Knowledge Acquisition Preference and Students' Desire for Academic Recognition in Technology and Livelihood Education Using a Sequential Explanatory Approach

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Abstract. This study was conducted to explore the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students. In this study, the researcher selected 155 Grade 7-10 students in District II in Davao City as the respondents of the study in the quantitative phase. In contrast, 10 students were chosen for IDI and FGD in the qualitative phase. A mixed-method research design using an explanatory sequential approach was employed. The data collected were subjected to the following statistical tools: Mean and Pearson-r Correlation Analysis. Findings revealed that knowledge acquisition preferences were rated moderately extensive, while the desire for academic recognition of Grade 7-10 students in District II, Davao City, was rated as extensive. Correlation analysis proved a significant relationship between knowledge acquisition preferences and the desire for academic recognition of Grade 7-10 students. The thematic analysis confirmed the moderately extensive ratings on knowledge acquisition preferences and extensive ratings on the desire for academic recognition of Grade 7-10 students. Thematic analysis showed that the reasons, intrinsic motivation, autonomy, interest, and passion confirmed the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students. The study, therefore, was conducted to further utilize findings through publication in a reputable research journal.

1. Introduction

Education is a significant asset that people strive to acquire in the civilized society in which we live. All human beings need education to live fulfilling lives. It helps one learn and explore new things while also enhancing one's expertise. One of the keys to success is education since it will be feasible to have a prosperous life and a steady work in the future with a strong education and enough information. Education serves a variety of purposes, including the acquisition of knowledge as well as the investigation of human empowerment and growth for one's own future wellbeing, whether socially or economically. Hence, desire for academic recognition is considered as essential to a student's academic success. If students have the desire for academic recognition, they can also overcome obstacles in the learning process. Desire

occurs in the absence of rewards or incentives from other sources and is a definite sign that a learner is developing greater independence. Desire for academic recognition is crucial, especially for school pupils. Students are inspired by such encouragement to successfully finish a task, reach a goal, or obtain a particular degree in their tasks. When someone is overjoyed to fulfill a need or want, the idea of motivation is compelling. The individual will engage in or be drawn to acts that are seen to have the potential to fulfill this need or desire. Academic desire, according to Soyogul (2015), is a collection of strategies concerned with a force that motivates behavior and drives it toward achieving specific academic objectives. Therefore, a range of factors (needs, cognitions, and emotions) contribute to the need for academic recognition, and these internal processes fuel behavior in a variety of ways, including by initiating, sustaining, intensifying, focusing, and terminating it. Likewise, Zeidan and Jayosi (2015) noted that students with desire of academic recognition are able to infer processes being discussed in class and understand technical words with ease. In other words, when people are knowledgeable about the methods used in the natural sciences, they find the natural sciences and other skill-based topics more entertaining, which improves their attitudes toward challenges. Several factors affect students' desire for academic recognition. For instance, Gilakjani and Ahmadi (2011) proposed that analyzing one's own knowledge acquisition processes can be very helpful and beneficial to the students' desire to be recognized academically by aiding them in becoming more focused and become attentive learner, which ultimately will increase educational success. As defined by Hsieh et al. (2011), knowledge acquisition preference refers to the perceptual channels through which students like to learn. According to Gokalp (2013), it is the traits, prowess, and preferences in how people receive and interpret information. This is due to

the fact that each person has a unique approach or set of learning strategies. Also, Syofyan and Siwi (2018) noted that individual's learner who are aware of own learning style preferences are successful because they were able to integrate it in the process of learnings and learn more easily and fast. As a result, those learners become an effective problem solver. Meanwhile, Kim et al. (2015) found that lack of desire for academic recognition among students at various levels continues to be a growing issue for educators globally. The study by Illiyas (2017) revealed that in Western nations like the U.S., a lack of desire is directly associated to poorer performance on achievement tests and lower grades in several subject areas. According to HakiElimu (2013), 27.5 percent of these students, who were between the ages of 10 and 13, had trouble performing simple math operations. Similar to this, Acharya (2017) found that 18 percent of Arab students failed upper mathematics courses, which was attributed to students' lack of academic interest in the subject. Likewise, Ong (2013) identified that in the Philippines, poor proficiency and lack of academic desire have a large impact on learners' academic performance. Existing research has primarily focused on either knowledge acquisition processes or academic recognition among students separately, but there is a notable research gap regarding the comprehensive understanding of how these two factors interrelate in educational contexts. Prior studies have explored knowledge acquisition through cognitive processes, such as learning strategies, information processing, and problem-solving skills. Meanwhile, academic recognition has been studied in terms of grades, awards, and formal recognition systems within institutions. The context of the current study is in Second Congressional District in Davao City, Philippines. The study made use of quantitative approach. Specifically, the researcher made use descriptive correlational approach using SPSS software to have a better understanding on the

influence of knowledge acquisition preference on the desire for academic recognition of technology and livelihood education students which is found to be scarce as to the knowledge of the researcher.

1.1. Review of Related Literature—This section discusses variable indicators and includes viewpoints from various authors sourced from books, journals, and electronic media.

1.1.1. Knowledge Acquisition Preference—Knowledge acquisition preference refers to how students prefer to learn new information, influenced by learning styles, interests, and past experiences (Hsieh et al., 2011; Gokalp, 2013; Dung Florea, 2012; Ghaedi Jam, 2014; Vaseghi et al., 2012; Kubat, 2018; Palabıyık, 2014; Magulod, 2017; Teevan et al., 2017; Albeshtawi, 2017; Khan et al., 2019; Syofyan Siwi, 2018; İlçin et al., 2018; Saadi, 2012). Understanding these preferences helps educators tailor teaching methods to improve learning outcomes (Seifoori Zarei, 2011; Alavi Toozandehjani, 2017; D'cruz et al., 2013).

There are mixed findings regarding gender differences in learning style preferences. Some studies report differences (Almasa et al., 2009; Zarina Ashikin Norhana, 2009), while others do not (Ismail Shah, Ismail Esa, Muhamad, 2013).

1.1.2. Visual Preference—Visual learners prefer visual aids like images, charts, and videos (Naserieh, 2009; Strauss, 2013; Gilakjani Ahmadi, 2011; Fatemeh Camellia, 2018; Barman et al., 2014; Roell, 2019). They can be divided into visual/verbal learners, who enjoy reading printed materials (Lu Yang, 2018; Ting, 2013), and visual/nonverbal learners, who prefer diagrams and pictures (Bambaeeroo Shokrpour, 2017; Moradi, 2013).

1.1.3. Auditory Preference—Auditory learners excel through listening and spoken information (Naserieh, 2009; Wong, 2011; Tuli, 2015). They benefit from oral instruction and enjoy listening and talking (Horowitz, 2012;

Chieke Ewelum Madu, 2017; Alos Kayalar Kayalar, 2017). Story-listening is particularly effective for auditory learners (Cohen Wolvin, 2011; Ray Seely, 2012).

1.1.4. Kinesthetic Preference—Kinesthetic learners thrive through physical activities and hands-on experiences (Naserieh, 2009; Durmuscelebi, 2013; Griss, 2013; Metzler, 2016; Ediger, 2013; Gilakjani, 2012; Shoval Shulruf, 2011; Lai et al., 2015).

1.1.5. Tactile Preference—Tactile learners prefer touch-based methods and hands-on experiences (Naserieh, 2009; Strauss, 2013; Perez-Sabater et al., 2011). Educators should incorporate tactile elements into teaching to support these learners.

1.1.6. Group Preference—Students with high group preferences excel in social settings and develop strong communication and conflict resolution skills (Naserieh, 2009; Schmid et al., 2014; Johnson Johnson, 2018; Brame Biel, 2015; Borokhovski et al., 2012; Kyndt et al., 2013).

1.1.7. Individual Preference—Individual preferences are unique and may require tailored educational approaches (Naserieh, 2009; Koca, 2016; Cukurova, 2014).

1.1.8. Desire for Academic Recognition—Academic desire is the motivation to be acknowledged for academic achievements (Soyogul, 2015; Sandoval-Pineda, 2018; Guido Dela Cruz, 2011; Eridemir Bakirci, 2010). It can lead to healthy competition and personal fulfillment but may also cause stress. Educators should support this by creating opportunities for recognition (Maranan, 2017; Akomolafe Adesua, 2015; Aydin, 2012; Yilmaz et al., 2017; Williams Williams, 2011; Clickenbeard, 2012).

1.2. Synthesis—Therefore, this portion of the paper provides the researcher the discussions of literature and the result of other researches to which the present study is related or has some bearing and similarity. More so, the literature showed that knowledge acquisi-

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tion preference as conceptualized by Naserieh (2009) is measured in terms of visual preference, auditory preference, kinesthetic preference, tactile preference, group preference, and individual preference, while, students' desire for academic recognition as proposed by Waugh (2001) is measured in terms of striving for excellence, learning interest, and reward expectation. Also, studies derived from several theoretical perspectives have confirmed a number of assumptions about knowledge acquisition preference is connected with desire for academic recognition among students. This gives the author sufficient background in understanding the study.

