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AN INTERACTIVE PEDAGOGICAL ASSESSMENT TOOL USING MESSENGER CHATBOT IN LEARNING DELIVERY

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ABSTRACT

This study was conducted to find out the efficacy of an interactive pedagogical assessment tool using chatbot in learning delivery. It significantly sought answer to the questions; What is the status of using chatbot as an assessment tool in learning delivery to students in terms of: objective, content, evaluation. What is the respondent's level of acceptability in terms of: usability, quality factor, and ease of use? Is there a significant effect in the performance of the learners as respondents after using Messenger Chat bot as an interactive pedagogical assessment tool?

The researcher coordinated with the TLE teachers of Pila Senior High School to select forty (40) students based from the students' exposure to the use of messenger chatbot. The distribution of questionnaire and collection of data to the respondents were gathered using google form. This research employs quantitative and non-experimental design utilizing correlational technique. The researcher used descriptive research that aimed to know the effects of using messenger chatbot as an interactive pedagogical assessment tool in learning delivery.

The data gathered has been codified into various traditional categories with appropriate hypothetical in null and working forms and subsequently tested by non- parametric treatment through P-value and F-value formula respectively to arrive substantial conclusion can be drawn in the resolution with the foregoing problem areas investigated. From the above step-by-step research cycle process, the basic questions propounded are resolved.

The following are the significant findings of the study. The average or mean of the status of chatbot as an assessment tool in learning delivery in terms of objective very high. For the status of messenger chatbot in terms of content was very high and the average or mean score of the status of messenger chatbot in terms of evaluation was interpreted also as very high. Moreover, for the dependent variable, messenger chatbot status as an interactive pedagogical assessment tool on the performance of the learners in terms of 3rd quarter summative examination the obtained result indicated significant analysis. This further implied that the objectives and content of the Messenger Chat Both affect student's performance. This means that the utilization of assessment tool applications boosted students learning as the goals contents aids the learners to achieve outstanding performance.

Based on the result, the interpretation was significant. Therefore, null hypothesis was not sustained. It revealed that there is significant effect of messenger chatbot as an interactive pedagogical assessment tool in learning delivery in the quarterly summative examination. Messenger chatbot was recommended to be used as a supplementary assessment tool and to further practice in schools specially in this time of pandemic. It provided a fun-learning environment to students even they were at home.

I. INTRODUCTION

Nowadays, amidst the health crisis that our world facing today brought by the pandemic CoVid19, wherein people are ask to stay home and limit their movement as mandated by the government under the mobilization of Philippine government agencies and local government units as well as the passing of Republic Act No. 11469 or the "Bayanihan to Heal as One Act" in order to resolve the COVID-19 pandemic in the Philippines., the internet plays an important role to make the life of everyone easier and more accessible. People used the internet along with Facebook,

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Instagram, Twitter, WhatsApp, Messenger and other social media as a platform where they can advertise, sell products and offer services. Moreover, it also plays a vital part to make available resources for research and learning for both teachers and students, to share and acquire information or open a gate to online teaching and learning.

Department of Education (DepEd) official statement (2020) stated that they have devised various modalities to ensure that online learning is only one of the options among all others in this new learning environment. They are determining the most appropriate combinations or strategies for every locality as they look into addressing equity concerns of their constituent in this new arrangement. (https://www.deped.gov.ph/2020/05/06/official-statement-2/) In connection with this, the researcher saw the potential of messenger chat bot as a new platform for students and teacher's interaction jiving the new normal way of teaching and learning.

Chat bot as defined by Oxford dictionary is a computer program designed to simulate conversation with human users, especially over the internet. It is an assistant that communicates with us through text messages, a virtual companion that integrates into websites, applications or instant messengers and helps entrepreneurs to get closer to customers. Such a bot is an automated system of communication with users. It is free and simple to use. Above discussing the use and where to utilize the chat bot, the researcher will focus to Messenger Chat bot mainly called as "Many chat" and its effectivity as interactive pedagogical assessment tool in various subjects in Senior High School.

II. RELATED LITERATURE

McTear et al., (2016) stated that chatbots receive natural language input, sometimes interpreted through speech recognition software, and execute one or more related commands to engage in goal-directed behavior (often on behalf of a human user). As intelligent agents, they are usually autonomous, reactive, proactive, and social. The most advanced systems employ machine learning (often Markov chains or deep neural networks) so that they may also adapt to new information or new requests.

