NEXUS
International Journal of Science and Education

ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

# Mediating Effect Of YouTube Tutorial On Integrative Teaching Approach And Students' Learning Creativity

Bernadette E. Rodriguez

**Abstract.** The current study aimed to evaluate whether YouTube Tutorials mediate the relationship between the integrative teaching approach and the learning creativity of students. In this study, the researcher selected 355 students in Cluster 3 Public Secondary Schools in Davao City as the respondents of the study. A stratified random sampling technique was utilized in the selection of the respondents. A non-experimental quantitative research design using a descriptive-correlational method was employed. The data collected were subjected to the following statistical tools: Mean, Pearson Moment Product Correlation, and Sobel z-Test. Findings revealed that YouTube tutorials and teachers' integrative teaching approach were described as extensive, while the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City was rated as moderately extensive. Further, correlation analysis demonstrated that there was a significant relationship between YouTube tutorials, teachers' integrative teaching approach, and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. Evidently, the Sobel z-test proved that YouTube tutorials partially mediated the relationship between teachers' integrative teaching approach and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. In other words, YouTube tutorials are a significant mediator in the relationship between teachers' integrative teaching approach and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City.

KEY WORDS 1. Educational management. 2. teachers' integrative teaching approach.
3. learning creativity of students. 4. YouTube tutorials

Date Received: October 05, 2024 — Date Reviewed: November 10, 2024 — Date Published: December 10, 2024

## 1. Introduction

YouTube is one of the biggest online databases that are helpful for accessing video tutorials developed by and for users on diverse topics. Many foreign universities utilize YouTube videos to learn in the classroom. YouTube is the most viewed website, with more than 1.7 billion estimated monthly views from organic searches. Keeping that in mind, the US population is 329 million, meaning every person in the US clicks on a YouTube result 5.19 times per month, on average. More so, the perceived advantages of YouTube in the classroom are the video assistance in learning, making it interesting, practical, and inspirational. YouTube has potential uses in social studies instruction and as a training source in elementary classrooms. YouTube has become an important source of homework assistance, having the most exten-

sive video database. Thus, it could be said that evaluating the impact of YouTube tutorials on the education context could add to limited research on the importance of YouTube tutorials in education. YouTube tutorial refers to the process of using documentation of academic lectures for academic purposes (Cihangir Çoklar, 2021). The features that distinguish YouTube from traditional media tools (Television, Radio, etc.) and have an important effect on reaching such large followers can be listed as being free of charge, allowing them to comment on the content, and allowing followers to be content producers. According to Chtouki et al. (2012), teachers who adopt integrative teaching approaches may incorporate YouTube tutorials as supplementary learning resources. These tutorials can give students diverse perspectives and methods for understanding the material. Also, Rosenthal (2018) concluded that students and other individuals in academe continued to watch videos on YouTube due to reasons such as the non-boring, fluent, understandable, and planned lecturing, the expertise of the instructor in the field, the instructor's tone of voice, accent, and diction, the quality of the content and training, ensuring continuity, and interesting topics. Likewise, Bae and Baxter (2017) stated that a video with educational content contains quality, complete, and comprehensive information. Meanwhile, Abd (20121) emphasized that using the integrative teaching approach aids in the professional and scientific development of the teacher because they constantly need to grow and diversify their knowledge to keep up with the complex and varied information they provide to their students. Similarly, Raba (2017) pointed out that integrating instructional strategies encourages independent learning, critical thinking, teamwork, and self-control. Hence, new forms of teaching methodologies, such as active, constructive, goal-directed, diagnostic, reflective, discovery-oriented, contextual, problem-oriented, case-based, and others, are required to achieve the aforementioned outcomes. Moreover, previous studies indicate a relationship between teachers' integrative teaching approach and the learning creativity of students. For instance, Kristiansen et al. (2019) found that an integrative teaching approach promotes students' positive interdependence, face-to-face interaction, accountability, group behavior, and processing. Also, Millis (2014) reported that in a classroom environment where students are the focus, teachers get to know their students, hear their thoughts, and use management strategies that help them and their students recognize one another as persons. Moreover, Nguyen et al. (2012) denoted that integrative teaching encourages students to express their diverse points of view. Instructors can provide guidelines to help students select topics relevant to the course while allowing students to share their unique perspectives. Because they serve as mentors and role models and spend much time with students, teachers play a crucial role in helping students develop their creativity in learning. (Kampylis et al., 2014). However, there seems to be general agreement that creativity in learning is not consistently identified or fostered in schools as it should be. In general, classrooms do not seem to be environments that encourage innovation. In reality, the study by Beghetto (2010) revealed that despite their general appreciation of creativity, instructors have unfavorable views and minimal tolerance for behaviors and qualities linked with it. Therefore, some teachers may follow practices that inhibit the expression of students' creativity and realization of their creative potential, and schooling may have a debilitating effect on student creativity. Additionally, Prudente (2011) stated that there is evidence of a problem with kids' learning creativity based on the declining performance of Filipino students on the National Achievement Test (NAT). A study that examined the relationship between test performance and learning creativity found that students who lacked learning creativity, as seen by



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

their avoidance of completing their homework, performed poorly across all learning domains. Although studies have been established, none have been conducted in the Philippines, specifically Mindanao. Also, those studies only examined the direct influence of these variables. The researcher has not yet found any study evaluating the mediating effect of YouTube tutorials. Thus, in this context, the researcher felt the need to fill in the research gap by conducting a study in the Philippine setting, particularly in Davao City, using a quantitative approach. Specifically, the researcher used structural equation modeling, particularly mediation analysis, to better understand the mediating effect of YouTube tutorials on the integrative teaching approach of teachers and the learning creativity of the students, which is found to be scarce. The present study intends to contribute to the limited body of knowledge regarding the influence of teachers' integrative teaching approach on learning creativity.

*1.1. Review if Significant Literature*—This section examines the variables and indicators relevant to the study, synthesizing insights from books, journals, and electronic sources.

*1.1.1. YouTube Tutorials*—YouTube serves as a platform for academic and non-academic content, fostering active and lifelong learning by providing diverse resources and formats (Cihangir Çoklar, 2021; Zhou et al., 2010). Teachers using YouTube tutorials adopt integrative approaches to enhance engagement and comprehension (Chtouki et al., 2012; Orús et al., 2016). Despite benefits such as accessibility and interactivity, issues of content reliability and educational quality remain critical (Jones Cuthrell, 2011; Rosenthal, 2018). Educational content constitutes a minor fraction of YouTube's traffic, highlighting its potential yet underutilized role in education (Zinderen, 2020; Casas et al., 2013).

*1.1.2. Integrative Teaching Approach*—Integrative teaching connects theoretical and practical knowledge, improving learning outcomes, engagement, and critical thinking (Kanwar et al., 2017; Ebrahimzade et al., 2021). Approaches such as interdisciplinary learning enhance problem-solving and student motivation (Dowden, 2012; Saputra Aziz, 2014). Effective strategies emphasize student-centered learning, active participation, and creative engagement (Nguyen et al., 2012; Millis, 2014; Abramovich et al., 2019).

*1.1.3. Learning Creativity*—Learning creativity involves generating valuable ideas and solving problems innovatively (Morais et al., 2021; Sriwongchai et al., 2018). Creativity thrives in motivating, interdisciplinary environments that encourage reflection, collaboration, and experimentation (Harris de Bruin, 2018; Dörnyei Kubanyiova, 2014). Teachers play a vital role in fostering creativity through supportive classroom dynamics and innovative pedagogical strategies (Beghetto Kaufman, 2010; Glaveanu, 2018).

*1.1.4. Indicators of Creativity*—Imagination: Encourages diverse perspectives and problem-solving (Harding, 2019; Bruijn-Smolders, 2017). Intuition: Facilitates pattern recognition and innovative thinking (Nierenberg, 2016; Brock, 2015). Inferential Thinking: Enhances critical reasoning and informed decision-making (Norman, 2016; Pretz et al., 2014). Confidence: Drives curiosity and academic performance through intrinsic motivation (Haughery, 2017; Arbabisarjou et al., 2016).

*1.2. Synthesis*—Therefore, this portion of the paper provides the researcher with the results of other research to which the present study is related or has some bearing and similarity. More so, the literature showed that the integrative teaching approach, as proposed by Kanwar et al. (2017), is measured in terms of creativity, adaptability, critical reasoning, and collaboration, while learning creativity as contextualized by Morais et al. (2021) is indicated with imagination, intuition, inferential, and confidence.



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

This gives the author sufficient background to understand the study.

