology to improve their teaching methods.
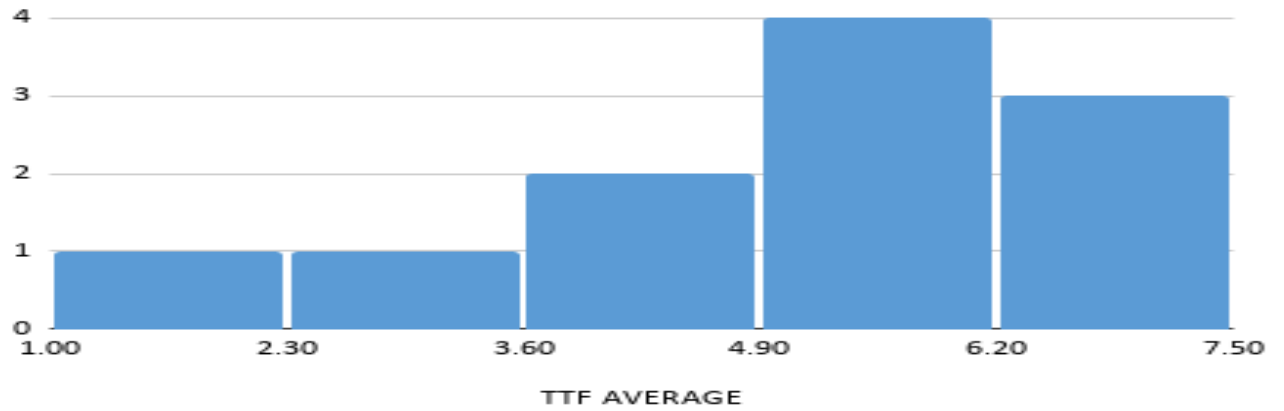
Moodle Only