1.3.   Theoretical/Conceptual Framework—This study is anchored on the proposition of Ghaedi and Jam (2014) that when students' preferences for how they learn align with their desire for recognition, it can lead to improved academic performance and motivation. Students who are actively involved in their learning process through their preferred learning style are more likely to participate in class, engage in discussions, and take on leadership roles. Their active participation can make them more visible to teachers and peers, increasing their chances of recognition. According to Magulod (2017), when students can engage with content using their preferred learning style, they are more likely to understand and retain information effectively. In support, Bosman and Schulze (2018) postulated that intrinsic motivation often stems from a genuine interest and passion for a subject or topic. When students are intrinsically motivated to acquire knowledge in a particular area, they are more likely to have preferences for learning methods that resonate with their interests. This alignment between personal interests and knowledge acquisition preferences can lead to a desire for academic recognition in that specific field. Naik (2013) proposed autonomy allows students to select learning methods and strategies that align with their individual preferences and strengths. When students have

the freedom to choose how they acquire knowledge, they are more likely to select approaches that resonate with their learning style and interests. Moreover, a pragmatic paradigm was applied in this study. It aims to identify the problem and view it within its broadest context. As a pragmatist, the researcher adheres to a pragmatic worldview in which the creation of individual realities is treated as a derivative of varying personal experiences and ideas encountered and not of an absolute default (Maddux Donnett, 2015). Through pragmatic exploration, an optimum answer was provided, as facts and accuracy may differ cross-wise between and among people, places, and periods. Furthermore, the researcher, like Terrell (2012), did not focus on issues and approaches by using only one method; rather, she embraced the pragmatic paradigm, which involves mixing data collection methods and data analysis procedures within the research processes (Creswell, 2013). The study's primary concern is the emphasis on initiatives that have meaningful consequences in solving learning issues, particularly desire for academic recognition among students in technology and livelihood education. Furthermore, this pragmatic approach is intended to design the research process, including all phases necessary for the theoretical underpinning of data collection and analysis. Hence, it can be deduced from the above that the philosophical worldview of things is vital to the meaning of research methodology. Figure 1 shows the conceptual framework of the study. The study consists of three variables. The independent variable is the knowledge acquisition preferences or the perceptual channels through which students like to learn. As proposed by Naserieh (2009) the indicators of knowledge acquisition preferences are visual preference or the mode of instruction wherein individual preference on taking information is by means of sense of sight; auditory preference or the mode of learning wherein learners acquire new information by listening
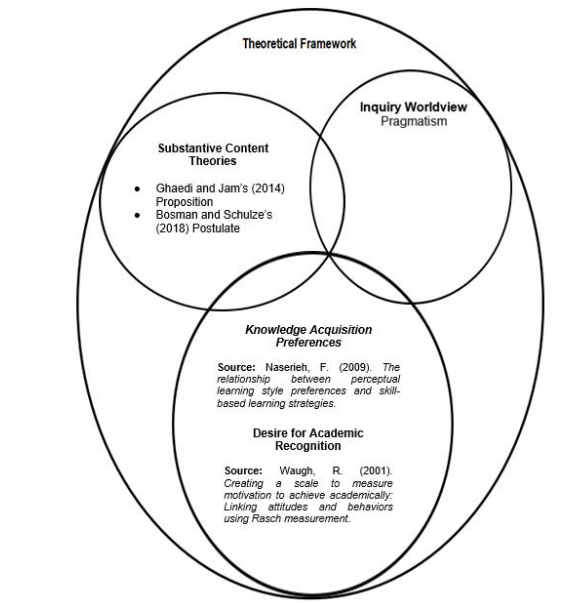
Fig. 1. The Conceptual Framework of the Study

then repeating or discussing ideas with others; kinesthetic preference or the learning preference where individuals learn best with an active hands-on approach; tactile preference or the mode learning wherein learners favor learning with their hands through manipulation of resources, such as writing, drawing, building a model, or conducting a lab experiment; group preference or the mode of learning wherein the group learner learns more effectively through working with others; and individual preference or the mode of learning wherein an learner learns more effectively through working alone.

The dependent variable is the desire for academic recognition among technology and livelihood education students which refers to the external force that activates the speed of doing any task and explains why people are performing the learning tasks they are doing (Sandoval-Pineda, 2018). As intellectualized by Waugh (2001) the measures of desire for academic recognition are striving for excellence or the students' intention to exert best effort to reach the academic standards that they set for themselves; learning interest or the factors contributed by learnings from others and responsibility for learning; and rewards expectation or the intrinsic rewards and social rewards perceived by the students in teaching-learning processes.

1.4. Statement of the Problem—This study addressed the influence of knowledge acquisition preferences on the desire for academic recognition among technology and livelihood education students in District II, Davao City. An explanatory sequential mixed methods design was used, and it involved collecting qualitative data after quantitative results to explain or follow up on the quantitative results in more depth. In the quantitative phase of the study, primary data was collected from the Grade 7-10 junior high school students in District II, Davao City regarding knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students. The qualitative phase was conducted to establish the authenticity of the regression model obtained from the quantitative results. The research questions underlying the investigation in this study were as follows:

(1) What is the extent of knowledge acquisition preferences of Grades 7-10 in District II in Davao City (quantitative)?

(2) What is the extent of desire for academic recognition of Grade 7-10 students in District II, Davao City (quantitative)?

(3) Is there a significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students in District II, Davao City (quantitative)?

(4) What are the standpoints of the participants on the salient points of the results on the extents of knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students in District II, Davao City (qualitative)?

(5) What are the standpoints of the participants on the salient points of the results on the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students in District II, Davao City (qualitative)?

1.5. Hypothesis—The following null hypothesis were tested at a 0.05 level of significance: H01: There is no significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students in District II, Davao City. This master's thesis would benefit individuals in different sectors: Department of Education. This would serve as the foundation for the DepEd to develop policies that would enhance instructional strategies in light of knowledge acquisition preferences and desire for academic recognition of students. By sought to comprehend both information acquisition preferences and the desire for academic recognition, the findings attempt to overcome the methodological gap in research on teaching approaches in technology and livelihood education program. Teachers. The findings are essential to the teaching profession because they might suggest future evidence-based interventions that could be implemented regarding the importance of analyzing students' own particular knowledge acquisition preference that could be very helpful to the students' desire for academic recognition by aiding them in becoming more focused and become attentive students. Students. Students would benefit from the findings of this study because it would help them understand the importance of identifying their dominant learning style. Through the identification of students' dominant knowledge acquisition preference, they could increase their capabilities and strength followed by enhancing the effectiveness of learning experience. This may guide students to plan or to modify their learning methods parallel to the learning preference. Future Researchers. The findings were essential to the future researchers because they might suggest future evidence-based interventions that can be implemented regarding the importance of developing aspect of knowledge acquisition preferences and students' desire for academic recognition that can be very helpful to the students' achievement in learning by aiding them in becoming more focused and become an attentive learner. For more comprehensive understanding, the following terms were defined operationally: Knowledge Acquisition Preference. The perceptual channels through which students like to learn. This refers to the independent variable of the study described in terms of visual preference, auditory preference, kinesthetic preference, tactile preference, group preference, and individual preference. Desire for Academic Recognition. This refers to the dependent variable of the study described in terms of striving for excellence, desire to learn, and personal incentives.

2. Methodology

This section contains the research design, research respondents, research instrument, data gathering procedure, and data analysis.

2.1. Research Design—The researcher employed mixed methods in this study, specifically explanatory sequential research design. This evolving research technique promotes the systematic synthesis or mixing of quantitative and qualitative data within a single research or ongoing investigation or inquiry (Creswell, 2013). This method collects and analyzes quantitative and qualitative data and integrates data during data collection, analysis, and discussion. This method uses concurrent procedures that implement quantitative and qualitative components (Creswell, 2017). According to West (2012), in sequential explanatory design, the qualitative data helps explain or build on the initial quantitative results in the explanatory sequential method. The explanatory sequential approach was a two-phase mixed methods design that explains and enriches the quantitative findings; thus, it elaborates the quantitative results by collecting qualitative data from participants chosen from the respondents of the quantitative phase. Sometimes, there are insufficient arguments that quantitative or qualitative may not be resolved by it, and sometimes, each provides different pictures (Creswell, 2017). In the quantitative phase, the researcher used the correlational research technique to gather data ideas, facts, and information related to the study. Descriptive-correlational research, according to Myers and Well (2013), examines how the independent variable influences the dependent variable and establishes cause-and-effect relationships between variables. In this study, the use of descriptive-correlational was appropriate because the researcher only focused on the behavioral aspect of the respondents, and the researcher was unable to perform an experiment in a controlled set-up. In this study, the re-searcher looked into the relationship between two variables– knowledge acquisition preferences and the desire for academic recognition of students. In the qualitative phase, the researcher used a phenomenological approach. A phenomenological study describes the ordinary meaning for several individuals of their lived experiences of a concept or phenomenon and focuses on their common experiences (Creswell, 2013). Typically, interviews were conducted with individuals with first-hand knowledge of an event, situation, or experience. Phenomenology was the most appropriate approach because the researcher wanted to understand students' lived experiences in District II, Davao City (Creswell, 2017). Moreover, the quantitative data based on the survey questionnaires on knowledge acquisition preferences on the desire for academic recognition among technology and livelihood education students was first collected and followed by the qualitative data based on the focus group discussion (FGD) and in-depth interview (IDI). This means a more dynamic and absolute understanding is possible than using only one data source alone (Creswell, 2013). Likewise, this method was used to compare, confirm, cross-validate, or corroborate findings, equally prioritizing the quantitative method. The researcher analyzed the survey data quantitatively and the FGD and IDI qualitatively to determine if the qualitative findings elaborated the quantitative findings (Creswell, 2013). Hence, this design was appropriate for purposely supplementing one method with the strengths of another (Creswell, 2013). Specifically, the quantitative component involved descriptive and correlational approaches.