According to Bansal & Khan (2018), artificial intelligence (AI) has influenced how we engage in our everyday activities by designing and evaluating advanced applications and devices, called intelligent agents, which can perform various functions. A chatbot is an artificial intelligence program and a Human–computer Interaction (HCI) model.

Khanna et al., (2015) stated that chatbot uses Natural Language Processing (NLP) and sentiment analysis to communicate in human language by text or oral speech with humans or other chatbots Artificial conversation entities, interactive agents, smart bots, and digital assistants are also known as chatbots.

Luo et al., (2019) highlighted that human–chatbot communication changes depending on the disclosure or not of the conversational partner. Undisclosed chatbots are four times more productive than novice sales staff, and their ability reaches that of specialized consumer shopping employees. However, subjective human perception makes people consider disclosed chatbots less informed and emotionally intelligent. Thus, when customers discover during a conversation that they talk to a chatbot, they get upset and buy fewer products. Harkous et al., (2016) stated that chatbots should also offer users a more accessible and realistic experience to ask about their privacy settings in applications or websites.

Biduski et al., (2020) said that chatbots may draw interest and involve users in activities such as completing questionnaires. Responding to chatbot questions would be a fun and desirable solution to somebody because it does not take as much time as traditional questionnaires.

II. STATEMENT OF THE PROBLEM

This statement of the problem aimed to evaluate the Interactive Pedagogical Assessment Tool Using Messenger Chatbot in Learning Delivery. Specifically, it sought answer to the following questions:

1. What is the status of interactive pedagogical assessment tool using messenger chatbot in learning delivery in terms of;
   1.1 objectives;
   1.2 Content and;
   1.3 evaluations?
2. What is the respondents' level of acceptability of the use of messenger chatbot as an interactive pedagogical assessment tool in learning delivery in terms of;
   1.1 ease of use;
   1.2 quality factors and;
   1.3 user experience?
3. Is there a significant effect in the performance of the learners as respondents after using Messenger Chat bot as an interactive pedagogical assessment tool?

III. METHODOLOGY

The researcher used descriptive research that aimed to know the effects of using messenger chatbot as an interactive pedagogical assessment tool in learning delivery. The researcher used the purposive

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sampling as the method to obtain the respondents for this study. The researcher coordinated with the TLE teacher of Pila Senior High School to select forty (40) students based from the students' exposure to the use of messenger chatbot.

An adopted questionnaire from Hernandez (2021) was the main tool used to gathered data. The researcher used a set of questionnaires which has 2 parts; fist part consisted of question mainly seek to answer the acceptability of messenger chatbot in terms of ease of use, quality factor, and user experience. Meanwhile, second part pursue to retort the component of messenger chatbot in terms of objective, component, and evaluation.

III. RESULT AND DISCUSSION

The presentation of the findings followed the sequence in relation to the statement of the problems namely 1) extent of appropriateness of the interactive pedagogical assessment tool using Messenger Chatbot in learning delivery in terms components such as objectives, contents, evaluation 2) acceptability level of messenger chatbot respectively to ease of use, quality factor, and user experience 3) Students' Performance as to 3rd Quarter Summative Examination Scores 4) Effect Messenger Chat Bot as an Interactive Pedagogical Assessment Tool on the Performance of the Learners in terms of 3rd Quarter Summative Examination 5) Effect Messenger Chat Bot Acceptability as an Interactive Pedagogical Assessment Tool on the Performance of the Learners in terms of 3rd Quarter Summative Examination

Table 1. Extent of Appropriateness of the Interactive Pedagogical Assessment Tool Using Messenger Chatbot in Learning Delivery in terms of Objectives.

STATEMENT	Mean	SD	Remarks
1. consistent and relevant to the course goal.	3.30	0.51	Strongly Agree
2. precisely describe the expected learning outcomes.	3.28	0.55	Strongly Agree
3. states in student-friendly language.	3.40	0.58	Strongly Agree
4. specific and well-define.	3.45	0.55	Strongly Agree
5. consist of three learning areas which are knowledge, skills, and attitude.	3.53	0.59	Strongly Agree
Grand Mean/SD	**3.92**	**0.56**	**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
4	3.26 – 4.00	Strongly Agree	Very High
3	2.51 – 3.25	Agree	High
2	1.76 – 2.50	Moderately Agree	Moderately High
1	1.00 – 1.75	Disagree	Low

The above table reveals that the extent of appropriateness of the interactive pedagogical assessment tool using Messenger Chatbot in learning delivery in terms of objectives was *very high* supported by the grand (M=3.92, SD=0.56). This means that the objectives of the assessment tool were presented clearly and understood by the students.

