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Integrating Reshare (Recap, Evaluate, Share, React) Model into General Biology II Teaching

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Annotation: With science and technology continuously advancing, scientific education is currently utilizing various approaches, strategies, and models to increase learning. As a result, many academics have tried to develop models describing the teaching-learning process in the classroom or school. Hence, the integration of REShaRe model was explored in this study towards the learning performance of Grade 11 learners. This study utilized a quantitative approach. Furthermore, results of the study showed significant ($p<.05$) usefulness of the newly established REShaRe model in teaching General Biology II.

Keywords: teaching-learning, teaching model, education, classroom, biology.

Introduction

Teaching Biology in Senior High School is necessary because it pertains to biological processes at the cellular and organismal levels (Picardal & Pano, 2018). Despite being vital to the subject matter, it is evident that many teachers and students find difficulty understanding the concepts. Furthermore, the Covid-19 pandemic tested education sectors, particularly teachers, on adopting effective instructional practices for students. The pandemic's effects transformed the vision of education and caused it to transition into a more accessible domain.

One of the difficulties addressed by substantial research is how to give teaching in an online learning environment without jeopardizing the learning levels associated with the lesson's objectives. Due to various students' limited learning styles, educators have trouble incorporating Bloom's Taxonomy into their online classes.

Similarly, instructors are vital in ensuring that quality education is maintained. As a result, the primary goal of this study is to determine if the REShaRe Model significantly impacts the teaching of Biology II to senior high school students. This question can help the researcher learn more about the feasibility of modeling an effective and timely teaching-learning process in an online learning environment.

Methods

Research Design

This study employed a One-shot Case Study Design to assess if the newly established model for teaching is worth pursuing in future modification and enhancement (Research Connections, *2022)*. The design is appropriate to this study because it is a pre-experimental design where multiple groups of test units are exposed to treatment, and a sample measurement was taken afterward. Also, it only measures the post-test results and does not use a control group.

The Research Design is shown below:

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Figure 1. Research Design

Research Respondents

The respondents of this study purposively selected two classes from Grade 11 Science, Technology, Mathematics, and Engineering (STEM) students who took General Biology II at Unida Christian Colleges, Imus, Cavite, under the researcher's supervision. This process ensures that there will be no contamination of the samples. The following criteria were executed: (1) the participants must be a bona fide student of the Unida Christian Colleges and enrolled in the strand of STEM for the S.Y. 2021-2022, (2) any gender with no age restrictions, and (3) currently taking General Biology II subject.

Sampling Technique

Total Population Sampling. Total population sampling is a sort of purposive sampling in which the entire population of interest (i.e., a group of people with the same quality) is researched (Statistics How To, 2018). It is most practicable when the entire population is controllable, such as a well-defined subsection of a larger population. Total population sampling is best practiced in the classroom.

Research Instruments

The primary instrument in this experiment will be the REShaRe Model and Post-test (to be delivered by a google form). REShaRe (Recap, Evaluate, Share, React) Model was purposely developed to acquire information on the impacts of the Model on the post-test scores. The REShare Model was created by a researcher who anticipated a significant influence on students' quarterly assessment results. In addition, the post-test will be prepared in conjunction with the subject matter covered during the class discussion.

Validation of Lessons

The lesson plans used by the researcher during the discussion were anchored in the Curriculum Guide of the Department of Education, Philippines.

Model Used in the Study

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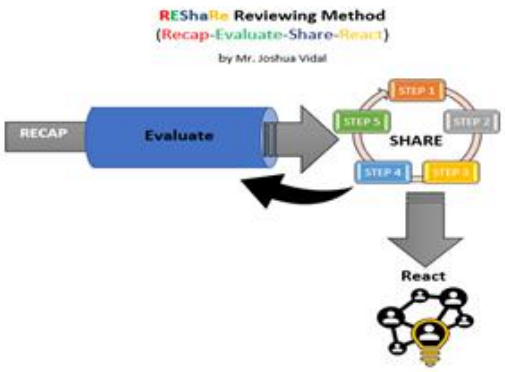