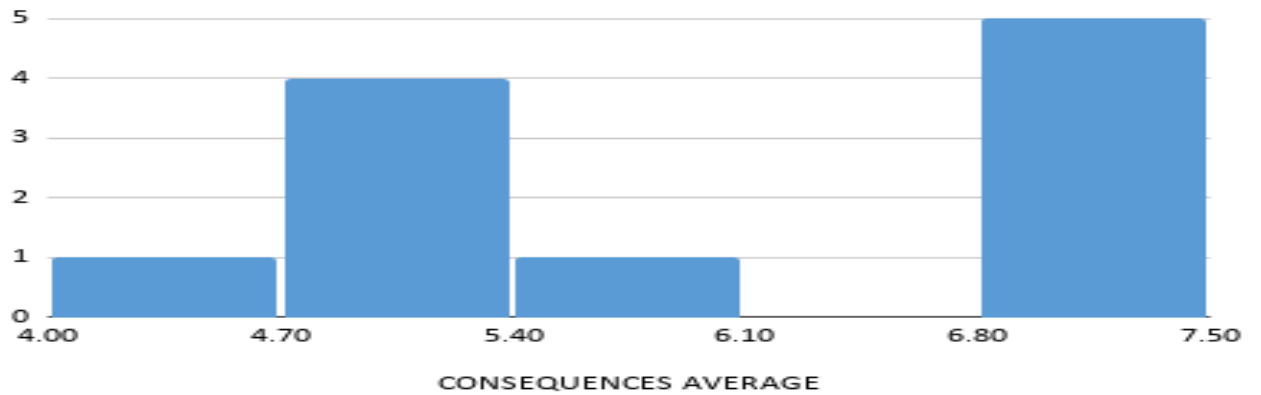### Histogram of TTF AVERAGE

Figure .5

Histogram of CONSEQUENCES AVERAGE

Figure .6

Histogram of IMPACT AVERAGE

Figure .7

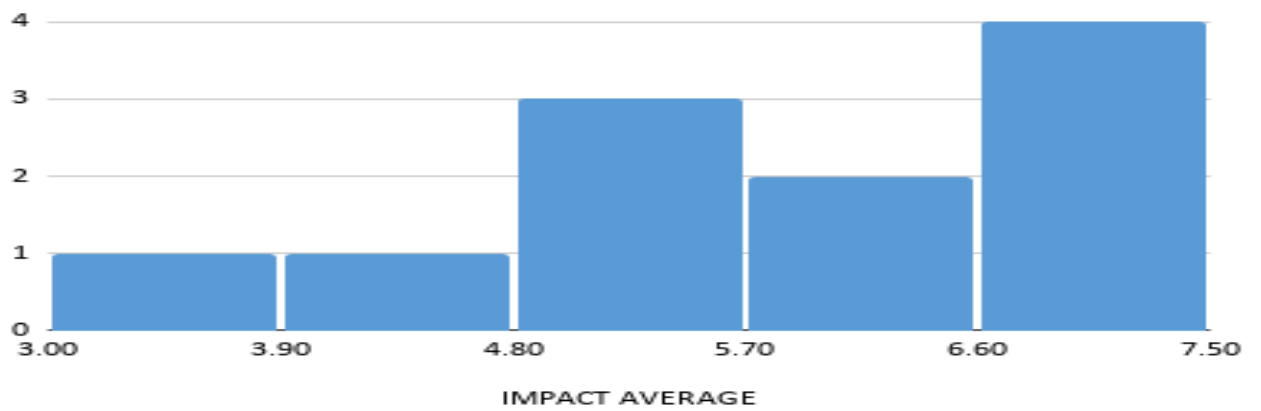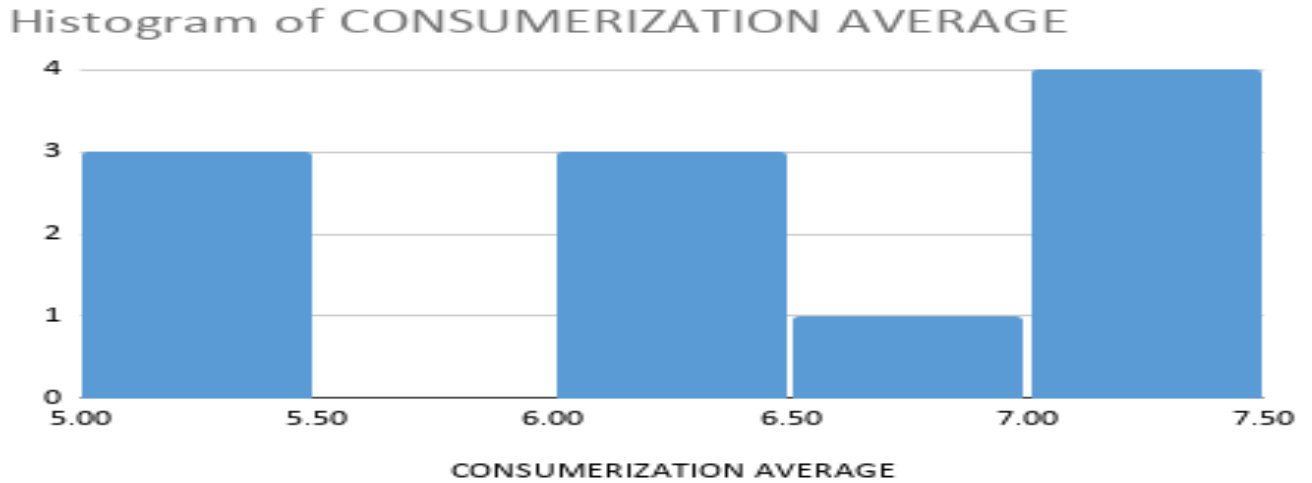Histogram of CONSUMERIZATION AVERAGE