2.2. Research Respondents—Quantitative Phase. The study's respondents were the Grade

7-10 students in District II, Davao City. The 155 respondents were selected through a stratified random sampling technique in this study. Stratified random sampling was 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 are formed based on members' shared attributes or characteristics, such as income or educational attainment. Stratified random sampling was appropriate in this study because there is heterogeneity in a population that could be classified with ancillary information. In this study, certain inclusion criteria were implemented in determining the study's respondents. The primary consideration of this study is to choose respondents who could provide information to achieve the purpose of this study. The inclusion criteria were as follows: Currently enrolled in grades 7 through 10 in a designated school or educational institution; students have obtained informed consent from their parents or legal guardians if they are under the legal age of consent in the respective jurisdiction; students who are actively attending classes and are not on extended leave or suspension during the study period; and those 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. Qualitative Phase. The researcher purposively selected 10 teachers for the in-depth interview (IDI) and 7 students for the focus group discussion (FGD). A total of 17 Grade 7-10 students in District II, Davao City, were invited as participants. Inclusion criteria used were as follows: currently enrolled in grades 7 through 10 in a designated school or educational institution; stu-

dents who have obtained informed consent from their parents or legal guardians if they are under the legal age of consent in the respective jurisdiction; students who are actively attending classes and are not on extended leave or suspension during the study period; and those who voluntarily signed the ICF were given the survey questionnaires. It was also considered that the numbers of males and females were well represented. Purposive sampling was apt for the qualitative participant selection of this study because, according to Daymon and Holloway (2011), it is a technique wherein a sample will be chosen based on their particular features or characteristics, which enables detailed exploration and understanding of the constructs under the study and research questions. As Miles et al. (2014) denoted, purposive sampling is well suited to in-depth qualitative studies.

2.3. Research Instruments—This study used two sets of instruments: one for the quantitative phase and one for the qualitative phase. A panel of experts subjected these questionnaires to content validity testing and underwent pilot testing to test their validity and reliability. The experts' comments, corrections, and suggestions were incorporated into the final revisions of the questionnaires. Quantitative Phase. In the quantitative phase, the researcher employed a knowledge acquisition preferences questionnaire, which was adapted from the study of Naserieh (2009), indicating visual preference, auditory preference, kinesthetic preference, tactile preference, group preference, and individual preference. The respondents made use of the 5-Likert scale. As a guide in determining the extent of students' knowledge acquisition preferences, the researcher made use of the range of means, descriptions and interpretations as presented below:

Students' desire for academic recognition is another questionnaire utilized in this study. This

questionnaire was adapted from Waugh's (2001) questionnaire, which consists of three indica-

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very Extensive	The knowledge acquisition preferences of students are always observed.
3.40 - 4.19	Extensive	The knowledge acquisition preferences of students are oftentimes observed.
2.60 - 3.39	Moderately Extensive	The knowledge acquisition preferences of students are sometimes observed.
1.80 - 2.59	Less Extensive	The knowledge acquisition preferences of students are rarely observed.
1.00 - 1.79	Not Extensive	The knowledge acquisition preferences of students are never observed.

tors: Striving for excellence, learning interest, and rewards expectation. As a guide in determining the extent of desire for academic recognition, the researcher made use of the range of means, descriptions, and interpretations as presented below:

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very Extensive	The desire for academic recognition of students is always manifested.
3.40 - 4.19	Extensive	The desire for academic recognition of students is oftentimes manifested.
2.60 - 3.39	Moderately Extensive	The desire for academic recognition of students is sometimes manifested.
1.80 - 2.59	Less Extensive	The desire for academic recognition of students is rarely manifested.
1.00 - 1.79	Not Extensive	The desire for academic recognition of students is never manifested.

Qualitative Phase. The researcher conducted an IDI and FGD with a total of 17 technology and livelihood students using a semi-structured interview. The use of the semi-structured approach was essential to discover new themes that emerged during the interview. As described by Bryman and Bell (2011), was flexible and less rigid than structured. The researcher made an interview guide composed of open-ended questions to probe the participants' lived experiences with regard to students' knowledge acquisition preferences and desire for academic recognition. Also, the researcher probed how these experiences shape their be-liefs, attitudes, and commitment toward learning. This interview guide had undergone content validation by three experts in the field of education. Their comments, corrections, and suggestions were incorporated in the final revisions of the questionnaires.

2.4. Data Gathering Procedure—Steps were undergone by the researcher in conducting the study after the validation of the research questionnaire. Quantitative Phase 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 District II, Davao City. Distribution and Retrieval of the Questionnaire. After the approval to conduct the study, the researcher proceeded to distribute the research instrument to the respondents. The study was conducted last July 22-25, 2023. Upon the distribution of the questionnaires, the benefits of the survey were briefly discussed and explained to the identified respondents. More so, the respondents were given enough testing time for the questionnaires to be finished. After this, the data collected were subjected to quantitative analysis.

2.5. Collation and Statistical Treatment of Data—After the questionnaire was retrieved, the scores of each respondent were tallied to organize the data per indicator. Then, each score was subjected to descriptive and inferential analysis using SPSS. Qualitative Phase For the qualitative data collection, IDI and FGD were conducted to gather the participants' lived experiences about knowledge acquisition preference and desire for academic recognition after the invited participants had emailed back the signed ICF. Regarding the conduct of the IDI and FGD, the researcher reflected in the ICF that the process had to be recorded. Only those invited participants who could email back their signed ICF were scheduled to join the IDI and FGD. Also, the researcher made sure that her time schedule was most convenient with the participants. Using the validated open-ended questionnaire, she had to limit the IDI and FGD sessions to 30 to 40 minutes. In addition, she discussed thoroughly the ethical considerations to the participants. Also, the participants' perspectives on the phenomenon of interest were revealed according to how they viewed it and not as the researcher viewed it. Also, since the interview involved a personal interaction where cooperation was essential (Creswell, 2013), the researcher who acted as the interviewer saw that she had a good rapport with the interviewees by using a non-threatening stance during the IDI. Likewise, for the FGD, the researcher sent an email or text through messenger to confirm the availability of the participants who signed up to join the FGD at the time scheduled for the FGD Google Meet session. An invite was emailed at least two days before the scheduled FGD session. The researcher acted as the facilitator during the FGD and stimulated the discussion or brainstorming through sensibly chosen guide statements prepared beforehand and validated by a panel of experts. Participants in the FGD were informed prior to the submission of the signed ICF that the whole session was going to be recorded.

2.6. Trustworthiness of the Study—To establish the study's trustworthiness, the researcher followed the four proposed criteria for evaluating interpretive research work by Lincoln and Guba (1985): credibility, transferability, dependability, and confirmability. This study's trustworthiness was addressed through a thorough data collection by survey and in-depth interview, supported by FGD for triangulation. Credibility. To ensure the credibility of this study, the researcher adopted a well-established research method. The researcher recognized the importance of incorporating correct operational measures for the concept that was being studied. Credibility was achieved by ensuring that the source of the data was credible. The researcher also ensured the honesty of the participants by giving them a chance to refuse to participate in the study. Also, the researcher ensured the quality of this study by carefully adhering to the protocols set by the Rizal Memorial Colleges Graduate School; the process flow in data collection, data analysis, and data integration were carefully reviewed, ensuring quality and

dependability. Transferability. The researcher addressed transferability by providing readers with evidence that the research findings could apply to other contexts, situations, times, and populations. Transferability is concerned with the extent to which the study's findings can be applied to other situations (Creswell, 2013). The readers had to note the specific details of the situations and methods to compare them to a similar situation familiar to them. Dependability. To address the dependability issue more directly, the researcher made sure that the process within the study was discussed in detail, thereby enabling future researchers to repeat the work, if not necessarily to gain the same results or findings of the study. For the readers to gain a thorough understanding of the methods and their effectiveness, the researcher included sections such as the research design and its implementation, described what was planned, and how they were executed strategically. The researcher described the operational details of data collection, addressed the details of what has to be done in the field, provided a reflective appraisal of the project, and evaluated the appropriateness of the process of the inquiry that was being undertaken. With her mentor's guidance and the expert panelists' evaluation, all activities were correctly done; as a result, stakeholders and readers can be assured of the study's dependability. Confirmability. To safeguard the accuracy of the transcription and initial interpretation of the data, IDIs, and FGD were recorded, and the transcriptions were subjected to the review of the participant's responses. The process included in Creswell's (2017) steps and procedures in analyzing qualitative data is known as the last stage in validating the accuracy of the information; through this method, the researcher assured confirmability of the study's findings (Creswell, 2017). As such, the researcher used an audit trail of raw data, analysis notes, process notes, personal notes, and preliminary developmental information to achieve confirmability. In

other words, the researcher's findings were derived from the survey responses and narratives of the participants in the IDI and FGD.

2.7. 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 asked for the permission of respondents through written informed consent. They were properly informed about the purpose of the study, and ample explanations were given to them for a better understanding of the reason for their participation so that they could choose whether to participate or not. It was made clear that the respondent's 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 desire for academic recognition of Grade 7-10 students in relation to knowledge acquisition preferences and may contribute to the enhancement. Vulnerability of Research Participants. The study's respondents are junior high school students, so they were considered vulnerable since all of them are not yet in legal age, and they were not considered highly vulnerable in the psychological aspect. The researcher emphasized that the survey was to be 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 respondents, who were the real source of information, to protect the identities of the respondents. Moreover, the researcher assured that no personal data would be shared without the consent of the respondents. Thus, to ensure that no personal data would be exposed, access was limited to the researcher alone. To protect the participants' privacy, it was assured that the researcher could only access the survey results. 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 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 and interview guide that was used in this study did not contain any degrading or unacceptable statements offensive to the respondents of the study. Likewise, this study is designed purely to collect academic information related to the study, and they were not asked for personal information. To minimize inconvenience, the researcher ensured the respondents were given ample time to answer the survey questionnaire. The respondents were given the freedom not to answer 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 respon-

dents, 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 who fits the qualifications of being bonafide enrolled students in the purposively selected public schools in Davao City. During the study, the researcher made certain to respect the respondents by interrupting the routine of the respondents as little as possible. Transparency. To provide transparency in this study, any communication concerning the research was done with honesty and transparency. To safeguard the welfare of the participants, the researcher properly implemented the methods that are discussed in this study. All the necessary documents that supported the data analysis were included. Qualification of the Researcher. The researcher ensured that the responses of the respondents were not influenced by any other factor like the conflict of interest. The findings of the study could be accessed by the respondents' 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 success of the study. The Division of Davao City was given a furnished copy of the results of the research so it can 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 was done within the time set by the researcher. The accuracy of gathering data from the respondents was ensured by encoding properly the ratings of the respondents during the day when the researcher was not too tired to do them to avoid errors in encoding. Also, the analysis and results gathered were proficient and aligned, which serves as a primary basis

for adequacy. Community Involvement. It was good practice to involve the community during every phase of research, 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.