*1.3. Theoretical/Conceptual Framework*—The study is anchored on the proposition of Chtouki et al. (2012) that teachers who adopt integrative teaching approaches may incorporate YouTube tutorials as supplementary learning resources. These tutorials can give students diverse perspectives and methods for understanding the material. As a result, students are exposed to a broader range of teaching styles and content, encouraging them to think creatively about the subject. When teachers use these tutorials to enhance their lessons, students are more likely to experience active learning and develop creative approaches to understanding and presenting information. In support, Rosenthal (2018) postulated that YouTube tutorials often feature visual and interactive elements that engage students. Teachers can incorporate these elements into their lessons to make learning more dynamic and engaging, catering to different learning styles. Teachers can use YouTube tutorials to explore diverse teaching methods, techniques, and resources that align with an integrative teaching approach. This exposure can inspire teachers to adapt and integrate new strategies into their teaching practices. Bae and Baxter (2017) proposed that exposure to YouTube tutorials can improve students' visual literacy and media interpretation skills. Teachers can incorporate this into their teaching to help students critically analyze and create visual content, promoting creativity in communication. As shown in Figure 1, the study consists of three variables. The independent variable is the integrative teaching approach, which connects skills and knowledge from multiple sources and experiences or applies skills and practice in various settings. According to Kanwar et al. (2017), the measures of the integrative teaching approach are innovativeness or teacher's actions that go beyond prescribed role expectations; adaptability or the ability of people to change their attitudes, feelings, and behavior in response to brand-new, shifting, or unclear circumstances; critical reasoning or the ability to reason through sets of propositions, rules, conditions, statements and premises to arrive at an accurate or valid conclusion; and collaborative or the instructional use of groups so that students work together to maximize their own and each other's learning. The dependent variable was the learning creativity or the abilities that help students determine their learning needs. As proposed by Morais et al. (2021), the measures of learning creativity are imagination or learners' ability to explore their environments in creative ways; intuition or the influence of nonconscious emotional information from the body or the brain, such as an instinctual feeling or sensation; inferential or the ability to make a decision based on a few key pieces of information when significantly more information is usually needed; and confidence or students' beliefs towards himself. Lastly, YouTube tutorials were the mediating variable, which refers to using academic lecture documentation for academic purposes.

*1.4. Statement of the Problem*—The primary purpose of this study was to evaluate the mediating effect of YouTube tutorials on the relationship between the integrative teaching approach and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. Specifically, this study sought to answer the following questions:

(1) What is the extent of YouTube tutorials as the mediating variable?
(2) What is the extent of the integrative teaching approach of teachers as perceived by students in terms of:



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

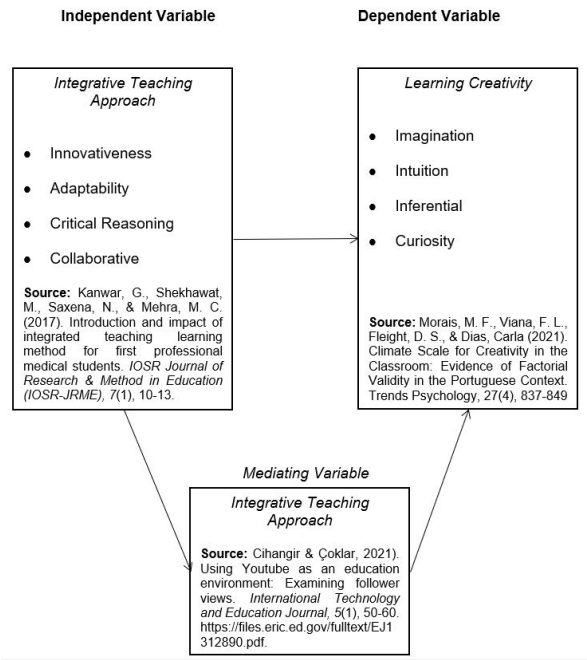


Fig. 1. The Conceptual Framework of the Study

(1) innovativeness;
(2) adaptability;
(3) Critical Reasoning; and
(4) collaborative?

(3) What is the extent of learning creativity of students in terms of:
    (1) imagination;
    (2) intuition;
    (3) inferential; and
    (4) confidence?
(4) Is there a significant relationship between YouTube tutorials, an integrative teaching approach, and the learning creativity of students in Cluster 3 Secondary Schools in Davao City?
(5) Do YouTube tutorials significantly mediate the relationship between the integrative teaching approach and the learning creativity of students in Cluster 3 Secondary Schools in Davao City?

*1.5. Hypothesis*—The following null hypotheses were tested at a 0.05 level of significance: H01: There is no significant relationship between YouTube tutorials, integrative teaching approach, and learning creativity of students in Cluster 3 Secondary Schools in Davao City. H02: YouTube tutorials do not significantly mediate the relationship between the integrative teaching approach and the learning creativity of students in Cluster 3 Secondary Schools in Davao City. Considering the cited problem situation, the researcher finds it timely to propose this study, which looks into the mediating effect of YouTube tutorials on the relationship between the integrative teaching approach and the learning creativity of students in Cluster 3 Secondary Schools in Davao City. Hence, the researcher hopes that this study was beneficial to identified sectors of the academe: Department of Education. DepEd can use the study's find-


ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

ings to make informed decisions about integrating digital resources, such as YouTube tutorials, into educational policies and curricula. This can inform policies related to technology integration in education, ensuring educators have the support and resources to leverage digital tools effectively. School Principals. School leaders could use the study's insights to enhance their institutions' curriculum and teaching strategies, promoting creative and compelling learning experiences. This can guide the design of professional development programs for teachers, helping them develop the skills and knowledge necessary to integrate YouTube tutorials into their teaching practices. Teachers. The study could benefit teachers by helping them better understand how to integrate YouTube tutorials effectively into their teaching practices and enhance their pedagogical strategies. It can also contribute to the professional growth of educators by encouraging them to adopt innovative and creative approaches to teaching and learning. Students. Students could enjoy a more diverse and engaging learning experience that incorporates YouTube tutorials, which can foster creativity and critical thinking. The study can promote self-paced learning, allowing students to explore interesting topics and individualize their learning experiences. Future Researchers. Other researchers would benefit from this study's results because the findings may provide a framework and model for future research on integrative teaching approaches, YouTube tutorials, and students' learning creativity. For a more comprehensive understanding, the following terms were defined operationally: Integrative Teaching Approach. This was defined as connecting skills and knowledge from multiple sources and experiences or applying skills and practice in various settings. In this study, the independent variable was described in terms of the following indicators: innovativeness, adaptability, critical reasoning, and collaboration. Learning Creativity refers to the abilities that help students determine their learning needs. This study describes the dependent variable regarding imagination, intuition, inferential, and confidence. YouTube Tutorials were conceptually defined as using academic lecture documentation for academic purposes. This refers to the mediator expected to explain the relationship between the study's independent and dependent variables.

## 2. Methodology

In this chapter, we will outline the processes and steps involved in conducting the study. This will encompass selecting the study's design, identifying the respondents and the sampling method, choosing the research instruments for data collection, and delineating the data analysis process. The researcher employed artificial intelligence methods to meticulously proofread this work during its preparation. Artificial Intelligence (AI) was expressly utilized to enhance the overall quality, coherence, and precision of the manuscript. This methodology is being openly communicated to adhere to ethical norms in research. Leveraging AI for proofreading underscores a commitment to the responsible use of cutting-edge technologies and acknowledges AI's growing role and potential in professional and academic writing.

*2.1. Research Design*—The study employed a non-experimental design utilizing the descriptive correlation technique to gather data, ideas, facts, and information related to the study. Quantitative research deals with numbers, logic, and objective stances. It focuses on numeric and unchanging data, detailed, convergent reasoning, and generating ideas about a research



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

problem (Babbie et al., 2010). According to Myers and Well (2013), correlated design examines how the independent variable influences the dependent variable and establishes cause-and-effect relationships between variables. It enabled the researcher to observe two variables at a point in time and helped describe the relationship of the factors of both variables. Moreover, the study also looked into the relationship among three variables– YouTube tutorials, integrative teaching approach, and learning creativity of secondary school students in Davao City. The study aims to investigate whether YouTube tutorials significantly mediate the integrative teaching approach and learning creativity of students in Cluster 3 Secondary Schools in Davao City.

*2.2. Research Respondents*—The study's respondents were the Grade 7-10 students in Cluster 3 Secondary Schools in Davao City. The 355 respondents were selected through a stratified random sampling technique in this study. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. According to Shi (2015), in stratified random sampling, or stratification, the strata were formed based on members' shared attributes or characteristics such as income or educational attainment. Stratified random sampling is appropriate in this study because there is heterogeneity in a population that can be classified with ancillary information. In this study, certain inclusion criteria was implemented in determining the respondents of the study. The primary consideration of this study is to choose respondents who could provide information to achieve the purpose of this study. Hence, only those bonafide grade 7-10 students enrolled for S.Y. 2023-2024 in Cluster 3 Secondary Schools in Davao City, who voluntarily signed the ICF were given the survey questionnaires. Moreover, the study was delimited only to the nature of the problem based on the research questions, and thus, it did not consider the school performance ratings of the students.