CONSUMERIZATION AVERAGE

Figure .8

Figures .5 to Figure .8 shows that teachers at Muffles Junior College are adapting very well with the use of moodle and have no problem with the continuous use of moodle.
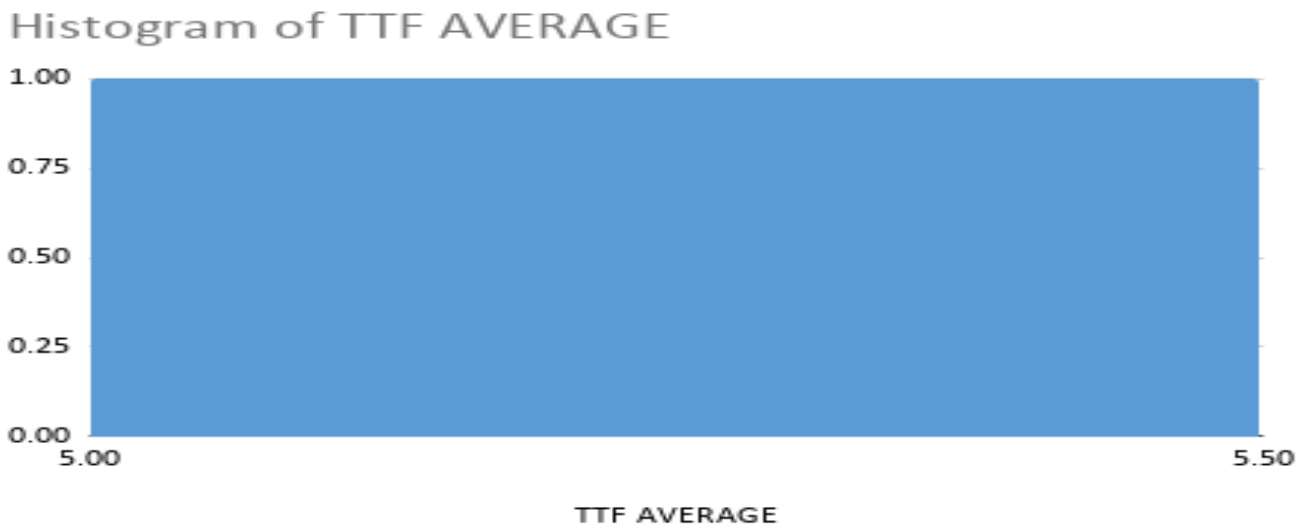
Other

Histogram of TTF AVERAGE

TTF AVERAGE

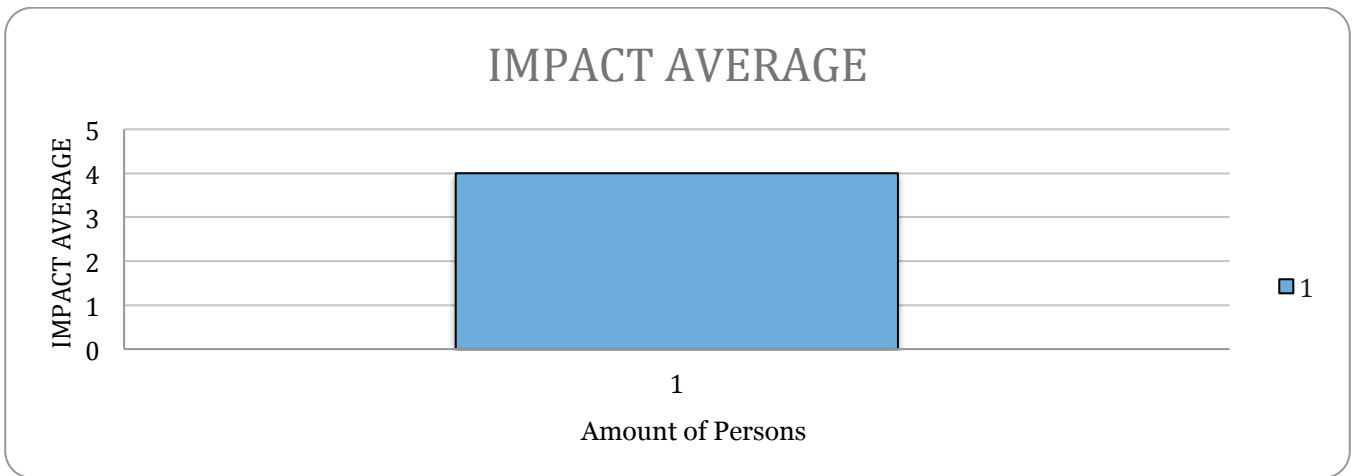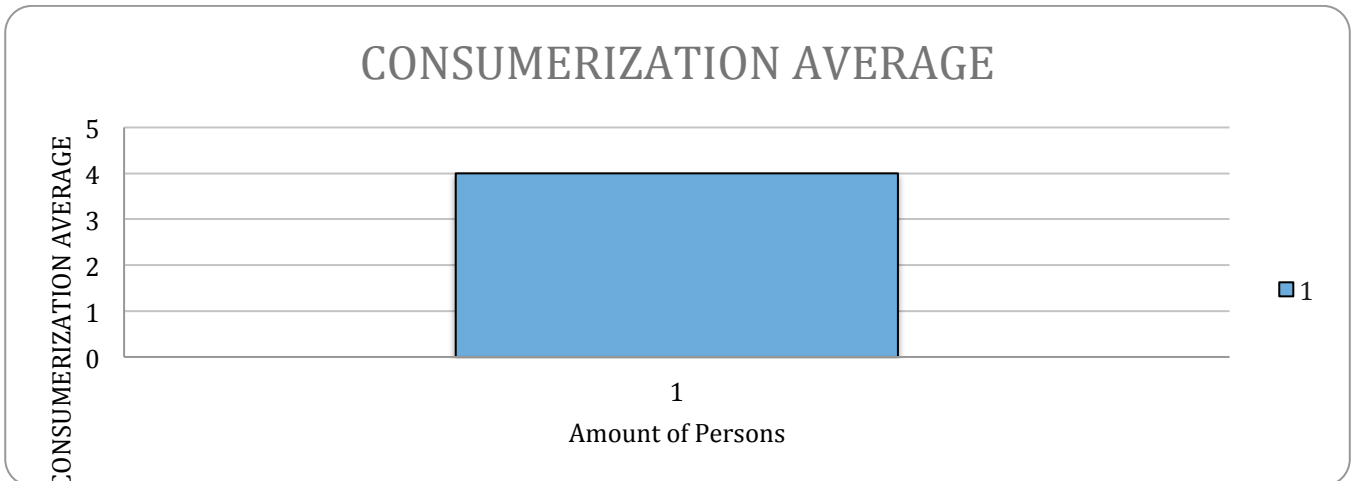**Figure. 9**