2.8. Data Analysis—Quantitative Phase The following were the statistical tools utilized by the researcher in processing the gathered data: Mean. This was useful in characterizing the knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students in District II, Davao City. Pearson-r Correlation was applied to evaluate the relationship between knowledge acquisition preferences and the desire for academic recognition of Grade 7-10 students in District II, Davao City. Qualitative Strand The data from the IDI and FGD were analyzed using thematic analysis. The interview was recorded so that the data and notes obtained could be analyzed to determine the emerging codes and themes. This method emphasizes pinpointing, examining, and recording patterns or themes within data. Themes are patterns across data sets that are important to the description of a phenomenon and are associated with a specific research question (Mertens, 2018). In doing the thematic analysis, the researcher first read and re-read the transcripts in order to become familiar with the data. The data were organized in order to generate initial codes. Codes reduced ideas into smaller chunks of meaning. Codes were examined and grouped together according to themes. Themes were formed and reviewed, modified, and developed. Themes were coherent and distinctive from each other. Lastly, the identified themes were defined in order to identify their meaning (Creswell, 2017). After the actual data collection, a detailed step was applied to analyze the data. Sequence, Emphasis, and Mixing Procedures A

sequential collection of quantitative and qualitative components was employed in this study. However, the data integration happens during the analysis and interpretation phase. Sequence. A sequential-explanatory mixed-method design was used in this study. This means that the data gathered in the quantitative strand was further verified in the qualitative strand to explain the salient results of the survey. For the quantitative strand, the researcher collected the data online through adapted questionnaires and interviews of Grade 7-10 in District II schools in Davao City with a validated interview guide for the qualitative phase. This means that the survey and interview were conducted separately and simultaneously. The qualitative data verified the quantitative data for cross-validation or confirmation of findings. With this method, the qualitative results determine the depth of the quantitative findings of the study. Emphasis. The quantitative data were given more emphasis in the study because they used empirical tools and provided substantive support for the qualitative findings. The findings were integrated during the interpretation phase of the study. The sequential-explanatory design framework shows two strands, with the data collection and analysis from the quantitative and qualitative strands. By mixing both quantitative and qualitative research and data, the researcher gained an in-depth understanding after corroboration, while offsetting the weaknesses inherent in using each approach by itself. Mixing Procedures. The design required a substantial length of time to complete all data collection, given the two separate phases. The main purpose of mixing quantitative and qualitative data is for the qualitative data to help explain the quantitative data. Thus, quantitative and qualitative data were connected. Mixed methodologies were observed in formulating the purpose, research questions, and integration of data in the findings and interpretation of the study. A data integration technique was applied to establish either the com-
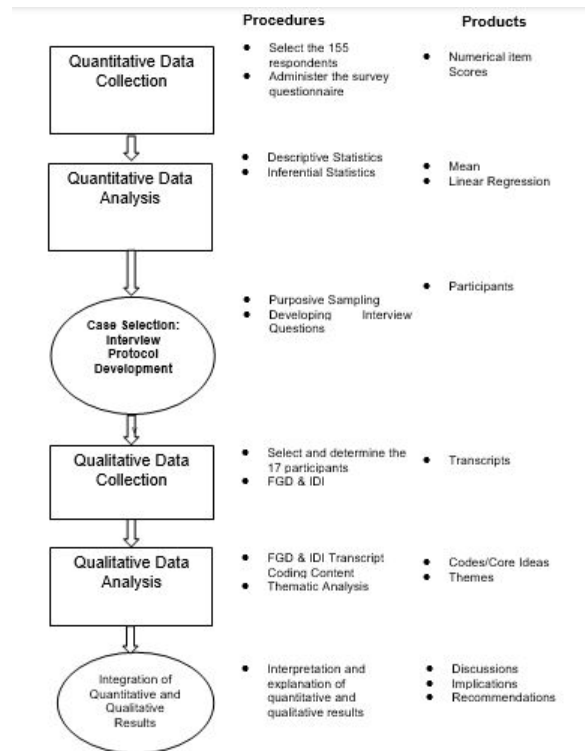
Fig. 2. Flow of Procedures

plementation of quantitative and qualitative data or the sequential connection between these data sets. The qualitative data either confirms or contrasts the quantitative findings. Either of these, citations of the previous studies explained the results. In addition, the specific research questions of the study served as a guide in the interpretation of the results. The mixing was done to better understand the influence of knowledge acquisition preferences on the desire for academic recognition of technology and livelihood education students. The systematic procedure of the study is shown in Figure 2. It demonstrates the use of a sequential-explanatory mixed methods design, where quantitative and qualitative data were corroborated to determine the influence of knowledge acquisition preferences on the desire for academic recognition of technology and livelihood education students in District II, Davao City. Then, after giving adequate time, the responses to the survey questionnaires were conducted using Google Forms, which were encoded and analyzed. Concurrently, IDI and FGD were conducted in the selected secondary public schools.

In the quantitative strand, the responses of the participants using the validated survey questionnaire were analyzed using computer applications, and the answers of the participants were numeric data as the output. In addition, in analyzing the quantitative data, appropriate statistical tools were used, including Mean and Linear Regression Analysis. After analysis, the data was presented according to the sequence of the research problems. In the qualitative data strand, the researcher purposefully selected the participants for the IDI and FGD. The schedule of the IDI and FGD was set at the participants' convenience. Every detail of the responses was taken into consideration, but those that were not relevant to the study were not reflected. In addition, the interview proceedings were recorded with the participant's consent. Thematic analy-

sis was employed, consisting of six phases. The researcher started by transcribing, reading, and re-reading the data, and then initial codes or features of the data were created. The next phase was searching for the themes and collating the codes. As to the integration of the quantitative and qualitative results phases, the researcher interpreted and explained the quantitative and qualitative results to arrive at a very substantial discussion, implications, and recommendations.

3. Results and Discussion

This reflects the presentation, analysis, and interpretation of findings. Specifically, this chapter reveals both quantitative and qualitative data relevant to address the research questions formulated in Chapter 1. The tabulated quantitative findings are presented in Tables 1-3, while qualitative findings are presented in Tables 4-5.

3.1. Knowledge Acquisition Preferences of Grade 7-10 Students—Table 1 shows the extent of knowledge acquisition preferences of students in District II in Davao City, reflecting an overall mean of 3.29, described as moderately extensive. This means that the knowledge acquisition preferences of students are sometimes observed. Also, the table indicates that knowledge acquisition preferences of students in terms of visual preferences acquired the highest mean score of 3.73, described as extensively interpreted as oftentimes observed, while knowledge acquisition preferences of students in terms of individual preferences acquired the lowest mean score of 2.44 described as less extensive interpreted as seldom observed by Grade 7 students.

This suggest that they exhibit a degree of flexibility in how they acquire knowledge and may be willing to use a variety of methods depending on the subject matter, the teacher's approach, or their own interests and comfort level. This finding is similar to Gokalp's (2013) view that students with moderate preferences are more likely to adapt to different teaching methods and learning environments. This adaptability can be an asset, as it allows them to thrive in diverse educational settings. Likewise, this supports Dung and Florea's (2012) idea that moderate-level students may remain engaged and motivated in various subjects because they are not rigid in their preferences. This can contribute to a more positive learning experience.

Table 1. Knowledge Acquisition Preferences of Grade 7-10 Students

Indicators	Mean	Descriptive Equivalent
Visual Preference	3.73	Extensive
Auditory Preference	3.63	Extensive
Kinesthetic Preference	3.15	Moderately Extensive
Tactile Preference	3.07	Moderately Extensive
Individual Preference	2.44	Less Extensive
Group Preference	3.70	Extensive
Overall	3.29	Moderately Extensive