*2.3. Research Instrument*—The study employed researcher-made questionnaires tailored to the respondents' contexts. Three experts validated the instrument, which was then edited based on the validators' suggestions and comments. The instrument was divided into three parts. The first part is about the YouTube Tutorials. The scale obtained a Cronbach's alpha value of 0.956, which was described as excellent and interpreted as highly reliable. The questionnaire made use of a 5-point Likert scale and was determined based on the following ranges of means:

| **Range of Mean** | **Descriptive Level** | **Interpretation** |
|---|---|---|
| 4.20 - 5.00 | Very Extensive | The YouTube tutorials is always evident. |
| 3.40 - 4.19 | Extensive | The YouTube tutorials is oftentimes evident. |
| 2.60 - 3.39 | Moderately Extensive | The YouTube tutorials is sometimes evident. |
| 1.80 - 2.59 | Less Extensive | The YouTube tutorials is seldom evident. |
| 1.00 - 1.79 | Not Extensive | The YouTube tutorials is never evident. |

The second tool was the integrative teaching approach. This questionnaire was distributed among the four indicators: innovativeness, adaptability, critical reasoning, and collaboration. The scale obtained a Cronbach's alpha value of 0.956, which was described as excellent and interpreted as highly reliable. The questionnaire made use of a 5-point Likert scale and was determined based on the following ranges of means:



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

| Range of Mean | Descriptive Level | Interpretation |
|---|---|---|
| 4.20 - 5.00 | Very Extensive | The teachers' integrative teaching approach is always observed by the students. |
| 3.40 - 4.19 | Extensive | The teachers' integrative teaching approach is oftentimes observed by the students. |
| 2.60 - 3.39 | Moderately Extensive | The teachers' integrative teaching approach is sometimes observed by the students. |
| 1.80 - 2.59 | Less Extensive | The teachers' integrative teaching approach is seldom observed by the students. |
| 1.00 - 1.79 | Not Extensive | The teachers' integrative teaching approach is never observed by the students. |

The third part of the instrument was about the learning creativity of students. This questionnaire was indicated with imagination, intuition, inferential, and confidence. The scale obtained a Cronbach's alpha value of 0.956, which was described as excellent and interpreted as highly reliable. The questionnaire made use of a 5-point Likert scale and was determined based on the following ranges of means:

| Range of Mean | Descriptive Level | Interpretation |
|---|---|---|
| 4.20 - 5.00 | Very Extensive | The learning creativity of students is always manifested. |
| 3.40 - 4.19 | Extensive | The learning creativity of students is oftentimes manifested. |
| 2.60 - 3.39 | Moderately Extensive | The learning creativity of students is sometimes manifested. |
| 1.80 - 2.59 | Less Extensive | The learning creativity of students is seldom manifested. |
| 1.00 - 1.79 | Not Extensive | The learning creativity of students is never manifested. |

*2.4. Data Gathering Procedure*—The researcher undertook the steps in conducting the study after the validation of the research questionnaire. Permission to Conduct the Study. The researcher secured the permission to conduct the study. The researcher secured the endorsement from the Dean of the Graduate School in Rizal Memorial Colleges, Inc., Davao City. The endorsement letter from the Dean of the Graduate School in Rizal Memorial Colleges, Inc., Davao City, was attached to the permission letters to be endorsed to the Schools Division Superintendent and then to the school principals of the selected public secondary schools in Cluster 3 Secondary Schools in Davao City. Distribution and Retrieval of the Questionnaire. The researcher distributed the research instrument to the respondents after the study was approved. The study was conducted last June 28-30, 2023. Upon distributing the questionnaires, the benefits of the survey were briefly discussed and explained to the identified respondents of the



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

study. For the administration of the questionnaire, the questionnaire was distributed following health protocols such as wearing face masks and face shields and following social distancing. The study respondents were given enough testing time to finish the questionnaires. After this, the data collected were subjected to quantitative analysis. Collation and Statistical Treatment of Data. After the questionnaire was retrieved, each respondent's scores were tallied to organize the data per indicator. After that, each score was subjected to descriptive and inferential analysis using SPSS.

*2.5. Ethical Considerations* —The researcher promptly observed the protocols deemed necessary as the standard guidelines in carrying out the research study, following the study protocol assessment criteria, particularly in managing the population and data. The survey questionnaires with supporting authors were submitted for further evaluation. After the approval from the Ethics Committee, the researcher proceeded to the next phase of the study. Informed Consent. The researcher obtained the consent of respondents through written informed consent. They were properly informed about the purpose of the study and given ample explanations so that they could better understand the reason for their participation and choose whether to participate or not. It was made clear that respondents' involvement in the study was voluntary. If they refused to participate, they were not forced by the researcher. Besides, the researcher was cautious in ensuring the respondents' psychological well-being. Written permission was secured from the respondents. The researcher informed the respondents that the study aimed to conduct a study on the factors that hinder/promote the learning creativity of students about teachers' integrative teaching approach as explained by YouTube tutorials, and may contribute to the enhancement. Vulnerability of Research Participants. The study's respondents were learners, so they were considered vulnerable since all of them were not yet of legal age. They were also considered highly vulnerable psychologically. The researcher emphasized that the survey was set at the respondents' convenience. Also, the researcher protected the confidentiality of the information disclosed. Privacy and Confidentiality. This study observed the Data Privacy Act of 2012, wherein the researcher assured that the data could not be traced back to the participants, who would be the real source of information, to protect the participants' identities. Moreover, the researcher assured that no personal data would be shared without the respondents' consent. Thus, access was limited to the researcher alone to ensure that no personal data would be exposed. To protect the participants' privacy, it was assured that the researcher was the only person who could access the survey information. After the necessary data was collected, the researcher permanently deleted all the survey results to ensure that data could not be traced back to the respondents, who were the real source of information. Risk, Benefits, and Safety - In administering the survey questionnaires, the researcher fully disclosed to the respondents the nature of their participation and explained thoroughly and properly the purpose and benefits of the study and the confidentiality of their responses as stated in the online survey questionnaire. Without restrictions, the respondents could ask questions related to the study. Further, the researcher ensured that the respondents were not subjected to harm in any way whatsoever. Moreover, the questionnaire used in this study did not contain any degrading or unacceptable statements offensive to the study's respondents. Likewise, this study was designed purely to collect academic information related to the study, and they were not asked for personal information. To minimize inconvenience, the researcher ensured that the respondents were given ample time to answer the survey questionnaire. The respondents were given the freedom not to answer



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

questions that made them feel any psychological or emotional distress, and they would be free to withdraw as respondents to the study if they felt that they could not discuss the information that was being asked of them. The researcher valued their participation and placed their welfare as the highest priority during the study. Justice. To avoid impartiality in choosing the respondents, the researcher regarded all respondents equally regardless of whether they would be respondents in the survey. The researcher was not prejudiced in choosing the respondents for the study. Anybody qualified to be bonafide enrolled grade 7-10 students in the purposively selected schools. During the study, the researcher made certain to respect the respondents by interrupting their routine as little as possible. To compensate for the time spent during data gathering, the researcher gave tokens of appreciation to the respondents. This token was an assortment of souvenirs. The tokens were sent via courier and sealed carefully in a package. Also, each token was sanitized before being sent to your doorstep. Transparency. To provide transparency in this study, any communication about the research was done honestly and fairly. To safeguard the welfare of the participants, the researcher properly implemented the methods discussed in this study. All the necessary documents that supported the data analysis were included. Notably, the researcher described the extent of the respondents' involvement in this study and shared how the researcher maintained objectivity in analyzing data and presenting the study results. Qualification of the Researcher. The researcher ensured that other factors like the conflict of interest did not influence the respondents' responses. The study's findings could be accessed by the respondent's parents and school administrators of the participating schools because the information would be made available as long as they followed proper protocol to protect the anonymity of the respondents. The researcher also acknowledged the effort of every person who contributed to the study's success; the Division of Davao City was given a furnished copy of the research results so it could be accessed by the respondents and be used for learning and further study. Adequacy of Facilities. The researcher engaged the respondents in a conducive environment and learning materials, which were ample and available in the study and were done within the time set by the researcher. The accuracy of gathering data from the respondents was ensured by adequately encoding the respondents' ratings during the day when the researcher was not too tired to do them to avoid errors in encoding. Also, the analysis and results were proficient and aligned, serving as a primary basis for adequacy. Community Involvement. It was good practice to involve the community during every research phase, from planning to reporting. Hence, the researcher planned to share the findings generated with the community, and community involvement was accorded primacy in making decisions about the research agenda, appropriate methods to apply in their context, and use of the results or findings.