It can be seen that the respondents *strongly agree* that *the objectives were consistent and relevant to the course goal, states in student-friendly language, specific and well-define and were consist of three learning areas which are knowledge, skills, and attitude* which gained (M=3.30, SD=0.51), (M=3.40, SD=0.58), (M=3.45, SD=0.55) and the highest (M=3.53, SD=0.59). This implied that the objectives of the assessment tool would lead to acquisition of the course goal. On the other hand, the respondents also *strongly agree* that *objectives are precisely describe the*

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expected learning outcomes with the lowest (M=3.28, SD=0.55). This meant that students were able to describe the expected learning outcomes of the assessment tool.

It was supported Mitzchell and Manzo (2019), elaborated that the objectives in the new learning paradigm is divided into four categories: 1) "learning to know," 2) "learning to do," 3) "learning to be," and 4) "learning to live together." The K– 12 program stresses the importance of co-curricular activities and community participation in the learner's overall growth. They are real context-based learning experiences. In addressing the demands of a knowledge-based economy for local, national, and global growth, the K to 12 curriculum outperforms previous curricula. It offers a variety of options for further education 442 and career advancement that are consistent with international standards and manpower requirements for the twenty-first century.

Table 2. Extent of Appropriateness of the Interactive Pedagogical Assessment Tool using Messenger Chatbot in Learning Delivery in terms of Content.

STATEMENT	Mean	SD	Remarks
1. I clearly understand the instruction provided in the messenger chatbot.	3.60	0.49	Strongly Agree
2. Questions are clearly written and stated.	3.55	0.50	Strongly Agree
3. There content is intellectually challenging.	3.43	0.67	Strongly Agree
4. I found the content of this messenger chatbot personally meaningful.	3.38	0.66	Strongly Agree
5. Errors are minimal.	3.10	0.66	Agree
Grand Mean	**3.41**	**0.63**	**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	*Range*	*Remarks*	*Interpretation*
4	*3.26 – 4.00*	*Strongly Agree*	*Very High*
3	*2.51 – 3.25*	*Agree*	*High*
2	*1.76 – 2.50*	*Moderately Agree*	*Moderately High*
1	*1.00 – 1.75*	*Disagree*	*Low*

This means that the content of the assessment tool was presented clearly, understood, and grasped by the students.

The respondents *strongly agree* that *the content composed of instructions provided in messenger chatbot was clearly understood*, *questions are clearly written and stated*, *content was intellectually challenging, and personally meaningful* which gained the (M=3.55, SD=0.50), (M=3.43, SD=0.67), (M=3.38, SD=0.66) and the highest (M=3.60, SD=0.49). This implied that the content of the assessment tool would lead to desire result of the end goal. On the other hand, the respondents also *agree* that the *content have minimal errors* with the lowest (M=3.10, SD=0.66). This meant that students were able to determine the errors in the assessment tool.

According to Wikipedia, content is an encoded format for converting a specific type of data to displayable information. It has many types. Some of them are the following. Content (media), information or experience provided to audience or end-users by publishers or media producers Content industry, an umbrella term that encompasses companies owning and providing mass media and media metadata. Content provider, a provider of non-core services in the telecommunications industry. Free content, published material that can be used, copied, and modified without significant legal restriction. Open content, published material licensed to authorize copying and modification by anyone. Web content, information published on the World Wide Web.

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Table 3. Extent of Appropriateness of the Interactive Pedagogical Assessment Tool using Messenger Chatbot in Learning Delivery in terms of Evaluation.

STATEMENT	Mean	SD	Remarks
1. Messenger chatbot consistently giving accurate scores in evaluating student performance.	3.58	0.54	Strongly Agree
2. I am allowed to view my mistake and to review it again for the future summative test.	3.40	0.77	Strongly Agree
3. I am willing to develop my skills in doing authentic performance task in this course.	3.50	0.59	Strongly Agree
4. Messenger chatbot engage students with different learning styles.	3.48	0.67	Strongly Agree
Grand Mean/SD	**3.49**	**0.65**	**Strongly Agree**
Interpretation		**Very High**	

Legend:

Scale	Range	Remarks	Interpretation
4	3.26 – 4.00	Strongly Agree	Very High
3	2.51 – 3.25	Agree	High
2	1.76 – 2.50	Moderately Agree	Moderately High
1	1.00 – 1.75	Disagree	Low

The above table shows that the extent of suitability of the interactive pedagogical assessment tool using Chatbot in learning delivery in terms of evaluation was *very high* supported by the grand (M=3.49, SD=0.65). This means the evaluation of students to the messenger chatbot as an assessment tool in learning deliver was appraised, upright, and vivid.