Figure .10

Figure .11

Figure .12

Figure .9 to figure .12 depicts only 1 teacher has used a LMS other than moodle and both the impact and consumerization for the teacher was right at average.

Discussion

The extensive measures that were taken to arrive at the point we are at now just to evaluate how the transition from face-to-face learning has impacted. The teachers at Muffles Junior College. The purpose of the research was to Identify the Learning Management system used by Muffles Junior College and to assess the teachers preferred method of teaching while determining the effectiveness of Online learning. The task Technology questionnaire that focused on the Learning Management System helped to achieve that goal.

Thus the research has concluded and reached its aim, there were a few bumps in the road that made the research just a bit more tedious. The main limitation that was faced was due to the fact that the sample size was limited The small sample sized made it very difficult to gather much information especially since the population at Muffles Junior College only consisted on fourteen (14) teachers. Another limitation was getting in contact with the participants as seeing only one of the authors resided in Orange Walk, but nonetheless they were able to participate. Aside from the above stated limitations, there were no other factors that affected the research.

The majority of the teachers selected that the only Learning Management System that they had used and is using is moodle, their exposure to moodle came as a result of the transition to online learning while one teacher said that they have use other, but they did not state the other. Teachers found that although online class is easier, they prefer face-to-face teaching and if they had the opportunity to teach online over face-to face they would deny. They felt as though students were not learning as much as when they were attending face-to-face. The online Learning has become an essential part of society and has forced many to adapt to the new way of life in order to receive an education.

Conclusion

The spread of the corona has changed the life of many, and a major change has occurred in the education system. Countrywide schools have made the transition to virtual learning and adapted to some type of Learning Management System (LMS) and the school specifically being focused on is Muffles Junior College. The learning management system used at Muffles Junior College was identified to be moodle, and it was determined that teachers preferred face-to-face learning to virtual learning. The teachers believed that although moodle is an excellent LMS they don't find that students learn as much as if they were to return to the

classroom. This is an ongoing crisis and not knowing when things will return to what it once was, the teachers at Muffles Junior College are making the best of the virtual teaching and will continue.

Recommendations

The results of the project proved that although online classes are not, the best but it is the most beneficial in this time.

Muffles Junior College should implement the lock down browser in order to provide a more practical learning environment.

In order to not fully eliminate the face-to-face learning synchronous classes can be taught thru zoom or google meets that way students and teachers are able to see each other and they are experiencing some form of interaction

The implementation of breakout groups would be a great addition to online learning, that way students are in a more concentrated group whereby everyone can voice their opinions

To make the class session more interactive allow students to take control every so often, that way you know that the students are actually learning.

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