*2.6. Data Analysis*—The following were the statistical tools utilized by the researcher in processing the gathered data: Mean. This was useful in characterizing the YouTube tutorials, teachers' integrative teaching approach, and learning creativity of students in Cluster 3 secondary schools in Davao City. Pearson Product Moment Correlation. It was used in this study to assess the significant relationship among independent (teachers' integrative teaching approach), dependent (learning creativity of students), and Mediator (YouTube Tutorials) variables. It was a statistical measure of the strength of a linear relationship between paired data. In a sample, it is usually denoted by r. Sobel z-Test. It was applied to evaluate the mediating effect of YouTube tutorials on the relationship between teachers' integrative teaching approach and the learning creativity of students



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

in Cluster 3 secondary schools in Davao City. 5. This was used to supply the answer for objective

## 3. Results and Discussion

This chapter presents the results generated from the data gathered. It is sequenced based on the study's objectives, as presented in the first chapter. Thus, it presents the extent of YouTube tutorials as the mediating variable, the integrative teaching approach of teachers as perceived by students, and the learning creativity of students in Cluster 3 Secondary Schools in Davao City, as well as the significant relationship among YouTube tutorials, integrative teaching approach, and learning creativity of students in Cluster 3 Secondary Schools in Davao City.

*3.1. YouTube Tutorials* —Table 1 shows that the respondents assessed the students' YouTube tutorials as extensive, with a category mean of 3.51, interpreted as oftentimes evident among students in Cluster 3 Public Secondary Schools in Davao City. The mean rating of the different items ranges from 3.15 to 4.22. On the one hand, the item Being good at organizing information has a mean rating of 3.15, described as moderately extensive and interpreted as sometimes evident among students in Cluster 3 Public Secondary Schools in Davao City. On the other hand, the item Understanding my intellectual strengths and weaknesses reflects a mean of 4.22, described as very extensive and interpreted as always evident. This implies that the process of using documentation of academic lectures for academic purposes is oftentimes evident among students in Cluster 3 Public Secondary Schools in Davao City. This supports the idea of Orús et al. (2016) that high levels of YouTube tutorials mean that a vast repository of educational content is readily accessible to learners worldwide. This accessibility breaks down geographical and time constraints, allowing individuals to learn at their own pace and on their schedule. This enhances the convenience of education and supports lifelong learning. This also supports Moghavvemi's et al. (2018) idea that a proliferation of YouTube tutorials provides various learning resources in various formats, catering to diverse learning styles and preferences. This diversity includes instructional videos, animations, virtual experiments, and more, ensuring learners can choose resources that best suit their needs.

Table 1. YouTube Tutorials of Students in Cluster 3 Public Secondary Schools in Davao City

| **Statement** | **Mean** | **Descriptive Rating** |
|---|---|---|
| Helping me learn complex concepts. | 4.22 | Very Extensive |
| Encouraging self-learning. | 3.24 | Moderately Extensive |
| Being comprehensive and interesting. | 3.15 | Moderately Extensive |
| Being aligned with my learning preferences. | 3.43 | Extensive |
| Being not boring. | 3.56 | Extensive |
| **Overall Mean** | **3.51** | **Extensive** |



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

*3.2. Teachers' Integrative Teaching Approach —*

*3.2.1. Innovativeness*—Results in Table 2 show that teachers' integrative teaching approach in terms of innovativeness got an extensive category mean rating of 3.34, which means that this is sometimes observed by the students in Cluster 3 Public Secondary Schools in Davao City. The mean rating of the different items ranges from 2.99 to 3.62. The item Determining the academic needs of the students reflects a mean rating of 2.99, described as moderately extensive and interpreted as an item sometimes observed. Meanwhile, the item, using a variety of assessment techniques, shows a rating of 3.62, which is described as extensive and interpreted as an item oftentimes observed by the students. This implies that the teacher's actions, which go beyond prescribed role expectations, are sometimes observed by the students in Cluster 3 Public Secondary Schools in Davao City. This supports the idea of Hennessey (2017) that moderate levels of innovation in teaching can lead to improved student engagement and interest. Students may find lessons more exciting and relevant, positively impacting their learning experience. Teachers who adopt moderately integrative approaches may use traditional and innovative methods. This variety can cater to diverse learning styles, helping students with different preferences and needs.

Table 2. Teachers' Integrative Teaching Approach in Terms of Innovativeness

| **Statement** | **Mean** | **Descriptive Rating** |
|---|---|---|
| Developing an assessment rubric for class activities and tasks. | 3.12 | Moderately Extensive |
| Using media to support teaching and learning. | 3.44 | Extensive |
| Selecting appropriate literature for thematic teaching. | 3.55 | Extensive |
| Determining the academic needs of the students. | 2.99 | Moderately Extensive |
| Using a variety of assessment techniques. | 3.62 | Extensive |
| **Overall Mean** | **3.34** | **Moderately Extensive** |

*3.2.2. Adaptability*—Teachers' integrative teaching approach in terms of adaptability acquired a category mean of 3.61, described as extensive and interpreted as oftentimes observed by the students in Cluster 3 Public Secondary Schools in Davao City. The table further reveals that the mean rating of the items ranges from 3.15 to 3.92. It is noteworthy that item Trying to make students feel important has a mean rating of 3.15, described as moderately extensive, interpreted as item sometimes observed while item Being verbally and non-verbally supportive to the students has a mean rating of 3.92, described as extensive and interpreted as item oftentimes observed by the students. This implies that educators consistently and effectively adapt their teaching practices to create a highly personalized and responsive learning environment. They are flexible, responsive, and proactive in tailoring their instruction to ensure every student has the best opportunity to learn and succeed. This supports Parsons and Vaughn's (2016) findings that highly adaptable teachers create a personalized learning experience for each student, significantly enhancing comprehension, engagement, and overall satisfaction.



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

They promote an inclusive classroom environment where students of varying abilities and backgrounds are accommodated and supported.

Table 3. Teachers' Integrative Teaching Approach in Terms of Adaptability

| Statement | Mean | Descriptive Rating |
|---|---|---|
| Making alternative activities when the prepared activity is not executed | 3.35 | Moderately Extensive |
| Being verbally and non-verbally supportive to the students. | 3.92 | Extensive |
| Trying to be warm when communicating with students. | 3.77 | Extensive |
| Trying to make students feel important. | 3.15 | Moderately Extensive |
| Enjoying communicating with the students. | 3.88 | Extensive |
| **Overall Mean** | **3.61** | **Extensive** |

*3.3. Critical Reasoning* —Specifically, teachers' integrative teaching approach in terms of critical reasoning acquired a category mean of 3.52, described as extensive, which means that this domain of teachers' integrative teaching approach is oftentimes observed by the students in Cluster 3 Public Secondary Schools in Davao City. The table further reveals that the mean rating of the items ranges from 3.21 to 3.89. It is noteworthy that the item Providing objective evidence against a particular issue has a mean rating of 3.21, described as moderately extensive and interpreted as an item sometimes observed. In contrast, the item Finding it important to use my intellectual skills correctly has a mean rating of 3.89, described as extensive and interpreted as item oftentimes observed by the students.

Table 4. Teachers' Integrative Teaching Approach in Terms of Critical Reasoning

| Statement | Mean | Descriptive Rating |
|---|---|---|
| Being able to reason properly before deciding about classroom activities. | 3.36 | Moderately Extensive |
| Being capable of understanding everything related to thinking rigorously. | 3.67 | Extensive |
| Finding it important to use my intellectual skills correctly. | 3.89 | Extensive |
| Being able to think logically. | 3.45 | Extensive |
| Providing objective evidence against a particular issue. | 3.21 | Moderately Extensive |
| **Overall Mean** | **3.52** | **Extensive** |



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

This implies that educators consistently and effectively promote and foster advanced critical thinking skills in their students. The result supports Sorin's (2015) idea that high levels of integrative teaching in critical reasoning result in students who possess advanced critical thinking skills, including the ability to analyze information, evaluate evidence, and construct well-reasoned arguments. Students exposed to high levels of critical reasoning instruction are better equipped to solve complex problems and make informed decisions. These skills are valuable not only in academic settings but also in everyday life.

*3.4. Collaborative*—Results in Table 5 show that teachers' integrative teaching approach in terms of collaboration got an extensive category mean rating of 3.62, which means that this domain of teachers' integrative teaching approach is oftentimes observed by the students in Cluster 3 Public Secondary Schools in Davao City. The mean rating of the different items ranges from 3.43 to 3.85. The item Acknowledging and respecting students' perspectives reflects a mean rating of 3.43, described as extensive and interpreted as an item oftentimes observed. Meanwhile, the item Using appropriate body language in the classroom shows a rating of 3.85, described as extensive and interpreted as item oftentimes observed by the students.

