

## Effectiveness of synchronous and asynchronous online learning delivery in developing oral communication competencies

DOI: 10.46932/sfjdv3n3-039

Received in: March 22<sup>nd</sup>, 2022

Accepted in: April 21<sup>st</sup>, 2022

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### ABSTRACT

This evaluation study investigates the effectiveness of synchronous (SL) and asynchronous (AL) mode of learning delivery in the development of competencies in Oral Communication among Senior High School students of Engineering (STEM), Business (ABM), and Social Sciences (HUMSS) in a state-run laboratory school. Participants are selected through Stratified Sampling. It compares the extent to which objectives of the course were met, relevance of contents amidst the current context, the effectiveness of instructional delivery, and the difference in the acquisition of competencies among students in SL versus those in AL. It is especially significant as an assessment of distance e-learning is necessary amidst the digital shift in education because of the pandemic. A Course Evaluation Form as well as a Student Self-assessment of Learning were used to gather data. These instruments were validated and checked for reliability, with a Cronbach  $\alpha$  of .859 and .871, respectively. The results of data analysis illustrate that at  $\alpha=0.05$ : (1) there is no statistically significant difference in the mean evaluation of SL and AL learners as to the extent in which the objectives of the course were met ( $p=0.109$ ); (2) there is a statistically significant difference in the mean evaluation of the relevance of course content in the current context of the learners ( $p=0.012$ ); (3) there is a statistically significant difference in the mean evaluation of SL and AL as to the effectiveness of instructional delivery ( $p=0.013$ ), and; (4) there is no statistically significant difference in mean evaluation of SL and AL learners' acquisition of competencies in Oral Communication ( $p=0.215$ ).

**Keywords:** assessment of remote learning, online language course evaluation, language instruction evaluation.

### 1 INTRODUCTION

In the context of the COVID 19 pandemic, schools worldwide are without any option but to roll out Online Distance Learning and other modes of learning delivery despite minimal time for preparation on the school, its faculty, and the students.

Over 1.2 billion students worldwide are learning remotely (Barron et al., 2021), while in the Philippines, about 20 million students in primary education are affected (Malipot, 2020) and given this reality, how can educators ensure that students still acquire the necessary competencies they need through the learning modality offered by schools and chosen by learners?

According to Chetty et al. (2020), limited research is conducted on the efficacy of distance learning among learners of different age groups and how it impacts their knowledge and skill acquisition. Of the

limited data available, though, from several countries, many students did not receive adequate instruction. Some studies indicate that a significant proportion of young learners do not have learning gains out of school. In the US, for example, tracking data illustrated a substantial decline in student's mathematical skills development during the COVID-19 crisis, especially in communities considered low-income.

Another survey among German parents during the COVID-19 school-closure period illustrated that students spent more than 50% fewer hours studying, from 7.4 to 3.6 hours (Woessmann et al., 2020). Data revealed that learners spent more time watching TV, playing games on the computer and mobile phones -passive activities at 5.2 hours per day. (Hanushek and Woessmann, 2020). Parents who participated in the survey indicated that only 38 percent of the children studied school-related tasks for 2 hours and less, while 74 percent studied for four hours and less (Hanushek and Woessmann, 2020).

Furthermore, even learners with highly educated parents experience the same decline in school activities, but more significantly, low-achieving learners become more engrossed in passive activities – watching TV, playing on their mobile phones, scrolling social media. Of those who participated in the survey, only 6% of learners had online group lessons every day (synchronous), while more than 50% had them once a week (asynchronous). Moreover, teacher-learner interaction has also significantly decreased, and the standard learning tool for learners without online lessons was task sheets that students received for weekly processing. This reduction in learning opportunities during the pandemic negatively affected all learners, especially the disadvantaged and marginalized children (Hanushek and Woessmann, 2020) because online learning also meant additional cost for internet credit (Habibi, 2022).

How can teachers mitigate these losses of learning opportunities, and what can be done to ensure that students acquire necessary competencies? This loss of learning opportunities is the issue that this evaluation study hopes to address, as in the Philippine context, there is a dearth of studies on the effectiveness of Online Distance Learning in the primary education context amidst the pandemic.