Meanwhile, the knowledge acquisition preferences of students in terms of visual preferences have a category mean of 3.73, interpreted as extensive, which means that in terms of visual

preferences, the knowledge acquisition preferences of students in District II in Davao City are oftentimes observed. The mean ratings of the items, as shown in Appendix A, range from 3.39 to 4.02. The item, Learning Better by Reading What the Teacher Writes on the Chalkboard (refer to Appendix A), reflects a mean rating of 3.38, described as moderately extensive, interpreted as sometimes observed. Meanwhile, the item Learning better by reading than by listening to someone (refer to Appendix A) shows a mean rating of 4.02, described as extensive and interpreted as oftentimes observed. The result suggests that students have a strong and consistent preference for visual learning methods. The finding is in consonance with the study of Strauss (2013) that visual learners tend to grasp and retain information more effectively when it is presented in a visual format. This can lead to an improved understanding of complex concepts. They are often more engaged in the learning process when visual materials are used. Adding more, this supports Gilakjani's (2012) that high-level visual learners may seek out a variety of visual learning resources, such as educational videos, infographics, and interactive simulations. This can expand their exposure to different educational materials. Knowledge acquisition preferences of students in terms of auditory preferences has a category mean of 3.59 described as extensive and interpreted as oftentimes observed in District II, Davao City. Adding on, looking at the mean ratings of the different items, as shown in Appendix A, they range from 3.14 to 4.09. The item Learning it better when someone tells me how to do something in class (refer to Appendix A) reflects a mean rating of 3.14, described as moderately extensive, and interpreted as sometimes observed. The items, Learning better in class when I listen to someone (refer to Appendix A) have the same mean rating of 4.09, described as extensive and interpreted as item is oftentimes observed by the Grade 7-10 students. The results

imply that students have a strong and consistent preference for auditory learning methods. This finding agrees with the view of Wong (2011) that auditory learners tend to have strong listening skills, which can be advantageous in various academic and professional settings. They can process spoken information with greater accuracy and attention to detail. High-level auditory learners excel in taking detailed notes during lectures and discussions, which can aid in the retention and comprehension of information. This also supports the view of Tuli (2015) that auditory learners often have better oral communication skills, which are valuable in both academic and professional contexts. They can express themselves clearly and confidently. Knowledge acquisition preferences of students in terms of kinesthetic preferences reflect a mean score of 3.61, interpreted as extensive, which means that this domain of knowledge acquisition preferences of students is oftentimes observed. The mean ratings among the aspects of kinesthetic, as shown in Appendix A, range from 2.25 to 3.66. The item Enjoying learning in class by doing experiments (refer to Appendix A) has a mean of 2.25, described as less extensive, which means that this particular item is seldom observed. Notably, the item, Understanding things better in class when I participate in role-playing (refer to Appendix A), reflects a mean rating of 3.66, described as extensive, which means that this item is oftentimes observed. This suggests that students often remember and understand information better when they can physically engage with it. This finding supports Durmuscelebi's (2013) findings that kinesthetic learners often develop strong problem-solving skills as they engage in practical, real-world applications of knowledge. These learners thrive in active learning environments where they can participate in hands-on activities, experiments, and projects. They may prefer learning by doing. This supports the idea of Griss (2013) that high-level kinesthetic learners may have well-

developed fine and gross motor skills, making them adept at physical tasks and activities. They often excel in physical education classes and sports due to their strong connection to physical movement Knowledge acquisition preferences of students in terms of tactile preferences reveals a category mean of 3.07 described as moderately extensive which means that this indicator is sometimes observed in District II in Davao City. The item mean ratings, as shown in Appendix A, are ranging from 2.87 to 3.41. The item Learning more when I can make a model of something (refer to Appendix A) has a mean rating of 2.87 described as moderately extensive which means that this particular item is oftentimes observed while the item, Remembering what I have learned better when I build something (refer to Appendix A) has a mean of 3.41 described as extensive which means that this particular item is oftentimes observed. This means that students learn best through physical interactions, hands-on experiences, and the use of their sense of touch to explore and understand concepts. This supports the idea of Strauss (2013) that students with average levels of tactile preferences may find tactile experiences moderately engaging but not to the extent of high-level tactile learners. They are likely to have a balanced learning style that combines touch-based learning with other modes of learning, such as visual and auditory, depending on the context and subject matter. They may appreciate and benefit from hands-on activities and experiments to some extent, recognizing the value of tactile experiences in the learning process. Knowledge acquisition preferences of students in terms of individual preferences has a category mean of 2.44 interpreted as less extensive which means that it is seldom observed by Grade 7-10 students in District II, Davao City. The mean ratings of the items, as shown in Appendix A, ranges from 1.98 to 3.01. The item, Learning better when I work alone (refer to Appendix A) reflects a mean rating of

1.98 described as less extensive, interpreted as seldom observed. Meanwhile, the item Preferring to work by myself (refer to Appendix A) reflect the mean rating of 3.01, described as moderately extensive and interpreted as item is seldom observed in District II, Davao City. The result suggests that not all students fit neatly into a single category or preference for learning. The result agrees with Koca's (2016) findings that students with less extensive or highly individualized preferences may follow unique learning paths that are not easily categorized. They may require tailored approaches to their education. Their strategies for acquiring knowledge may vary depending on the subject matter, teacher, and context. They may not have a one-size-fits-all approach to learning. This also supports Cukurova's (2014) idea that they may exhibit a high degree of flexibility in their learning approaches, being willing to adapt to different methods and environments as needed. Lastly, knowledge acquisition preferences of students in terms of group preferences reflects a category mean of 3.70 described as extensive which is interpreted as oftentimes observed in District II, Davao City. It can be seen that the mean ratings of the different items, as shown in Appendix A, ranges from 3.34 to 3.94. The item, Enjoying working on an assignment with two or three classmates (refer to Appendix A) has a mean rating of 3.34, described as moderately extensive and interpreted as sometimes observed. Whereas, the item Preferring to study with others (refer to Appendix A) has a mean of 3.94 described as extensive and interpreted as oftentimes observed. This implies that students oftentimes prefer collaborative or group-based methods of learning and knowledge acquisition. The finding supports the view of Schmid et al. (2014) that students with high group preferences thrive in social settings. They enjoy working with their peers, engaging in discussions, and sharing knowledge with others. Group-oriented students often develop strong communication

skills, both verbal and non-verbal. They become adept at expressing their ideas and understanding the perspectives of others. Likewise, this also supports the idea of Brame and Biel (2015) that they may find individual study or solitary learning less engaging and may prefer group study sessions or cooperative learning activities.

3.2. Students Desire for Academic Recognition—Table 2 shows the summary of students' desire for academic recognition in District II, Davao City. The overall mean of the student's desire for academic recognition is 3.80, described as extensive and interpreted as oftentimes manifested. Also, students' desire for academic recognition in terms of striving for excellence acquired the highest mean score of 3.86, described as extensive and interpreted as oftentimes manifested, while students' desire for academic recognition in terms of striv-

ing for excellence acquired the lowest mean score of 3.73 described as extensive and interpreted as oftentimes manifested. This means that the motivation of students to be acknowledged, appreciated, and rewarded for their academic achievements and contributions is oftentimes manifested. The result agrees with the view of Sandoval-Pineda (2018) that students with a strong desire for academic recognition are often highly motivated to excel in their studies. The prospect of being recognized for their achievements drives them to work harder and strive for excellence. This also supports the idea of Guido and Dela Cruz (2011) that a strong desire for academic recognition can lead to healthy competition among students, pushing them to perform at their best and surpass their own expectations.

Table 2. Desire for Academic Recognition of Grade 7-10 Students in District II, Davao City

Indicators	Mean	Descriptive Equivalent
Striving for Excellence	3.86	Extensive
Learning Interest	3.82	Extensive
Rewards Expectations	3.73	Extensive
Overall	3.80	Extensive

Meanwhile, students' desire for academic recognition in terms of striving for excellence has a category mean of 3.86 described as extensive and interpreted as oftentimes manifested by the Grade 7-10 students in District II, Davao City. This means that the students' desire for academic recognition among students in terms of striving for excellence is oftentimes manifested. The mean rating of the different items, as shown in Appendix A, ranges from 3.24 to 4.23. The item, Seeking some average academic tasks in which I think I can succeed (refer to Appendix A) reflects a mean rating of 3.22, described as moderately extensive, and interpreted

as this item sometimes manifested. Further, the item Making strong demands on myself to achieve in academic work (refer to Appendix A) has a mean rating of 4.25, described as very extensive, interpreted as this item always manifested. It suggests that students' commitment and dedication to achieving the highest possible level of academic performance and success is oftentimes manifested. This finding is in agreement with Zyngier's (2011) findings that students who aims excellence are more likely to consistently achieve high grades and excel in their coursework due to their unwavering commitment to excellence. They typically demon-

strate a strong work ethic, including effective time management, disciplined study habits, and a focus on their academic goals. This also supports the proposition of Meyer (2010) that high-level strivers for excellence often take on leadership roles in academic clubs, teams, or extracurricular activities, demonstrating their dedication to promoting academic success. They may engage in healthy competition with their peers and seek to outperform others, which can motivate them to push their boundaries and excel further. Students' desire for academic recognition in terms of learning interest has a category mean of 3.82, described as extensive, which means that this particular domain of desire for academic recognition of students is oftentimes manifested in District II, Davao City. Adding on, the mean ratings of the different items, as shown in Appendix A, range from 3.33 to 4.12. Specifically, the item, Asking questions of others to improve my understanding in academic matters (refer to Appendix A), a mean rating of 3.33, described as moderately extensive, interpreted as an item sometimes manifested. The item, Reading widely on a number of academic topics (refer to Appendix A), reflects a mean rating of 4.12, described as extensive and interpreted as an item oftentimes manifested in District II, Davao City. It implies that students' enthusiasm, curiosity, and genuine interest students have in acquiring knowledge and understanding academic subjects is oftentimes manifested. The result is congruent to the view of Altındağ and Senemoğlu (2013) that students who are genuinely interested in what they are learning are often intrinsically motivated to excel. Their motivation comes from within, driven by a love for the subject matter rather than external rewards or recognition. This supports Eryılmaz's et al. (2011) idea that high levels of learning interest are often associated with strong academic performance, as students are motivated to excel in their areas of interest. These students tend to have a passion for discovery and intellectual exploration. Lastly, students' desire for academic recognition in terms of reward expectations, as shown in Table 2, reflects an extensive category mean of 3.73, which means that it is oftentimes manifested by Grade 7-10 students in District II, Davao City. Notably, the mean ratings of the different items, as shown in Appendix A, range from 3.23 to 4.03. The table further reveals that the item Liking the interaction with peers in solving problems in academic work (refer to Appendix A) has a mean rating of 3.23, described as moderately extensive, interpreted as an item sometimes manifested. Meanwhile, the item Liking the social relationships involved in academic work (refer to Appendix A) reflects a mean rating of 4.03, described as extensive, interpreted as an item oftentimes manifested by Grade 7-10 students in District II, Davao City. It denotes that the anticipation or desire for tangible rewards, such as grades, certificates, scholarships, or other forms of recognition, as a result of their academic achievements is oftentimes manifested in District II, Davao City. The result corroborates with Castiglia's (2010) idea that students with high reward expectations often set clear academic goals and work systematically to achieve them, which can lead to strong academic performance. They are likely to develop structured study habits and time management skills to ensure they meet their expectations and achieve the desired rewards. This is also similar to the findings of Velki (2011) that high reward expectations can foster a competitive spirit, which can motivate students to outperform their peers and achieve recognition.