Figure 2. REShaRe (Recap, Evaluate, Share, React) Model

Figure 2 is assumed to be significant in students' participation, motivation, and collaboration that would impact students' academic performance. This model would be able to guide students and teachers in keeping the teacher-student teaching-learning process using online learning. The *Recap* in this model would mean that the student shall first bridge the previous discussion and the recent one to ensure that students can retain learning. *Evaluate:* In this phase, the student is expected to scrutinize the topics that the teacher has discussed by writing them in their own words or strategies of writing. *Share:* In this phase, the students shall collaborate with their groups and discuss the works they have pinpointed during evaluation; this way, the students can have validation of results in their write-ups by his/her classmates. Also, during Share, students will be tested through various questions to answer and later be measured on how much they were able to master, retain and comprehend the topics through collaborative learning. *React; this* way, students can give their reactions based on the results they have seen on the series of tests taken during the Share phase. Also, the teacher can ask one representative to share their techniques, strategies, and inputs for them to pass or even get high scores during the test. Take note that the instruction strategies should be done online. Therefore, the instructor should prepare ahead the materials needed in the REShaRe (Tests, Quizzes, Groupings link like google meet or zoom).

Ethical Consideration

The replies would be treated with the utmost respect and confidentiality. The experiment's findings would not be made public and kept in the researcher's Google Drive, which would be limited to unknown visitors until the study was completed. Respondents are considered more than just a source of data in this study; the researcher sees them as collaborators with the ability to contribute to the completion of the analysis. Another crucial element of this study is respect for the participants, who are the foundation for many ethical guidelines.

Data Analysis

The information gathered was tabulated and processed manually with the aid of a computer to determine the exact interpretation of the results. Matrix tables were made to organize, summarize, and analyze the data gathered for easy determination of its differences from each other. One sample t-test (also known as Student's *t*-test) is a tool for evaluating the means of one population using hypothesis testing. A t-test may be used to evaluate whether a group differs from a known value (a one-sample t-test).

Results

Posttest Scores of the Respondents

The purpose of this study was to calculate the mean level scores of the respondents after taking the Quarterly Assessment of the General Biology II. The mean of both sections or classes in the study was computed, and descriptions were disclosed based on the percentage values. The table below shows the result.

Table 1. Results Mean of Classes in a Test

	N	Mean	Median	SD	SE
Class A	54	38.4	42.0	13.0	1.77
Class B	54	40.2	43.0	11.8	1.60
Overall	108	39.3			

The posttest revealed that the learners in population A got a mean of 38.4, indicating that the average score for Class A is within the general passing grade of 75%. Additionally, Class B from this experiment exhibited a mean value of 40.2, which is 2.2 points higher. The one-sample t-test mean of the population of the General Biology II Quarterly Examination was shown in Table 2 to conclude if the Model can be said to be significant for the rest of the class.

Table 2. One Sample T-Test

		Statistic	df	p
Sample	Student's t	25.1	53.0	< .001

*Note: *Significant at 0.05 level of significance*

The sample taken from the overall population in a one-sample t-test revealed a significant difference ($p < .05$). This means that the Model's usefulness can now be said to be significant to the rest of the population.

Discussion

These preliminary findings suggest that the REShaRe Model should be used to teach General Biology II in STEM Senior High School. The findings suggest that the REShaRe Model is one of the teaching processes that can be used effectively during a pandemic to ensure that students learn during the General Biology II discussion. While this study does not conclusively determine the efficacy of the REShaRe Model in delivering General Biology II, it does not preclude future research into the REShare Model. For example, a closer analysis, such as administering pre-and post-tests, would be required to determine the Model's efficacy. These findings also suggest that the REShaRe Model can be used in online teaching rather than unproven methods. This enables the instructor to ensure that the subject matter is successfully conveyed despite all the challenges of delivering lessons in an online environment.

Conclusion

As a result, the REShaRe Model significantly impacts learners' scores in General Biology II, and there was a significant difference ($p<.05$) in the mean of Sample in the Quarterly Assessment of Senior High School STEM Students General Biology II Subject.

Recommendation

Considering the data's findings, the researcher recommends re-evaluating the Model using True-Experimental Design with pre and post-tests to confirm the Model's validity and reliability through

a much larger lens. The researcher would like to propose that the REShaRe Model be explored in different subject areas. It could be recommended that the Model be added to the Senior High School STEM Syllabus for teaching General Biology II since the preliminary findings were significant.

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