Through evaluation, teachers may determine whether the objectives are attained, how much students have achieved, and which areas need support and improvement (Aziz, Mahmood, and Rehman, 2018). Similarly, according to Gay (1985), evaluation studies involving collecting and analyzing data about learners' achievements enable effective decision-making about instruction. Such educational evaluation deals with the worth and value of the processes and products that schools provide learners. Emphasizing the critical nature of school evaluation, Gronlund (1990) states that school evaluation is indispensable for ensuring quality education and is crucial for an adequate and relevant educational institution.

Ensuring quality, effective, and relevant delivery of online distance learning offered by a state-operated laboratory high school is what is addressed in the context of this descriptive-evaluation study. It aims to get the perspective of students in identifying whether the elements of an effective language course

were achieved in the synchronous and asynchronous conduct of Oral Communication in Context (OCC) for Grade 11 students in terms of the achievement of the objectives of the course in the current context, the relevance of the contents of the course to the experiences of learners amidst the pandemic, the effectiveness of instruction using Synchronous and Asynchronous Mode of Teaching and Learning Delivery, and the acquisition of learning competencies in OCC.

The course objectives in the current context, course content, instruction, and learners' output were evaluated using Stufflebeam's (2003) CIPP Evaluation Model. The objectives were assessed to meet learners' needs and provide opportunities within a defined context or environment (Stufflebeam and Shinkfield, 2007). Course content is scrutinized on whether it provides information for determining the resources used to meet the program's goals (Khuwaja, 2001). Instruction was examined if the teaching-learning processes integrate technology, utilize differentiated activities, and are interactive (Patil & Kalekar, 2014). Finally, the product is assessed - the skills, attitude, knowledge, learning, and abilities students attain, which they shall use in life to benefit society (Scriven, 1994).

## 2 METHODOLOGY

The evaluation study is descriptive as it aims to accurately and systematically describe the characteristics of a given population or situation and the frequency with which a specific phenomenon occurs (Dulock, 1993). It further investigates issues and problems based on current events to accurately discover new meaning and describe what exists in each context, a particular individual or group of people (Dulock, 1993).

Table 1 illustrates the participants of the study who were Grade 11 senior high school students taking up oral communication subjects in a state-run laboratory high school, chosen through stratified sampling based on the mode of learning delivery they have chosen. Synchronous classes hold online lessons every day for at least one to two hours per subject using Google Meet, while Asynchronous classes only join google meet sessions at least twice a month because of lack of internet connectivity. Synchronous sessions are recorded and then posted in the google classroom to be watched by learners in the Asynchronous modality when they have an available internet connection. In the locale, there were more students in the Asynchronous classes, 64.78 percent of the study participants or 149 students compared to the Synchronous classes with only 81 students, 35.22 percent.

Table 1. *Study Participants*

Mode of Learning	Number of Participants	Percentage
Synchronous	81	35.22%
Asynchronous	149	64.78%
Total	230	100%

To gather data, a researcher developed a Course Evaluation Form and a Student Self-assessment of Learning. It was validated and pilot-tested for reliability with a Cronbach  $\alpha$  of .859 and .871, respectively. The instruments were distributed via a google form, and consent from parents and learner-participants' consent was asked. The difference between the two means independent samples were calculated using SPSS (Statistical Package for Social Sciences) version 26.

### 3 RESULTS

For purposes of clarity and organization, the results are presented based on the four elements of the program identified.

#### 3.1 OBJECTIVES OF THE COURSE IN THE CONTEXT OF THE PANDEMIC

Table 2 shows the extent to which the course objectives were met based on the evaluation of learners undergoing a Synchronous mode of learning versus an Asynchronous mode of learning delivery.

Table 2. *Comparison of Learner Evaluation on Achievement of Oral Communication Learning Objectives*

Midterm Evaluation					End of the Term Evaluation				
Learning Delivery	Mean	Interpretation	P-value	Interpretation	Learning Delivery	Mean	Interpretation	P-value	Interpretation
Synchronous	3.438	To a great extent	.109	Fail to reject Ho	Synchronous	3.661	To a great extent	.001	Reject Ho
Asynchronous	3.322	To a great extent			Asynchronous	3.457	To a great extent		

The results illustrate that both Synchronous and Asynchronous learners perceive that the needs and opportunities within their defined learning context (Stufflebeam & Shinkfield, 2007) were met to a great extent both during the formative and summative evaluation. However, by the end of the semester, the data show that Synchronous learners have a significantly higher mean evaluation than their Asynchronous counterparts.