3.3. Significant Relationship Between Knowledge—Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students in District II, Davao City – The results of the analysis of the relationship between knowledge acquisition preferences and the desire for academic recognition of Grade 7-10 Students in District II in Davao City are presented. Bivariate correlation analysis using

Pearson Product Moment Correlation was utilized to determine the relationship between the variables mentioned. Table 3 shows that knowledge acquisition preferences have a significant positive relationship with the desire for academic recognition of Grade 7-10 Students in District II in Davao City with a p-value of .000 that is less than .05 level of significance (two-tailed) (r = .899, p <0.05). It means that as the extent of knowledge acquisition preferences changes, the extent of desire for academic recognition of Grade 7-10 students also significantly changes. Moreover, the table also shows that the knowledge acquisition preferences in terms of visual preference; auditory preference; kinesthetic preference; tactile preference; individual preference; and group preference are significantly correlated with students' comprehension strategies in Technology and Livelihood Education as evident on the correlation coefficient values of 0.602, 0.611, 0.801, 0.776, 0.889, 0.773, and 0.808. This leads to the rejection of the null hypothesis of no significant relationship between knowledge acquisition preferences and the desire for academic recognition of Grade 7-10 Students in District II in Davao City.

Table 3. Correlation Between Knowledge Acquisition Preferences and Students' Desire for Academic Recognition

Knowledge Acquisition Preferences	r-value	p-value	Decision
Visual Preference	0.611*	0.000	Reject H_0
Auditory Preference	0.801*	0.000	Reject H_0
Kinesthetic Preference	0.776*	0.000	Reject H_0
Tactile Preference	0.889*	0.000	Reject H_0
Individual Preference	0.773*	0.000	Reject H_0
Group Preference	0.808*	0.000	Reject H_0
Overall, Knowledge Acquisition Preferences	0.899*	0.000	Reject H_0

*Significant at p <0.05

This implies that aligning knowledge acquisition preferences with the desire for academic recognition can be beneficial, it's equally crucial to emphasize the importance of intrinsic motivation and the love of learning. The result agrees with Ghaedi and Jam's (2014) idea that when students' preferences for how they learn align with their desire for recognition, it can lead to improved academic performance and motivation. Students who are actively involved in their learning process through their preferred learning style are more likely to participate in class, engage in discussions, and take on leadership roles. This also agrees with the view of Magulod (2017) that when students can engage with content using their preferred learning style, they are more likely to understand and retain information effectively.

3.4. Standpoints of the Participants on the Quantitative Results in Regarding the Extents of Knowledge Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students—Table 4 presents the standpoints of the participants on the quantitative results regarding the moderately extensive rating on knowledge acquisition preferences and the extensive rating

on the desire for academic recognition of Grade 7-10 students. On the standpoints of the participants on the quantitative results regarding the moderately extensive rating on knowledge acquisition preferences of Grade 7-10 students, there were three emerging reasons that identified namely: diverse learning styles; subject dependent preferences; and teachers' teaching styles.

3.4.1. Diverse Learning Styles—Students, on average, do not strongly favor one particular learning style over others and exhibit a degree of adaptability in how they acquire knowledge. Students do not have extremely strong or exclusive preferences for one particular learning style; instead, they have a balanced or flexible approach to learning.

The result implies that students may have diverse learning styles and preferences. They may not strongly favor one method over others, allowing them to adapt to different instructional approaches. The result is congruent to the view of Palabıyık (2014) that educators need to be versatile in their teaching methods to cater to students with diverse learning styles. This can include incorporating a mix of visual, auditory, and kinesthetic elements into their lessons. Recognizing the diversity of learning styles allows for the development of individualized learning plans, where students can choose methods that suit their preferences for particular subjects or topics.

3.4.2. Subject-Dependent Preferences—Students adapt their preferred learning styles and methods based on the specific subject or topic they are studying. In this context, students do not have extremely rigid or exclusive preferences for one particular learning style but instead, exhibit a degree of flexibility and adaptability in selecting their preferred method for each subject. The result means that students with subject-dependent preferences may display adaptability in their approach to learning. They choose the method that aligns with the specific demands and nature of each subject. The result supports the view of Albeshtawi (2017) that subject-dependent preferences may be influenced by students' personal interest in a particular subject. If they are passionate about a topic, they may be more willing to engage with it using a preferred learning style. By selecting learning methods that resonate with a particular subject, students are more likely to comprehend and retain information effectively. This can lead to improved academic performance. This also supports Dung and Florea's (2012) view that students may use their preferred learning style to approach complex problems and challenges in a way that suits the subject. This can lead to better problem-solving skills. They may develop specific strategies for each subject that cater to their subject-dependent preferences.

3.4.3. Teachers' Teaching Style—Teachers' teaching style should be adaptable and responsive to the varying knowledge acquisition preferences of students, recognizing that a one-size-fits-all approach may not be effective. This adaptability can contribute to more inclusive and successful learning experiences for all students. This suggests that students do not have extremely strong or exclusive preferences for one particular learning style but instead exhibit a degree of adaptability in how they learn. This supports the idea of Syofyan and Siwi (2018) that adapting teaching methods to align with students' moderate preferences can enhance engagement, as students are more likely to be motivated and interested when the teaching methods resonate with their adaptable learning styles. When educators tailor their teaching style to the preferences of students, it can lead to improved learning outcomes, as students may better understand and retain information. On the standpoints of the participants on the quantitative results regarding the extensive rating on desire for academic recognition of Grade 7-10 students, there were three emerging reasons that identified namely: career aspirations; educational

environment; and parental and family expectation.

3.4.4. Career Aspirations—Students with a strong desire for academic recognition as a means to achieve their career aspirations often have a clear sense of purpose and direction in their education. However, it's essential to provide support and guidance to ensure that this drive is balanced with overall well-being and a realistic understanding of the academic and professional journey ahead.

The result implies that students are highly motivated to achieve academic recognition because they believe it will pave the way for realizing their ambitious career aspirations. The result is congruent to the view of Maranan (2017) that high levels of desire for academic recognition driven by career aspirations can serve as a strong motivator for students to excel in their studies and achieve high academic performance. As students aim for specific careers, they may be more committed to developing the skills and knowledge required for success in those fields, which can contribute to their academic success.

3.4.5. Educational Environment—The educational environment has a profound impact on students' aspirations and motivation for academic recognition. A supportive and recognition-oriented environment can inspire

students to excel and strive for recognition, ultimately contributing to their personal growth and academic success.

The result means that that the educational environment plays a significant role in nurturing and reinforcing students' aspirations for academic recognition. The result supports Yilmaz's et al. (2017) idea that school with an environment that values and celebrates academic recognition fosters a culture where students are encouraged to excel academically, which can fuel their desire for recognition. A competitive educational environment may drive students to strive for recognition as they seek to outperform their peers and establish themselves as top achievers.

3.4.6. Parental and Family Expectation—It's crucial for parents and families to maintain a healthy and supportive approach to their expectations, ensuring that their influence is a positive factor in the student's academic journey. Balancing high expectations with understanding and support can lead to a more productive and fulfilling pursuit of academic recognition. This indicates that expectations and support from parents and family play a significant role in shaping a student's motivation to excel academically and seek recognition.

Table 4. Standpoints of the Participants on the Quantitative Results Regarding the Extents of Knowledge Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students

Essential Theme	Reasons
Confirmed Moderately Extensive Rating on Knowledge Acquisition Preferences of Grade 7-10 Students	Diverse Learning Styles Subject Dependent Preferences Teachers' Teaching Styles
Confirmed Extensive Rating on Desire for Academic Recognition of Grade 7-10 Students	Career Aspirations Educational Environment Parental and Family Expectation

The result supports the assertion of Clickenbeard (2012) that high parental and family expectations can serve as a powerful motivator for students, driving them to excel academically to meet or exceed these expectations. Students with strong parental and family expectations may have a deep desire to earn the approval and pride of their family members through academic recognition. The anticipation of meeting familial expectations often leads students to put in extra effort in their studies, resulting in higher academic performance.

3.5. *Standpoints of the Participants on the Significant Relationship Between Knowledge Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students*—Table 5 presents the participants' standpoints on the quantitative results regarding the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 students. Three emerging codes were identified: intrinsic motivation, autonomy, and interest and passion.

3.5.1. *Intrinsic Motivation*—Intrinsic motivation creates a strong foundation for the relationship between knowledge acquisition preferences and the desire for academic recognition. It drives students to pursue their interests, invest effort, and seek out learning approaches that resonate with their passions, ultimately leading to a greater desire for recognition in their chosen academic or research pursuits.

The result implies that intrinsic motivation tends to drive sustained effort and persistence. Students who are intrinsically motivated to learn are more likely to put in the time and effort required to master their chosen knowledge acquisition methods. This dedication can result in a deeper understanding of the subject matter and, consequently, better academic performance. This supports the view of Bosman and Schulze (2018) that intrinsic motivation often stems from a genuine interest and passion for a subject or topic. When students are intrinsically motivated to acquire knowledge in a particular area, they are more likely to have preferences for learning methods that resonate with their interests.