Table 5. Teachers' Integrative Teaching Approach in Terms of Collaborative

| **Statement** | **Mean** | **Descriptive Rating** |
|---|---|---|
| Offering assistance to students in their work when needed. | 3.56 | Extensive |
| Acknowledging and respecting students' perspectives. | 3.43 | Extensive |
| Using appropriate body language in the classroom. | 3.85 | Extensive |
| Making sure that students' idea is equally valued. | 3.48 | Extensive |
| Being polite and kind to students as well as visitors. | 3.76 | Extensive |
| **Overall Mean** | **3.62** | **Extensive** |

This implies that educators consistently and effectively promote and facilitate collaborative learning experiences in their classrooms. This supports the idea of Howe and Zachariou (2019) that high levels of collaborative teaching instruction lead to improved communication skills among students. They learn to articulate their ideas, actively listen to others, and engage in effective dialogue. Students exposed to high levels of collaborative learning develop strong teamwork and cooperation skills. They become adept at working together to achieve common goals, which is valuable in both academic and professional contexts. Laal and Ghodsi (2016) mentioned that In cooperative and individualistic learning, teacher evaluates learning efforts on a criteria-referenced basis while in competitive gaining knowledge of students on a norm-referenced basis.

*3.5. Integrative Teaching Approach* — Lastly, Table 6 shows the summary on teachers' integrative teaching approach in Cluster 3 Public Secondary Schools in Davao City. It shows that the overall mean of teachers' in-



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

tegrative teaching approach is 3.52 which is described as extensive. It means that the students' self-perceptive awareness is oftentimes observed. More so, teachers' integrative teaching approach in terms of practical knowledge acquired the highest mean score of 3.62 described as extensive and interpreted as oftentimes observed, while, teachers' integrative teaching approach in erms of situational understanding the lowest mean score of 3.34 described as moderately extensive and interpreted as sometimes observed by the students in Cluster 3 Secondary Schools in Davao City.

Table 6. Summary on Teachers' Integrative Teaching Approach in Cluster 3 Public Secondary Schools in Davao

| **Indicators** | **Mean** | **Descriptive Equivalent** |
|---|---|---|
| Innovativeness | 3.34 | Moderately Extensive |
| Adaptability | 3.61 | Extensive |
| Critical Reasoning | 3.52 | Extensive |
| Collaborative | 3.62 | Extensive |
| **Overall Mean** | **3.52** | **Extensive** |

This implies that educators consistently and effectively employ a wide range of teaching methods and resources to enhance the educational experience. This is congruent to Ebrahimzade's et al. (2021) idea that high levels of integrative teaching often lead to improved learning outcomes. By utilizing diverse instructional methods, educators can accommodate different learning styles and cater to individual student needs, resulting in better understanding and retention of the material. It keeps students engaged and motivated. The use of varied teaching approaches and resources can make the learning experience more interesting and relevant, reducing boredom and disengagement.. Adding more, the result agrees with the view of Dowden (2012) that high levels of integrative teaching encourage critical thinking and problem-solving skills.

*3.6. Learning Creativity of Students in Cluster 3 Public Secondary Schools in Davao City Imagination* —Table 7 shows that learning creativity of students in terms of imagination was described by the students in Cluster 3 Public Secondary Schools in Davao City as moderately extensive with a category mean of 3.31. This means that the learning creativity of students are sometimes manifested. The mean rating of the different items ranges from 2.72 to 4.13. The item Providing ideas in every domain shows a mean rating of 2.72, described as moderately extensive and interpreted as this item sometimes observed by the students. Further, the item Enjoying trying to find solutions to a problem has a mean rating of 4.13, described as very extensive and interpreted as this item oftentimes manifested. This implies that students possess some capacity for imagination, but there is room for growth, and their imaginative potential may not be fully realized in all areas of their education. The result agrees with the view of Harding (2019) that students with moderate levels of imaginative thinking can bring diverse perspectives to discussions and assignments. They may introduce unconventional ideas and approaches, enriching classroom interactions. Imagination allows students to explore various possibilities and scenarios. Even at moderate levels, students are more open to considering alternative solutions to problems.



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

Bruijn-Smolders (2017) also pointed out that moderate imaginative thinking can contribute to improved problem-solving skills. Students may approach challenges with greater flexibility and creativity.

Table 7. Learning Creativity of Students in Terms of Imagination

| **Statement** | **Mean** | **Descriptive Rating** |
|---|---|---|
| Using my imagination to generate idea when needed. | 3.12 | Moderately Extensive |
| Keep thinking until I find solution to a problem. | 3.42 | Extensive |
| Enjoying trying to find solutions to a problem. | 4.13 | Extensive |
| Providing ideas in every domain. | 2.72 | Moderately Extensive |
| Being very curious | 3.18 | Moderately Extensive |
| **Overall Mean** | **3.31** | **Moderately Extensive** |

*3.7. Intuition*—This domain in learning creativity of students in terms of intuition as shown in Table 8 reflects as extensive category mean of 3.42 which means that it is oftentimes manifested by the students. Notably, the mean ratings of the different items range from 3.26 to 3.78. The table further reveals that the item Solving problems by relying on my past experiences has a mean rating of 3.26 described as moderately extensive and interpreted as item sometimes manifested by the students. Meanwhile, the item Solving familiar problems intuitively has mean rating of 3.78 described as extensive and interpreted as learning creativity of students is oftentimes observed. This implies that students' ability to tap into their intuitive thinking and apply it consistently and effectively in various learning aspects is often manifested. The result is congruent with Nierenberg's (2016) idea that students with high levels of intuitive creativity are adept at innovative problem-solving. They can quickly identify unique solutions and apply them effectively to various challenges. Wilder (2016) asserted that high-intuition students excel at recognizing patterns, connections, and relationships between seemingly unrelated ideas or concepts. This ability enhances their understanding of complex subjects.

*3.8. Inferential*—This domain as shown in Table 9 has a category mean of 3.10 described as moderately extensive and interpreted that this domain of learning creativity of students is sometimes manifested. Adding on, the mean ratings of the different items range from 2.10 to 3.89. Specifically, the item making logical justifications in classroom tasks has a mean rating of 2.10, described as less extensive and interpreted as an item seldom manifested by the students. Making quick decisions on doing classroom tasks with a mean rating of 3.89 is described as extensive and interpreted as an item oftentimes manifested by the students. The result indicates that students exhibit creative thinking, but there is room for further development. This is congruent with Norman's (2016) idea that moderate levels of inferential creativity often indicate that students possess some critical thinking skills. They can analyze information and draw reasoned conclusions, contributing to problem-solving abilities. Likewise, Remmers



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

Table 8. Learning Creativity of Students in Terms of Intuition

| Statement | Mean | Descriptive Rating |
|---|---|---|
| Solving problems by relying on my past experiences. | 3.26 | Moderately Extensive |
| Preferring to follow my head than heart. | 3.45 | Extensive |
| Trusting my intuition in performing tasks in the classroom. | 3.29 | Moderately Extensive |
| Making decisions based on my gut feelings. | 3.31 | Moderately Extensive |
| Solving familiar problems intuitively. | 3.78 | Extensive |
| **Overall Mean** | **3.42** | **Moderately Extensive** |

et al. (2014) asserted that students with moderate inferential creativity are better equipped to evaluate the credibility and relevance of information sources, an essential skill in the digital age. Adding more, this supports Storm and Hickman's (2015) idea that moderate levels of inferential creativity prepare students for advanced academic studies where critical analysis and inference are crucial.

Table 9. Learning Creativity of Students in Terms of Inferential

| Statement | Mean | Descriptive Rating |
|---|---|---|
| Giving reasons when I have to. | 3.35 | Moderately Extensive |
| Making decisions in doing classroom activities. | 3.62 | Extensive |
| Making quick decisions on doing classroom tasks. | 3.89 | Extensive |
| Making logical justifications in performing classroom tasks. | 2.10 | Less Extensive |
| Feeling that my skills come to me when doing classroom activities | 2.56 | Less Extensive |
| **Overall Mean** | **3.10** | **Moderately Extensive** |

*3.9. Curiosity*—Results in Table 10 show that students' learning creativity in terms of curiosity got an extensive category mean rating of 3.67, which means that the students oftentimes observe this domain of students' learning creativity. The mean rating of the different items ranges from 3.14 to 4.14. The item Being able to explore deeper when I am learning something new obtained a mean rating of 3.14, described as moderately extensive and interpreted as an item sometimes observed. Meanwhile, the item Brooding for a long time in an attempt to solve some fundamental problems shows a rating of 4.14, described as extensive and interpreted as an item oftentimes observed by the students. These results suggest that students often make connections between different subjects and seek interdisciplinary knowledge, leading to a broader and more integrated view of the world. The result agrees with Curtis (2017) that inquisitive students are often intrinsically motivated to learn. Their natural curiosity fuels their desire to explore and discover, making learning a joyful and self-driven activity. High levels of



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

curiosity lead to active exploration and experimentation. These students are more likely to engage in hands-on learning and seek answers to their questions through experimentation. Horn and Staker (2013) state that curiosity catalyzes creativity and innovation.