The respondents *strongly agree* after they evaluated the messenger chatbot as an assessment tool wherein it has the following question; *messenger chatbot consistently giving accurate scores in evaluating student performance, I am allowed to view my mistake and to review it again for the future summative test, I am willing to develop my skills in doing authentic performance task in this course, Messenger chatbot engage students with different learning styles* which gained the (M=3.58, SD=0.54), (M=3.40, SD=0.77), (M=3.50, SD=0.59) and (M=3.48, SD=0.67). This implied that the respondents where highly satisfied to the overall use of the messenger chatbot as an assessment tool.

Ellington (2016) stated that evaluation is concerned at the macro or holistic level of the learning event, considering the context of learning and all the factors that go with it, whereas assessment can be seen as the measurement of student learning and is one of the elements that go into an evaluation, the micro-level. One aspect of any sound evaluation is the allowance for the unexpected. Above all an evaluation is a designed and purposeful enquiry which is open to comment. It is useful to start any evaluation by obtaining a profile for each student as a baseline against which any future changes in both attitude and opinion may be referenced. Within a Student Profile questionnaire, it is appropriate to ask about the learner's attitude towards computer-based learning as well as their use of computers in general. At the same time, questions concerning the learner's academic background in the particular and related areas of the content subject under evaluation. If for instance in an evaluation programme on CBL in economics, information about the learner's level of knowledge of not only economics (e.g., Standard Grade or Higher, O or A levels etc.) but in the related areas of math and statistics would be useful.

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Table 4. Level of Acceptability of Interactive Pedagogical Assessment Tool Using Messenger Chatbot in Learning Delivery in terms of Ease of Use

STATEMENT	Mean	SD	Remarks
1. I can use messenger chatbot as an alternative material for assessment in modular distance learning.	3.40	0.70	Strongly Agree
2. I find it is easy to use and navigate.	3.45	0.55	Strongly Agree
3. I can answer our assessment everywhere by using only my phone.	3.43	0.54	Strongly Agree
4. I find it useful and does not allow me to pay for data to answer our quizzes.	3.40	0.62	Strongly Agree
5. I find it user-friendly.	3.60	0.54	Strongly Agree
Grand Mean/SD	**3.46**	**0.60**	**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
4	3.26 – 4.00	Strongy Agree	Very High
3	2.51 – 3.25	Agree	High
2	1.76 – 2.50	Moderately Agree	Moderately High
1	1.00 – 1.75	Disagree	Low

The above table shows that the acceptability of the interactive pedagogical assessment tool using Messenger Chatbot in learning delivery in terms of Ease of Use was *very high* supported by the grand (M=3.46, SD=0.60). This means the ease of use of messenger chatbot as an assessment tool in learning delivery was acceptable.

The respondents *strongly agree* after they found out the messenger chatbot as an assessment tool *can be used as an alternative material for assessment in modular distance learning, easy to use and navigate, can answer the assessment everywhere by using only a phone, useful and does not allow to pay for a data to answer quizzes, and user-friendly* which gained the (M=3.40, SD=0.70), (M=3.45, SD=0.55), (M=3.43, SD=0.54), (M=3.40, SD=0.62) and (M=3.60, SD=0.54). This implied that the respondents found out the messenger chatbot as an assessment tool in learning delivery was easy to use without any hassle.