3.5.2. *Autonomy*—Autonomy empowers students to take ownership of their learning experiences. When they have control over what, how, and when they learn, they are more likely to develop a sense of ownership and responsibility for their academic progress. This sense of ownership can lead to a heightened desire for recognition as students seek acknowledgment for their active involvement in their education.

This implies that when students have the freedom to pursue topics that genuinely interest them and to explore knowledge in ways that they find meaningful, it can lead to a strong sense of motivation and passion. This supports the findings of Naik (2013) that autonomy allows students to select learning methods and strategies that align with their individual preferences and strengths. When students have the freedom to choose how they acquire knowledge, they are more likely to select approaches that resonate with their learning style and interests. This tailored approach can result in a deeper engagement with the subject matter and a higher level of expertise, which can contribute to their desire for academic recognition.

3.5.3. *Interest and Passion*—Passion often inspires students to explore new, innovative, and creative approaches to acquiring knowledge. They may initiate their research projects, experiment with unconventional methods, or propose fresh ideas. These innovative contributions can set them apart from their peers and make them more deserving of academic recognition.

The result implies that interest and passion often lead students to choose learning methods that resonate with their enthusiasm. They are more likely to adopt knowledge acquisition preferences that align with their interests. This supports the idea of Henning (2013) that when students have a genuine interest and passion for a

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particular subject, they are more motivated to engage deeply in their learning.

Table 5. Standpoints of the Participants on the Significant Relationship Between Knowledge Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students

Essential Theme	Reasons
Confirmed Significant Relationship Between Knowledge Acquisition Preferences and Desire for Academic Recognition of Grade 7-10 Students	Intrinsic Motivation
	Autonomy
	Interest and Passion

Their enthusiasm for the topic fuels their curiosity and drives them to explore it further, often through their preferred methods of knowledge acquisition. Likewise, this supports Breckler's et al. (2011) proposition that this heightened engagement can lead to a more profound understanding of the subject matter and a desire to excel academically.

4. Implications and Future Directions

This part of the paper presents the researcher's conclusions and recommendations. The discussions were supported by the literature presented in the first chapters, and the conclusions were in accordance with statements of the problem presented in this study.

4.1. Findings—This study aimed to determine the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 Students in District II in Davao City using mixed methods specifically the sequential-explanatory design wherein adapted survey questionnaires were used in the quantitative phase and through in-depth interview (IDI) and focus group discussion (FGD) in the qualitative phase. On the one hand, in the quantitative phase of the study, adapted survey questionnaires were used to gather data from the students to determine the extent of knowledge acquisition preferences and desire for academic recognition of Grade 7-10 Students in District II in Davao City. For the quantitative strand, the researcher made use of 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, while a semi-structured interview guide was used in the qualitative strand. Based on the results the summary of the findings was the following: Knowledge acquisition preferences of students in District II in Davao City have an overall mean of 3.29 with a moderately extensive descriptive rating. Also, the knowledge acquisition preferences of students in terms of visual preference, auditory preference, kinesthetic preference, tactile preference, individual preference, and group preference obtained mean scores of 3.73, 3.63, 3.15, 3.07, 2.44, and 3.70, respectively. Desire for academic recognition of Grade 7-10 students in District II, Davao City has an overall mean of 3.80 with an extensive descriptive rating. Also, the desire for academic recognition of Grade 7-10 students in terms of striving for excellence, learning interest, and rewards expectations obtained mean scores of 3.86, 3.82, and 3.73, respectively. Knowledge acquisition preferences have a significant positive relationship with the desire for academic recognition of Grade 7-10 students in District

II, Davao City, with a p-value of .000 that is less than .05 level of significance (two-tailed) (r = .899, p¡0.05). This means that as the knowledge acquisition preference changes, the desire for academic recognition of Grade 7-10 students also changes significantly. From the standpoints of the participants on the quantitative results regarding the moderately extensive rating on knowledge acquisition preferences of students, the three emerging reasons were as follows: diverse learning styles, subject-dependent preferences, and teachers' teaching styles. From the standpoints of the participants on the quantitative results regarding the extensive rating on the desire for academic recognition of Grade 7-10 students, the three emerging reasons were as follows: career aspirations, educational environment, and parental and family expectations. The participants' standpoints on the quantitative results regarding the significant relationship between knowledge acquisition preferences and desire for academic recognition of Grade 7-10 Students in District II in Davao City were as follows: intrinsic motivation, autonomy, and interest and passion.

4.2. Conclusions—Based on the findings of this study and within the limitations and restrictions (such as the survey questionnaire and number of respondents), several conclusions are generated: Knowledge acquisition preferences of students in District II in Davao City were moderately extensive. The results imply that students have a strong and consistent preference for auditory learning methods. The desire for academic recognition of Grade 7-10 students in District II, Davao City. This means that students' motivation to be acknowledged, appreciated, and rewarded for their academic achievements and contributions is often manifested. Knowledge acquisition preferences have a significant positive relationship with the desire for academic recognition of Grade 7-10 students in District II, Davao City. This implies that aligning knowledge acquisition preferences

with the desire for academic recognition can be beneficial. However, it was equally crucial to emphasize the importance of intrinsic motivation and the love of learning. The quantitative results on the moderately extensive knowledge acquisition preferences of students were further substantiated by reasons (diverse learning styles, subject-dependent preferences, and teachers' teaching styles) that emerged during the thematic analysis of the qualitative data, generally confirming the results of the quantitative aspects of the study. The quantitative results on the extensive desire for academic recognition of Grade 7-10 students were further substantiated by reasons (career aspirations, educational environment, and parental and family expectation) that emerged during the thematic analysis of the qualitative data, generally confirming the results of the quantitative aspects of the study. The quantitative results on the significant relationship between knowledge acquisition preferences significant positive relationship with the desire for academic recognition of Grade 7-10 students in District II in Davao City were further substantiated by reasons (intrinsic motivation; autonomy; and interest and passion) that emerged during the thematic analysis of the qualitative data, generally confirming the results of the quantitative aspects of the study. The salient quantitative and qualitative findings revealed a parallel result. The corroborated finding means that the quantitative and qualitative findings merged and connected.

4.3. Recommendation—The Department of Education may develop policies that encourage schools to adopt diverse and flexible learning approaches, allowing students to choose methods that align with their interests and learning styles. DepEd may also create incentives for schools and teachers to promote student research, innovation, and creative projects. Funding research programs and competitions can encourage academic recognition. School principals may encourage teachers to build strong

relationships with students, providing guidance and mentorship to support their individual interests and learning preferences. Adding more, they may foster a school culture that encourages student autonomy, passion-driven learning, and recognition of academic achievements. Teachers may allow students to have a say in the topics they study and the methods they use to acquire knowledge, fostering a sense of ownership over their learning. They may create opportunities for students to engage in research projects, experiments, and creative endeavors, and guide them in the process. Students may establish open communication with their teachers and let them know about their learning preferences and goals. They may provide valuable guidance. Students may also participate in extracurricular activities, clubs, and projects related to their interests to gain practical experience and recognition. Future researchers may investigate the effects of autonomy in learning on students' knowledge acquisition preferences and their desire for academic recognition. They may study how students' passion for specific subjects influences their academic achievements and their preference for knowledge acquisition methods.

5. References

Alavi, S., & Toozandehjani, H. (2017). The relationship between learning styles and students' identity styles. *Open Journal of Psychiatry*, 7, 90–102. https://www.scirp.org/journal/paperinformation.aspx?paperid=75818

Albalate, A., Larcia, H., & Jaen, J. (2018). *Students' motivation towards science learning of stem students of university of batangas, lipa city*. https://www.grdspublishing.org/index.php/people/article/view/1045/910

Albeshtawi, A. E. M. (2017). Learning styles preferences of efl learners at al-ghad international college for health science-saudi arabia- dammam. *International Journal of English Language Literature in Humanities*, 5(4), 215–220.

Alsafi, A. (2011). *Learning style preferences of saudi medical students* [Master thesis]. Essex University. http://www.essex.ac.uk/linguistics/dissertations/2010/docs/Alsafi.pdf

Altındağ, M., & Senemoğlu, N. (2013). Metacognitive skills scale. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28(1), 15–26.

Applegate, A. J., & Applegate, M. D. (2010). A study of thoughtful literacy and the motivation to read. *Reading Teacher*, 64(4), 226–234. https://doi.org/10.1598/RT.64.4.1

Aydin, S. (2012). A review of research on facebook as an educational environment. *Education Tech Research Development Journal*, 60(6), 1093–1106. https://eric.ed.gov/?id=EJ986750

Aypay, A., & Eryılmaz, A. (2011). Investigation of the relationship between high school students' motivation to class engagement and school burnout. *Mehmet Akif Ersoy University Journal of Education Faculty*, 11(21), 26–44.

Bambaeeroo, F., & Shokrpour, N. (2017). *The impact of the teachers' non-verbal communication on success in teaching*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5346168/

Banas, R. (2018). Perceptual learning styles of students and its effect to their academic performance. *International Journal of Trend in Scientific Research and Development*, 3(1), 401–409. https://www.academia.edu/38633256/Perceptual_Learning_Styles_of_Students_and_its_Effect_to_Their_Academic_Performance

Barman, A., Aziz, R., & Yusoff, Y. (2014). Learning style awareness and academic performance of students. *South East Asian Journal of Medical Education*, 8(1), 47–51. https://www.

researchgate.net/publication/278412600_Learning_style_awareness_and_academic_performance_of_students

Biçer, D. (2014). The effect of students' and instructors' learning styles on achievement of foreign language preparatory school students. *Social and Behavioral Sciences*, *141*, 382–386. https://www.sciencedirect.com/science/article/pii/S1877042814034910

Borokhovski, E., Tamim, R. M., Bernard, R. M., Abrami, P. C., & Sokolovskaya, A. (2012). Are contextual and design student-student interaction treatments equally effective in distance education? a follow-up meta-analysis of comparative empirical studies. *Distance Education*, *33*(3), 311–329.