Table 10. Learning Creativity of Students in Terms of Curiosity

| **Statement** | **Mean** | **Descriptive Rating** |
|---|---|---|
| Finding it fascinating to learn new information. | 3.27 | Moderately Extensive |
| Being able to explore deeper when I am learning something new. | 3.14 | Moderately Extensive |
| Brooding for a long time in an attempt to solve some fundamental problems. | 4.14 | Extensive |
| Feeling frustrated if I cannot figure out a solution to a problem. | — | — |
| Enjoying exploring new ideas. | 4.11 | Extensive |
| **Overall Mean** | **3.67** | **Extensive** |

*3.10. Creativity of Students* —Lastly, as shown in Table 11, is the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. As shown in the table, students' learning creativity obtained an overall mean score of 3.38 with a descriptive rating of moderately extensive and interpreted as sometimes manifested by the students in Cluster 3 Secondary Schools in Davao City. Adding more, results in Table 11 show that learning creativity of students in terms of curiosity acquired the highest mean score of 3.47, described as moderately extensive and interpreted as sometimes manifested, while students' learning creativity in terms of learning creativity of students in terms of inferential acquired the lowest mean score of 3.10 described as moderately extensive and interpreted as sometimes manifested by the students in Cluster 3 Public Secondary Schools in Davao City. Moderate levels of learning creativity among students refer to students demonstrating creative thinking and problem-solving abilities. However, this creativity is not consistently or strongly exhibited across all aspects of their learning. The result agrees with the view of Musta'ama et al. (2016) that creativity and critical thinking often go hand in hand. Moderate levels of creativity may indicate that students possess critical thinking ability, which can be valuable for academic and real-world problem-solving. Even at moderate levels, learning creativity suggests that students have innovation potential. They can think beyond the conventional and generate novel ideas, which may prove valuable in their future endeavors. This also supports the findings of Sriwongchai et al. (2018) that students with moderate levels of creativity are likely to employ different problem-solving strategies, showcasing some versatility in their thinking. This can lead to more well-rounded solutions to challenges.

*3.11. Relationship among YouTube Tutorials, Teachers' Integrative Teaching Approach and Learning Creativity of Students in Cluster 3 Public Secondary Schools in Davao City* — The results of the analysis of the relationship between YouTube Tutorials, teachers' integrative



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

Table 11. Summary of Learning Creativity of Students in Cluster 3 Public Secondary Schools in Davao City

| Indicators | Mean | Descriptive Equivalent |
|---|---|---|
| Imagination | 3.31 | Moderately Extensive |
| Intuition | 3.42 | Extensive |
| Inferential | 3.10 | Moderately Extensive |
| Curiosity | 3.67 | Extensive |
| **Overall Mean** | **3.38** | **Moderately Extensive** |

teaching approach, and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City are presented. Bivariate correlation analysis using Pearson product-moment correlation was used to determine the relationship among the mentioned variables.

*3.11.1. Teachers' Integrative Teaching Approach* —Meanwhile, Table 12 shows that teachers' integrative teaching approach has a significant positive relationship with the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City with a p-value of .000 that is less than .05 level of significance (two-tailed) ($r = .430$, $p < 0.05$). It means that as the extent of the teachers' integrative teaching approach changes, the learning creativity of students also significantly changes. This leads to the rejection of the null hypothesis of no significant relationship between teachers' integrative teaching approach and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. This corroborates Abramovich et al.'s (2019) proposition that integrative teaching involves combining various teaching methods and resources. This exposure to diverse learning experiences stimulates students' curiosity and encourages them to think creatively as they encounter new ways of approaching and solving problems. Integrative teaching often emphasizes the practical application of knowledge. On the one hand, the result shows that the relationship between teachers' integrative teaching approach and YouTube Tutorials has a significant positive relationship with a p-value of .00, less than the alpha set at .05 ($r = 0.453$ $p < 0.05$). This means that if the extent of teachers' integrative teaching approach changes, the extent of YouTube Tutorials in Cluster 3 Public Secondary Schools in Davao City also significantly changes. This leads to rejecting the null hypothesis of no significant relationship between teachers' integrative teaching approach and YouTube Tutorials in Cluster 3 Public Secondary Schools in Davao City. This supports Rosenthal's (2018) conclusion that YouTube tutorials often feature visual and interactive elements that engage students. Teachers can incorporate these elements into their lessons to make learning more dynamic and engaging, catering to different learning styles. Teachers can use YouTube tutorials to explore diverse teaching methods, techniques, and resources that align with an integrative teaching approach. This exposure can inspire teachers to adapt and integrate new strategies into their teaching practices. On the other hand, the result shows that YouTube Tutorials have a significant positive relationship with the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City with a p-value of .00 that is less than alpha set at .05 ($r = 0.629$ $p<.05$). This means that if the extent of YouTube Tutorials changes, learning creativity of students also significantly changes. This leads to the rejection of the null hypothesis of no significant relationship between YouTube Tutorials having a significant positive relation-



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

ship with the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. This corroborates Bae and Baxter's (2017) proposition that exposure to YouTube tutorials can improve students' visual literacy and media interpretation skills. Teachers can incorporate this into their teaching to help students critically analyze and create visual content, promoting creativity in communication.

Table 12. Relationship among YouTube Tutorials, Teachers' Integrative Teaching Approach, and Learning Creativity of Students in Cluster 3 Public Secondary Schools in Davao City

| **Variables** | **Learning Creativity** | **YouTube Tutorials** |
|---|---|---|
| Teachers' Integrative Teaching Approach | 0.430** | 0.453** |
| | 0.000 | 0.000 |
| Learning Creativity | 1 | 0.629** |
| | | 0.000 |

**Significant @ p<0.05

*3.12. Mediating Effect of YouTube Tutorials on the Relationship Between Teachers' Integrative Teaching Approach and Learning The Creativity of Students in Cluster 3 Public Secondary Schools in Davao City* —The mediating effect of YouTube Tutorials (YT) on the relationship between teachers' integrative teaching approach (ITA) and learning creativity (LC) of students in Cluster 3 Public Secondary Schools in Davao City was tested on JASP software using mediation analysis. Results Table 13 shows that the total effect of teachers' integrative teaching approach (ITA) as the independent variable on the learning creativity (LC) of students, which is this study's dependent variable, is significant, is significant as evident in the estimated value of 0.433 and p¡0.05. On the one hand, it can be seen in the table that the direct effect of teachers' integrative teaching approach (ITA) on the learning creativity (LC) of students in Cluster 3 Public Secondary Schools in Davao City is significant, as indicated by the estimated value of 0.184, p<0.05. Lastly, teachers' integrative teaching approach (ITA) on the learning creativity (LC) of students with YouTube Tutorials (YT) as a mediator is significant, as indicated by the estimated value of 0.249 and p<0.05. Therefore, partial mediation took place. This leads to the rejection of the null hypothesis that YouTube Tutorials (YT) do not mediate the relationship between teachers' integrative teaching approach (ITA) and learning creativity (LC) of students in Cluster 3 Public Secondary Schools in Davao City. The table also indicates the results of the computation of the effect size in the mediation test conducted between the three variables. The effect size measures how much self-efficacy (SE) 's effect on students' learning creativity (LC) can be attributed to the indirect path. As shown in the figure, the ratio index obtains a value of 0.5751, indicating that about 57.51 percent of the total effect of the independent variable on the dependent variable goes through the mediator variable, and about 42.49 percent of the total effect is either direct or mediated by other variables not included in the model. Through mediation analysis, the mediation model shown in Figure 2 was generated. The significant role of YouTube Tutorials (YT) as a mediator in the relationship between teachers' integrative teaching approach (ITA) and learning creativity (LC) of students is contributed by the fact that there exists a relationship among these variables. It is



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

emphasized in this study that YouTube Tutorials (YT) are an undeniable factor that has a positive relationship between teachers' integrative teaching approach (ITA) and the learning creativity (LC) of students in Cluster 3 Public Secondary Schools in Davao City.

Table 13. Mediating Effect of YouTube Tutorials on the Relationship Between Teachers' Integrative Teaching Approach and Learning Creativity of Students in Cluster 3 Public Secondary Schools in Davao City

| **Effect Type** | **Path** | **Estimate** | **Std. Error** | **z-value** | **p-value** |
|---|---|---|---|---|---|
| Indirect Effect Components | ITA → YT → LC | 0.249 | 0.061 | 3.031 | 0.000 |
| Direct Effect | ITA → LC | 0.184 | 0.035 | 7.152 | 0.000 |
| Total Effect | ITA → LC | 0.433 | 0.064 | 6.745 | 0.000 |

Ratio Index (Mediating Size) = 0.5751

**Legend:**

ITA=Integrative Teaching Approach, LC=Learning Creativity, YT=YouTube Tutorial

This affirmed that YouTube Tutorials are an undeniable factor that explains the relationship between teachers' integrative teaching approach and the learning creativity of students. This supports Chtouki's et al. (2012) proposition that teachers who adopt integrative teaching approaches may incorporate YouTube tutorials as supplementary learning resources. These tutorials can give students diverse perspectives and methods for understanding the material. As a result, students are exposed to a broader range of teaching styles and content, encouraging them to think creatively about the subject. When teachers use these tutorials to enhance their lessons, students are more likely to experience active learning and develop their creative approaches to understanding and presenting information.