Davis et al., 1989; Mathieson, 1991; Gefen and Straub, 2000; Gahtani, 2001) cited by Nadim Jahangir (2018) argued that perceived ease of use is the extent to which a person accepts as true that using an exacting method would be at no cost to that individual affirmed perceived ease of use is the term that represents the degree to which an innovation is perceived not to be difficult to understand, learn or operate. He further stated that perceived ease of use is the degree to which consumers perceive a new product or service as better than its substitutes (Rogers, 1983). Similarly, Zeithaml et al. (2002) stated that the degree to which an innovation is easy to understand, or use could be considered as perceived ease of use. Moreover, Pikkarainen et al. (2014) found out perceived usefulness as a determinant of actual behavior which encouraged the user of the twenty first ,century banking to use more innovative and user-friendly self-service technologies that give them greater autonomy in performing banking transactions, in obtaining information on financial advices, and in purchasing other financial products. However, Gerrard and Cunningham (2003) noted that the perceived usefulness depends on the banking services offered such as checking bank balances, applying for a loan, paying utility bills, transferring money abroad, and obtaining information on mutual funds.

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Table 5. Level of Acceptability of Interactive Pedagogical Assessment Tool Using Messenger Chatbot in Learning Delivery in terms of Quality Factor

STATEMENT	Mean	SD	Remarks
1. I find the instruction captivating which is appropriate to the topic.	3.53	0.50	Strongly Agree
2. It uses satisfying value of font style, size, and colour that optimize readability and accessibility.	3.45	0.59	Strongly Agree
3. I find it generally appealing to the eyes of the readers.	3.38	0.58	Strongly Agree
4. It incorporates illustrations and icons which contribute to structuring and organizing of new knowledge in a simple way.	3.43	0.59	Strongly Agree
5. I find it well-organized properly laid out.	3.55	0.55	Strongly Agree
Grand Mean/SD	**3.47**	**0.56**	**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
4	3.26 – 4.00	Strongly Agree	Very High
3	2.51 – 3.25	Agree	High
2	1.76 – 2.50	Moderately Agree	Moderately High
1	1.00 – 1.75	Disagree	Low

The above table reveals that the extent of appositeness of the interactive pedagogical assessment tool using Messenger Chatbot in learning delivery in terms of quality factor was *very high* supported by the grand (M=3.47, SD=0.56). This means that the quality factor of the messenger chatbot as an assessment tool in learning delivery showed a quality attributes in terms of features and use.

It can be seen that the respondents *strongly agree* that *the quality factor were they find the the instruction captivating which is appropriate to the topic, uses satisfying value of font style, size, and colour that optimize readability and accessibility, generally appealing to the eyes of the readers, incorporates illustrations and icons which contribute to structuring and organizing of new knowledge in a simple way, and find it well-organized properly laid out* which has gained (M=3.38, SD=0.58), (M=3.43, SD=0.59), (M=3.45, SD=0.59), (M=3. 53, SD= 50), and the highest (M=3.55, SD=0.55). This implied that the quality factor of the chatbot as an assessment tool would lead to acquisition of the course goal. On the other hand, the respondents also *strongly agree* that *quality factor is precisely describe the expected learning outcomes* with the lowest (M=3.38, SD=0.58). This meant that respondents were able to describe the expected learning outcomes of the assessment tool.

Wang (2019) defined quality attributes, also known as quality factors, quality characteristics, or non-functional requirements, as a set of system functional and non-functional requirements that are used to evaluate the system performance. There are many system quality attributes identified in the literature (e.g., MSDN 2010, Barbacci et al. 1995). Depending on the type of the system being considered, some of these attributes are more prominent than others. Ideally, a system would be optimized for all the quality attributes that are important to the stakeholders, but this is an impossible task. Therefore, it is important to conduct a trade-off analysis to identify the relationship between the attributes and establish whether a change in one attribute would positively or negatively affect any other attributes.

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Table 6. Level of Acceptability of Interactive Pedagogical Assessment Tool Using Messenger Chatbot in Learning Delivery in terms of User Experience

STATEMENT	Mean	SD	Remarks
1. I find it interactive wherein it gives feedback whenever I answered correctly.	3.38	0.48	Strongly Agree
2. It provides interesting way of assessing students based on the target learning objectives and outcomes in each lesson.	3.48	0.59	Strongly Agree
3. It assesses me as a student with ease while achieving the desirable outcome	3.50	0.55	Strongly Agree
4. I enjoy taking quizzes using messenger chatbot.	3.40	0.80	Strongly Agree
5. I am driven to finish my quizzes because of messenger chatbot.	3.43	0.70	Strongly Agree
Grand Mean/SD	**3.44**	**0.64**	**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
4	3.26 – 4.00	Strongly Agree	Very High
3	2.51 – 3.25	Agree	High
2	1.76 – 2.50	Moderately Agree	Moderately High
1	1.00 – 1.75	Disagree	Low

The above table exhibited degree of aptness of the interactive pedagogical assessment tool using Messenger Chatbot in learning delivery in terms of quality factor was *very high* supported by the grand (M=3.44, SD=0.64). This means that the user experience of the messenger chatbot as an assessment tool in learning delivery showed a that the respondents have an agreeable perception of utilizing the messenger chatbot.