#### 3.2 RELEVANCE OF COURSE CONTENTS

Relevance of the course contents amidst the pandemic as perceived by learners under Synchronous and Asynchronous mode of learning delivery is shown in Table 3.

Table 3. Comparison of Learner Evaluation on Relevance of Oral Communication Course Contents

Midterm Evaluation					End of the Term Evaluation				
Learning Delivery	Mean	Interpretation	P-value	Interpretation	Learning Delivery	Mean	Interpretation	P-value	Interpretation
Synchronous	3.481	Very relevant	.012	Reject Ho	Synchronous	3.522	Very relevant	.002	Reject Ho
Asynchronous	3.315	Very relevant			Asynchronous	3.20	Very relevant		

The results indicate that although both Synchronous and Asynchronous find the course content of OCC very relevant to their experiences, especially in the context of the pandemic, there is a significant difference in their mean evaluation in both the formative and summative.

This supports Hanushek and Woessmann’s (2020) claim that disadvantaged and marginalized children felt the impact of the transition to remote learning more negatively, as Asynchronous learners have lesser access to internet connection and digital tools in aid of distance learning.

### 3.3 EFFECTIVENESS OF INSTRUCTION

Effectiveness of instruction based on the evaluation of learners undergoing Synchronous mode of learning versus Asynchronous mode of learning delivery is illustrated in Table 4.

Table 4. Comparison of Learner Evaluation on Effectiveness of Instruction in Oral Communication

Midterm Evaluation					End of the Term Evaluation				
Learning Delivery	Mean	Interpretation	P-value	Interpretation	Learning Delivery	Mean	Interpretation	P-value	Interpretation
Synchronous	3.316	Very effective	.013	Reject Ho	Synchronous	3.356	Very effective	.017	Reject Ho
Asynchronous	3.130	Effective			Asynchronous	3.201	Effective		

The results show that the Synchronous learners perceive the instruction to be highly effective compared to Asynchronous learners' evaluation which is effective.

The difference is significant at both formative and summative evaluation. This is possibly because of the significant decrease in teacher-learner interaction between the teacher and Asynchronous learners, as discussed by Woessmann and Hanushek (2020). Although, there is an increase in the mean evaluation of Asynchronous learner's perception, due to the intervention.

These results negate Chetty et al.’s (2020) reports that distance learners do not receive effective instruction.

### 3.4 LEARNER ACHIEVEMENT

The level of acquisition of competencies in Oral Communication in Context as perceived by learners under Synchronous and Asynchronous mode of learning delivery is presented in Table 5.

Table 5. *Comparison of Learner Evaluation on Acquisition of Competencies in Oral Communication*

Midterm Evaluation					End of the Term Evaluation				
Learning Delivery	Mean	Interpretation	P-value	Interpretation	Learning Delivery	Mean	Interpretation	P-value	Interpretation
Synchronous	3.36	Very competent	.215	Fail to reject Ho	Synchronous	3.36	Very competent	.448	Fail to reject Ho
Asynchronous	3.25	Competent			Asynchronous	3.20	Very competent		

The results show that both Synchronous and Asynchronous learners have become very competent in Oral Communication in Context by the end of the semester.

However, during the formative evaluation, Asynchronous learners only perceive themselves as Competent.

The positive change in the perception of Asynchronous learners' regarding their level of competence in OCC after an intervention is a welcome result that negates Chetty et al.'s (2020) claim that learners do not have learning gains outside of school amidst the pandemic.

## 4 DISCUSSION

Essentially, the study results illustrate the significance of teacher-led evaluation in one's classroom as results of evaluation guide reflective teaching and instructional decisions that will enable teachers to carry out interventions that could help learners struggling in the new learning setup.

Positive results also serve as an affirmation of the efforts done by teachers in the new context of learning, while negative results serve as a guide on how we can improve, and which aspects can be improved so that we can become better educators.

For future research, similar descriptive-evaluation studies may be conducted among various learning modalities in the new normal, across various grade levels, and in different learning areas. Qualitative data analysis may also be integrated to support the quantitative data.

Finally, teacher and course evaluation needs to be seen positively, one that guides instructional decisions, rather than as it is currently perceived and used, for performance evaluation and monetary compensation.

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