## 4. Conclusions and Recommendations

This part of the paper presents the researcher's conclusion and recommendation. The discussion was supported by the literature presented in the first chapters, and the conclusion was in accordance with statements of the problem presented in this study.

*4.1. Findings*—The primary objective of this study was to evaluate the mediating effect of YouTube tutorials on the relationship between teachers' integrative teaching approach and the learning creativity of students utilizing a non-experimental quantitative design using the descriptive-correlation technique. The researcher selected the 355 Grade 7-10 students in Cluster 3 Public Secondary Schools in Davao City as the respondents through a



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

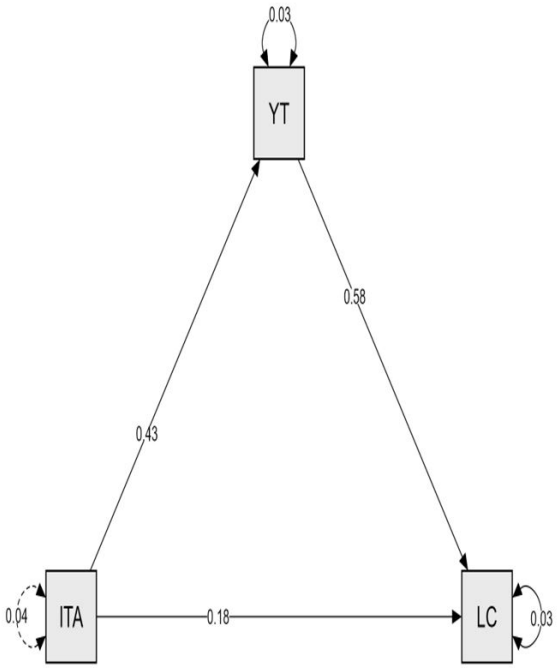


Fig. 2. Mediation Model

stratified random sampling method. The researcher used modified and enhanced adapted survey questionnaires, which were pilot-tested in a nearby school to ensure high reliability and internal consistency of the items in the instrument. YouTube tutorials as the mediating variable got an overall mean of 3.51 with an extensive descriptive rating. The overall mean of teachers' integrative teaching approach in Cluster 3 Public Secondary Schools in Davao City is 3.52, and it has an extensive descriptive rating. Also, teachers' integrative teaching approach in terms of innovativeness, adaptability, critical reasoning, and collaboration obtained mean scores of 3.34, 3.61, 3.52, and 3.62, respectively. The learning creativity of students in Cluster 3 Public Secondary Schools in Davao City has an overall mean of 3.38 and a moderately extensive descriptive rating. Also, in terms of imagination, intuition, inferential, and confidence, they obtained mean scores of 3.31, 3.42, 3.10, and 3.67, respectively. Teachers' integrative teaching approach has a significant positive relationship with the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City with a p-value of .000 that is less than .05 level of significance (two-tailed) ($r = .430$, $p<0.05$). On the one hand, teachers' integrative teaching approach has a significant positive relationship with the YouTube tutorials with a p-value of .000, which was less than the .05 level of significance (two-tailed) ($r = .453$, $p<0.05$). On the other hand, YouTube tutorials have a significant positive relationship with the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City with a p-value of .000 that was less than .05 level of significance (two-tailed) ($r = .629$, $p<0.05$). YouTube tutorials mediate the relationship between teachers' integrative teaching approach and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. The analysis obtained the estimates value of 0.249 with $p<0.05$, 0.184 with $p<0.05$, and 0.433 with $p<0.05$ for indirect, direct, and total effects, respectively. Moreover, the ratio index obtained a value of 0.5751, indicating that about 57.51 percent of the total effect of the independent variable on the dependent variable goes through the mediator variable, and about 42.49 percent


ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

of the total effect was either direct or mediated by other variables not included in the model.

*4.2. Conclusions*—Based on the findings of this study, several conclusions were generated: YouTube tutorials in Cluster 3 Public Secondary Schools in Davao City were extensive. This implies that the process of using documentation of academic lectures for academic purposes was oftentimes evident among students in Cluster 3 Public Secondary Schools in Davao City. The integrative teaching approach of teachers in Cluster 3 Public Secondary Schools in Davao City was rated as extensive. Teachers' Integrative teaching approach in terms of adaptability, critical reasoning, and collaboration is also extensive, while teachers' integrative teaching approach in terms of innovativeness was also extensive. This implies that educators consistently and effectively employ various teaching methods and resources to enhance the educational experience. The learning creativity of students in Cluster 3 Public Secondary Schools in Davao City was rated as moderately extensive. Students' learning creativity in terms of behavior towards intuition and confidence belongs to the extensive rating, while students' learning creativity in terms of imagination and inferential acquired a moderately extensive rating. Moderate levels of learning creativity among students refer to a situation where students demonstrate some degree of creative thinking and problem-solving abilities. However, this creativity was not consistently or strongly exhibited across all aspects of their learning. Teachers' integrative teaching approach has a positive, significant relationship with YouTube tutorials and the learning creativity of students in Cluster 3 Public Secondary Schools in Davao City. YouTube tutorials partially mediate the relationship between teachers' integrative teaching approach and students' learning creativity in Cluster 3 Public Secondary Schools in Davao City. Thus, it could be said that YouTube tutorials are an undeniable factor that has a positive relationship between teachers' integrative teaching approach and students' learning creativity in Cluster 3 Public Secondary Schools in Davao City.

*4.3. Recommendations*—Department of Education (DepEd) may ensure that all students have access to the necessary technology and internet connectivity at school and home to fully leverage YouTube tutorials for learning. DepEd may also develop policies that focus on enhancing digital literacy among both teachers and students. This includes training programs, resources, and guidelines for effective and responsible use of digital platforms like YouTube. School heads may invest in technology infrastructure, including reliable internet access and updated hardware, to support the effective use of digital resources. They should encourage and facilitate ongoing professional development for teachers to enhance their digital skills and integrative teaching practices. Teachers may implement a student-centered teaching approach that allows students to explore YouTube tutorials and other resources that match their learning preferences and needs. They should also actively engage in professional development opportunities that focus on integrating digital resources into their teaching practices. Students may actively engage with YouTube tutorials, ask questions, seek clarification, and explore related content to deepen their understanding. They should cultivate a sense of curiosity and take the initiative to explore topics that interest them through YouTube tutorials. Future researchers may conduct in-depth studies to explore the mechanisms and conditions under which YouTube tutorials mediate the relationship between integrative teaching approaches and student learning creativity.



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

## 5. References


Ab Kadir, M. A. (2017). What teacher knowledge matters in effectively developing critical thinkers in the 21st century curriculum? *Thinking Skills and Creativity*, *23*, 79–90. https://doi.org/10.1016/j.tsc.2016.10.011

Abd, M. S. (2021). The effect of using the integrative approach on academic achievement and self-efficacy of students of the college of education. *Universal Journal of Educational Research*, *9*(1), 171–179. https://www.hrpub.org/download/20210130/UJER19-19521993.pdf

Acharya, K. P. (2017). Exploring critical thinking for secondary level students in chemistry: From insight to practice. *Journal of Advanced College of Engineering and Management*, *3*, 31–39. https://doi.org/10.3126/jacem.v3i0.18812

Ahmadi, N., & Besançon, M. (2017). *Creativity as a stepping stone towards developing other competencies in classrooms*. https://www.hindawi.com/journals/edri/2017/1357456/

Barbot, B., Besançon, M., & Lubart, T. I. (2014). Assessing creativity in the classroom. *The Open Education Journal*, *4*, 124–132. https://doi.org/10.2174/1874920801104010058

Changwong, K., Sukkamart, A., & Sisan, B. (2018). Critical thinking skill development: Analysis of a new learning management model for thai high schools. *Journal of International Studies*, *11*(2), 37–48. https://doi.org/10.14254/2071-8330.2018/11-2/3

Collie, R. J. (2018). *Being able to adapt in the classroom improves teachers' well-being*. https://newsroom.unsw.edu.au/news/social-affairs/being-able-adapt-classroom-improves-teachers-well-being

Collie, R. J., Granziera, H., & Martin, A. J. (2018). Teachers' perceived autonomy support and adaptability: An investigation employing the job demands-resources model as relevant to workplace exhaustion, disengagement, and commitment. *Teaching and Teacher Education*, *74*, 125–136. https://doi.org/10.1016/j.tate.2018.04.015

Collie, R. J., & Martin, A. M. (2017). Teachers' sense of adaptability: Examining links with perceived autonomy support, teachers' psychological functioning, and students' numeracy achievement. *Learning and Individual Differences*, *55*, 29–39. https://doi.org/10.1016/j.lindif.2017.03.003

Cropley, A. (2015). *Creativity in education and learning. a guide for teachers and educators*. Routledge.