The respondents *strongly agree* that *the user experience were they* it interactive wherein *it gives feedback whenever they answered correctly, provides interesting way of assessing students based on the target learning objective`s and outcomes in each lesson, assesses me as a student with ease while achieving the desirable outcome, enjoy taking quizzes using messenger chatbot, driven to finish my quizzes because of messenger chatbot,* which has gained (M=3.38, SD=0.48), (M=3.40, SD=0.80), (M=3.43, SD=0.70), (M=3. 48, SD= 59), and the highest (M=3.50, SD=0.55). This implied that the user experience of the chatbot as an assessment tool would lead to acquisition of the course goal. On the other hand, the respondents also *strongly agree* that *user experience is precisely label the anticipated learning outcomes* with the lowest (M=3.38, SD=0.48). This meant that respondents were able to describe the expected learning outcomes of the assessment tool.

Suh (2011) said that over the last decade, 'user experience' became a buzzword in the field of human - computer interaction (HCI) and interaction design. As technology matured, interactive products became not only more useful and usable, but also fashionable, fascinating things to desire. Driven by the impression that a narrow focus on interactive products as tools does not capture the variety and emerging aspects of technology use, practitioners, and researchers alike, seem to readily embrace the notion as a viable alternative to traditional HCI. And, indeed, the term promises change and a fresh look, without being too specific about its definite meaning. The present introduction to the special issue on 'Empirical studies of the user experience' attempts to give a provisional answer to the question of what is meant by 'the user experience'. It provides a cursory sketch of and how we think research will look like in the future. It is not so much meant as a forecast of the future, but as a proposal - a stimulus for further research

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Table 7. Level of Students' Performance as to 3rd Quarter Summative Examination Scores through the aid of Messenger Chatbot as an Interactive Pedagogical Assessment Tool in Learning Delivery

Descriptors	Score	Frequency	Percentage
Outstanding	99-130	36	0.90
Very Satisfactory	66-98	4	0.10
Fairly Satisfactory	33-65	0	0
Did Not Meet Expectations	0-32	0	0
Mean	**117.43**	**Interpretation**	**Outstanding**

Table 7 shows the students' performance in the 3rd Quarter Summative Examination through the aid of Messenger Chat Bot. It can be seen from the table that 36 or 90 percent of the students obtained an *outstanding* performance garnering the total scores ranging from 99-130. Moreover, only 4 or 10 percent of the respondents got a *very satisfactory* performance with the total scores ranging from 66-98. This means that the students performed well as confirmed by the result. This further implies that interactive assessment tools like Messenger Chat Bot would be great help in enhancing students learning.

According to Lamas (2015) school performance study of students is, due to its relevance and complexity, one of the issues of major controversy in the educational research, and it has been given special attention in the last decades. This study is intended to show a conceptual approach to the school performance construct, contextualizing the reality in the regular basic education classrooms. The construct of learning approaches is presented as one of the factors that influences the school performance of students. Besides, an outlook of the empirical research works related to variables that are presented as relevant when explaining the reason for a specific performance in students is shown. Finally, some models and techniques allowing an appropriate study of school performance are presented.

Effect of Messenger Chat Bot as an Interactive Pedagogical Assessment Tool on the Performance of the Learners

Minitab 14 was used in computing the data gathered and treated them statistically using Analysis of Variance, General Linear Method. The computed p-values were compared to the level of significance at 0.05 to determine the effect of Messenger Chat Bot as an Interactive Pedagogical Assessment Tool on the Performance of the Learners.

Table 8. Effect of Messenger Chat Bot Status as an Interactive Pedagogical Assessment Tool on the Performance of the Learners in terms of 3rd Quarter Summative Examination

Variables	f-value	p-value	Analysis
Objectives Performance	3.132	0.037	Significant
Content Performance	3.002	0.043	Significant
Evaluation Performance	2.078	0.120	Not Significant

**significant at .05 level of significance*

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Table above reveals the effect of Messenger Chat Bot status as an interactive pedagogical assessment tool on the performance of the learners in terms of 3rd quarter summative examination.

It was evident from the table above that the obtained p-values of 0.037 and 0.043 of objectives and content respectively on student's performance were both lower than the 0.05 level of significance which indicated a *significant* analysis. This further implied that the objectives and content of the Messenger Chat Both affect student's performance. This means that the utilization of assessment tool applications boosted students learning as the goals contents aids the learners to achieve outstanding performance. However, the p-value of 0.120 on evaluation and performance was higher than the 0.05 level of significance which indicated a *not significant* analysis. This indicates that the evaluation of the module shows no effect on student's performance. Students may attain outstanding performance regardless of the evaluation of the assessment tool.

In Phde.net website, published in 2016, they defined objective performance measures are independent of the observer. That means the measurement is done using something other than the person observing. This independent measure can include: a stopwatch, measuring tape or record of goals. ... Skills are often measured using both, such that a soccer player's performance.

Gangadharan (2019) claimed user experience is important because it tries to fulfill the user's needs. It aims to provide positive experiences that keep a user loyal to the product or brand. Additionally, a meaningful user experience allows you to define customer journeys on your product that are most conducive to business success. User experience is different for everyone. The most important thing to keep in mind when designing a product is that though you have designed the product, you might not be a potential user who might be using the product. Hence, we cannot assume what a user wants or how they need.

Table 9. Effect of Messenger Chat Bot Acceptability as an Interactive Pedagogical Assessment Tool on the Performance of the Learners in terms of 3rd Quarter Summative Examination

Variables	f-value	p-value	Analysis
Ease of Use Performance	1.038	0.388	Not Significant
Quality Factors Performance	4.484	0.009	Significant
User Experience Performance	1.698	0.018	Significant

**significant at .05 level of significance*

The above table reveals that ease-of-use performance which gained (F-value: 1.38, P- Value:0.388) indicating a *not significant* which expectedly shows unequal ratio of 2 quantities accepting the hypothesis. Furthermore, quality factor performance and user experience performance which gained (F-value: 4.484 P- value: 0.009) and (F-value: 1. 698 P- value: 0.018) indicating *significant* rejecting the first given hypothesis. the findings were supported by the following related literatures and studies:

Henry, Sarah, and White, (2016) highlighted that usability is about designing products to be effective, efficient, and satisfying. Usability includes user experience design. This may include general aspects that impact everyone and do not disproportionally impact people with disabilities. Usability practice and research often does not sufficiently address the needs of people with disabilities.

Moreover, due to the perceived social presence of the services enabled by chatbots' capability of understanding and interacting with users like human agents (Lankton et al. 2015), they will rate post-use confirmation of their initial expectation from the chatbot-enabled service higher than those who have not much of technological anxiety. Our finding implies that chatbot services may somehow replace real human agents on OTAs at the current stage at least for those who have a high level of technology anxiety.

III. CONCLUSION

Anchored with the foregoing findings, the following conclusions were drawn.

The status of messenger chatbot in terms of objective, content, and evaluation to the respondents were very high. Therefore, it reveals that the respondents were exposed and familiar to the use of messenger chatbot as an assessment tool in which it can serves as an alternative of way of assessing students,

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despite of the ongoing pandemic. The level of acceptability in terms of ease of use, quality factor, and user experience was very high. Hence, the respondents widely understood the use of messenger chatbot as an assessment tool. The respondents found the messenger chatbot as an interactive and fun way of taking quizzes and tests where they get a positive feedback whenever they got a correct answer which helped to boost their confidence to finish tests and quizzes.

The study result implies that messenger chatbot was highly accepted as an interactive assessment tool in learning delivery. Teachers handling modular distance learning can choose messenger chatbot as one of an alternative way to assess the students.

IV- RECOMMENDATION

Based on the above conclusions, the following recommendations are offered.

1. The use of messenger chatbot as an interactive assessment tool in learning delivery may be further practice in schools specially in this time of pandemic. Teachers may provide a fun-learning environment to students even they are in their home. Teachers can still assess the learners in modular distance learning without hassle because messenger chatbot can still be used without data, they only need phone that must have a messenger application.
2. The students and the community may use this study to further understand the value of messenger chatbot to one's life. Messenger chatbot was widely used in business online but through this study, it showed that messenger chatbot can be very useful to any fields, especially in education.
3. The researcher may use this study as reference to conduct another related research regarding the use of messenger chatbot in education or any field and aspect.

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