Curtis, R. F. (2017). *Increasing engagement and motivation*. https://www.cn.edu/libraries/tiny_mce/tiny_mce/plugins/filemanager/files/Dissertations/Dissertations2017/Rebecca_Curtis.pdf

Dowden, T. (2012). Relevant, challenging, integrative and exploratory curriculum design: Perspectives from theory and practice for middle level schooling in australia. *The Australian Educational Researcher*, *34*(2), 51–71.

Ebrahimzade, A., Mohammad, R., Abedini, M. R., Ramazanzade, K., Bijari, B., Hamed Aramjoo, H., & Zare-Bidaki, M. (2021). Effect of integrated teaching on students' learning. *Strides Dev Med Educ*, *18*(1), e1011. https://doi.org/10.22062/sdme.2021.192468.1011

Ennis, R. H. (2016). Critical thinking across the curriculum: A vision. *Topoi*, *37*(1), 165–184. https://doi.org/10.1007/s11245-016-9401-4




ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

Fleith, D. S., & Morais, M. F. (2017). Desenvolvimento e promoção da criatividade. In L. S. Almeida (Ed.), *Criatividade e pensamento crítico: Conceito, avaliação e desenvolvimento* (pp. 45–73). Centro de Estudos e Recursos em Psicologia.

Glaveanu, V. P. (2018). Educating which creativity? *Thinking Skills and Creativity*, *27*(1), 25–32. https://doi.org/10.1016/j.tsc.2017.11.006

Grohman, M. G., & Snyder, H. T. (2017). Why do we create? the roles of motivation, mindset, and passion in human creativity. In J. A. Plucker (Ed.), *Creativity innovation: Theory, research, and practice* (pp. 165–179). Prufrock Press.

Haidet, P., & Stein, H. F. (2011). The role of the student-teacher relationship in the formation of physicians. *Journal of General Internal Medicine*, *1*(1), S16–S20. https://doi.org/10.1111/j.1525-1497.2006.00304.x

Harris, A., & de Bruin, L. R. (2018). Secondary school creativity, teacher practice and steam education: An international study. *Journal of Educational Change*, *19*(2), 153–179. https://doi.org/10.1007/s10833-017-9311-2

Hennessey, B. A. (2017). Intrinsic motivation and creativity in the classroom: Have we come full circle? In K. H. Kim (Ed.), *Nurturing creativity in the classroom* (pp. 227–264). https://doi.org/10.1017/9781316212899.015

Horn, M., & Staker, H. (2013). *Is k-12 blended learning disruptive? an introduction of the theory of hybrids*. http://www.christenseninstitute.org/wpcontent/uploads/2013/05/Is-K-12-Blended-Learning-Disruptive.pdf

Howe, C., & Zachariou, A. (2019). Small-group collaboration and individual knowledge acquisition: The processes of growth during adolescence and early adulthood. *Learning and Instruction*, *60*, 263–274. https://doi.org/10.1016/j.learninstruc.2017.10.007

Kanwar, G., Shekhawat, M., Saxena, N., & Mehra, M. C. (2017). Introduction and impact of integrated teaching learning method for first professional medical students. *IOSR Journal of Research Method in Education (IOSR-JRME)*, *7*(1), 10–13.

Kolesnikova, E. I. (2015). Psychological-pedagogical support of the formation of competence of the student by the interactive training methods. *Fundamental Research*, *11*(5), 1135–1139.

Kristiansen, S. D., Burner, T., & Johnsen, B. H. (2019). Face-to-face promotive interaction leading to successful cooperative learning: A review study. *Cogent Education*, *6*, 1–19. https://www.duo.uio.no/bitstream/handle/10852/74487/Face%2Bto%2Bface%2Bpromotive%2Binteraction%2Bleading%2Bto%2Bsuccessful%2Bcooperative%2Blearning%2BA%2Breview%2Bstudy.pdf?sequence=1&isAllowed=y

Laal, M., & Ghodsi, S. M. (2016). Benefits of collaborative learning. *Procedia - Social and Behavioral Sciences*, *31*, 486–490. https://doi.org/10.1016/j.sbspro.2011.12.091

Lafont, L., Rivière, C., Darnis, F., & Legrain, P. (2017). How to structure group work? conditions of efficacy and methodological considerations in physical education. *European Physical Education Review*, *23*(3), 327–338. https://doi.org/10.1177/1356336X15626639

Le, H., Janssen, J., & Wubbels, T. (2017). Collaborative learning practices: Teacher and student perceived obstacles to effective student collaboration. *Educational Studies*, *42*(5), 612–630. https://doi.org/10.1080/0305764X.2016.1259389

Loughland, T., & Alonzo, D. (2019). Teacher adaptive practices: Examining links with teacher self-efficacy, perceived autonomy support and teachers' sense of adaptability. *Educational Practice and Theory*, *40*(2), 55–70. https://doi.org/10.7459/ept/40.2.0



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024

Martin, A. J., Strnadová, I., & Hájková, V. (2019). Teaching assistants working with students who have a disability: The role of adaptability in enhancing their workplace outcomes. *International Journal of Inclusive Education*.

Millis, B. J. (2014). Using cooperative structures to promote deep learning. *Journal on Excellence in College Teaching*, *25*(34), 139–148.

Morais, M. F., Viana, F. L., Fleith, D. S., & Dias, C. (2021). Climate scale for creativity in the classroom: Evidence of factorial validity in the portuguese context. *Trends in Psychology*, *27*(4), 837–849. https://doi.org/10.9788/TP2019.4-02

Mullet, D. R., Willerson, A., Lamb, K. N., & Kettler, T. (2016). Examining teacher perceptions of creativity: A systematic review of the literature. *Thinking Skills and Creativity*, *21*, 9–30. https://doi.org/10.1016/j.tsc.2016.05.001

Musta'ama, A. H., Norman, E., Jabor, M. K., & Buntat, Y. (2016). Does cad really encourage creative behaviours among its users: A case study. *Procedia - Social and Behavioral Sciences*, *56*, 602–608.

Nguyen, M. P., Terlouw, C., & Pilot, A. (2012). Cooperative learning in vietnam and the west-east educational transfer. *Asia Pacific Journal of Education*, *32*, 137–152. https://doi.org/10.1080/02188791.2012.685233

Parsons, S. A., & Vaughn, M. (2016). One teacher's instructional adaptations and her students' reflections on the adaptations. *Journal of Classroom Interaction*, *51*(1), 4–17.

Rauch, A. (2010). Dispositions of entrepreneurs: Exploring entrepreneurs' personality characteristics. In M. Lukes & M. Laguna (Eds.), *Entrepreneurship: A psychological approach* (pp. 37–54). Oeconomica.

Sanz de Acedo Lizarraga, M. L., & Sanz de Acedo Baquedano, M. T. (2013). How creative potential is related to metacognition. *European Journal of Education and Psychology*, *6*, 69–81.

Sierra, M. D., Escobedo, P. S., Cuervo, A. V., & Rosal, A. B. (2015). Estratégias e programas para o desenvolvimento da criatividade nas escolas do méxico. In M. F. Morais, L. C. Miranda, & S. M. Wechsler (Eds.), *Criatividade. aplicações práticas em contextos internacionais* (pp. 257–268). Vetor.

Sorin, R. (2015). It's great to think about difficult issues in a safe and supportive environment: Scenario-based learning in early childhood teacher education. *International Journal of Early Childhood Learning*, *21*, 9–20. https://doi.org/10.18848/2327-7939/CGP/v21i3-4/58955

Sriwongchai, A., Jantharajit, N., & Chookhampaeng, S. (2018). Developing the mathematics learning management model for improving creative thinking in thailand. *International Education Studies*, *8*(11), 77–87. http://files.eric.ed.gov/fulltext/EJ1082136.pdf

Van Leeuwen, A., Janssen, J., Erkens, G., & Brekelmans, M. (2013). Teacher interventions in a synchronous, co-located cscl setting: Analyzing focus, means, and temporality. *Computers in Human Behavior*, *29*, 1377–1386. https://doi.org/10.1016/j.chb.2013.01.024

Westwood, P. (2013). *Inclusive and adaptive teaching: Meeting the challenge of diversity in the classroom*. Routledge.

Youngren, J. (2021). *Impacts of collaborative learning on student engagement*. https://red.mnstate.edu/cgi/viewcontent.cgi?article=1511&context=thesis



ISSN 3028-1261
10.5281/ZENODO.14536060/NIJSE.2024