Bosman, A., & Schulze, S. (2018). Learning style preferences and mathematics achievement of secondary school learners. *South African Journal of Education*, *38*(1), 1–8. https://files.eric.ed.gov/fulltext/EJ1173186.pdf

Brame, C. J., & Biel, R. (2015). *Setting up and facilitating group work: Using cooperative learning groups effectively*. Vanderbilt University Center for Teaching. http://cft.vanderbilt.edu/guides-sub-pages/setting-up-and-facilitating-group-work-using-cooperative-learning-groups-effectively/

Breckler, J., Teoh, C. S., & Role, K. (2011). Academic performance and learning style self-predictions by second language students in an introductory biology course. *Journal of the Scholarship of Teaching and Learning*, *11*(4), 26–43. https://josotl.indiana.edu/article/viewFile/1835/1832

Brophy, J. (2010). *Motivating students to learn – third edition*. Routledge.

Brown, B. (2014). *The impact of self-efficacy and motivation characteristics on the academic achievement of upward bound participants*. https://aquila.usm.edu/cgi/viewcontent.cgi?article=1429&context=dissertations

Capen, R. (2010). The role of the teacher and classroom environment in reading motivation. *Illinois Reading Council Journal*, *38*(4), 20–25. https://link.springer.com/article/10.1007/BF03340978

Castiglia, B. (2010). *Factors driving student motivation*. http://www.abeweb.org/proceedings/proceedings06/astiglia.pdf

Chieke, J. C. (2015). Constraints on the effective implementation of adult education programmes and the way forward in otuocha educational zone of anambra state. *The International Journal of Educational Research and Development*, *5*(10), 59–65. https://www.ijern.com/journal/2015/July-2015/22.pdf

Christenson, S. L., Reschly, A. L., & Wylie, C. (2012). *Handbook of research on student engagement*. Springer. https://doi.org/10.1007/978-1-4614-2018-7

Clinkenbeard, P. R. (2012). Motivation and gifted students: Implications of theory and research. *Psychology in the Schools*, *49*(7), 622–630. https://www.arts.unsw.edu.au/sites/default/files/documents/Motivation_andGifted_Students.pdf

Cohen, S. D., & Wolvin, A. D. (2011). Listening to stories: An initial assessment of student listening characteristics. *Listening Education*, *2*, 16–25. http://scholar.google.com/citations?user=MDHs95IAAAAJ&hl=en

Cukurova, M. (2014). *An investigation of an independent learning approach in university level chemistry: The effects on students' knowledge, understanding and intellectual attributes*. https://etheses.whiterose.ac.uk/7160/1/Mutlu%20Cukurova-%20PhD%20Thesis.pdf

Daud, S. (2014). Learning styles of medical students. *South East Asian Journal of Medical Education*, *8*(1), 40–46. https://seajme.sljol.info/articles/abstract/10.4038/seajme.v8i1.123/

D'cruz, S. M., Rajaratnam, N., & Chandrasekhar, M. (2013). Learning styles of first year medical students studying physiology in tamil nadu. *International Journal of Medical Research & Health Sciences*, *2*(3), 321–327. https://scholar.google.com/citations?user=WoSbqyoAAAAJ&hl=en

Decuyper, S., Dochy, F., & den Bossche, P. V. (2010). Grasping the dynamic complexity of team learning. an integrative systemic model for effective team learning. *Educational Research Review*, *5*, 111–133. http://www.elsevier.com/locate/EDUREV

Dung, P., & Florea, A. (2012). An approach for detecting learning styles in learning management systems based on learners' behaviors. *International Conference on Education and Management Innovation*, *30*.

Durmuscelebi, M. (2013). Examining candidate teachers' learning styles by some variables [Retrieved from Ebscohost. Web. 17]. *International Journal of Academic Research*, *5*(3), 210–219.

Ediger, M. (2013). Managing the classroom: A very salient responsibility in teaching and learning situations is classroom management [Retrieved from Ebscohost. Web. 17. Oct. 2014]. *Journal on Educ Management*, *134*(1), 15–18.

Eridemir, N., & Bakirci, H. (2009). The change and the development of attitudes of science teacher candidates towards branches. *Kastamonu Education Journal*, 161–170.

Eryılmaz, A., Yıldız, İ., & Akın, S. (2011). Investigating of relationships between attitudes towards physics laboratories, motivation and amotivation for the class engagement [Special Issue]. *Eurasian Journal. Physics Chemistry Education*, 59–64.

Fatemeh, V., & Camellia, T. (2018). The effect of teaching based on dominant learning style on nursing students' academic achievement. *Nurse Education in Practice*, *28*, 103–108. https://pubmed.ncbi.nlm.nih.gov/29065318/

Fenning, B., & May, L. (2013). Where there is a will, there is an a: Examining the roles of self-efficacy and self-concept in college students' current educational attainment and career planning. *Social Psychology of Education*, *16*(4).

Froiland, J. M., Oros, E., Smith, L., & Hirchert, T. (2012). Intrinsic motivation to learn: The nexus between psychological health and academic success. *Contemporary School Psychology*, *16*(1), 91–100.

Gambrell, L. B. (2011). Motivation in the school reading curriculum. *Journal of Reading Education*, *37*(1), 5–14. https://rdlg579.files.wordpress.com/2015/06/motivation-in-the-school-reading-curriculum-gambrell-copy.pdf

Gardner, R. C. (2010). *Motivation and second language acquisition. the socioeducational model*. Peter Lang Publishing, Inc.

Ghaedi, Z., & Jam, B. (2014). Relationship between learning styles and motivation for higher education in efl students. *Theory and Practice in Language Studies*, *4*(6), 1232–1237. https://pdfs.semanticscholar.org/c9d2/ede27f57e5cf85aee12f3565b23762d1767f.pdf

Gilakjani, A. P. (2012). Visual, auditory, kinaesthetic learning styles and their impacts on english language teaching [Retrieved from]. http://brainbutter.com.au/wp/wp-content/uploads/2013/01/Visual-Auditory-Kinaesthetic-.pdf

Gilakjani, A. P., & Ahmadi, S. M. (2011). The effect of visual, auditory, and kinaesthetic learning styles on language teaching [Retrieved from]. http://www.ipedr.com/vol5/no2/104-H10249.pdf

Goldman, D. (2017). Cultivating engagement through student-centered learning in a high school media art class. https://scholar.dominican.edu/cgi/viewcontent.cgi?article=1268&context=masters-theses

Graf, S., & Kinshuk. (2010). Analysis of learners' navigational behavior and their learning styles in an online course [Retrieved from]. *Journal of Computer Assisted Learning*, *26*(2), 116–131. http://sgraf.athabascau.ca/publications/graf_liu_kinshuk_JCAL10.pdf

Griss, S. (2013). The power of movement in teaching and learning [Retrieved from]. http://www.edweek.org

Guido, R. (2013). Attitude and motivation towards learning physics [Retrieved from]. *International Journal of Engineering Research and Technology*, *2*(11), 95–111. https://arxiv.org/ftp/arxiv/papers/1805/1805.02293.pdf

Guido, R., & Dela Cruz, R. (2011). Factors affecting academic performance of bs astronomy technology students [Retrieved from]. https://www.semanticscholar.org/paper/Factors-Affecting-Academic-Performance-of-BS-Cruz-Guido/43756befef97b050aa12d68c77134ecabbfed4d3

Güvenç, H., & Koç, C. (2016). Middle school students' engagement & disaffection and help-seeking tendencies. *Trakya University Journal of Social Science*, *18*(2), 347–366.

Hargadon, S. (2010). Learning style theory versus sustained hard work [Retrieved from]. http://www.stevehargadon.com/2010/learning-styles-theory-versus-sustained.html

Hatami, S. (2013). Learning styles. *ELT Journal*, *67*, 488–490. https://doi.org/10.1093/elt/ccs083

Henning, E. (2013). Teachers' understanding of mathematical cognition in childhood: Towards a shift in pedagogical content knowledge? [Retrieved from]. *Perspectives in Education*, *31*(3), 139–154. https://www.researchgate.net/publication/289484856_Teachers'_understanding_of_mathematical_cognition_in_childhood_Towards_a_shift_in_pedagogical_content_knowledgev

Horowitz, S. (2012). The universal sense: How hearing shapes the mind [Retrieved from]. https://www.bloomsbury.com/us/the-universal-sense-9781608198849/

Hubert, B. (2017). Cognitive self-regulation and social functioning among french children: A longitudinal study from kindergarten to first grade [Retrieved from]. https://onlinelibrary.wiley.com/doi/full/10.1002/pchj.160

İlçin, N., Tomruk, M., Yeşilyaprak, S. S., Karadibak, D., & Savcı, S. (2018). The relationship between learning styles and academic performance in turkish physiotherapy students. *BMC Medical Education*, *18*, 291–294. https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-018-1400-2

Ismail, M., Shah, A., Ismail, Y., Esa, Z., & Muhamad, A. J. (2013). Language learning strategies of english for specific purposes students at a public university in malaysia [Retrieved from]. https://files.eric.ed.gov/fulltext/EJ1076808.pdf

Jhaish, M. A.-A. (2010). The relationship among learning styles, language learning strategies, and the academic achievement among the english majors at al-aqsa university [Retrieved from]. https://library.iugaza.edu.ps/thesis/90213.pdf

Johnson, D., & Johnson, R. T. (2018). Cooperative learning: The foundation of active learning [Retrieved from]. https://www.intechopen.com/books/active-learning-beyond-the-future/cooperative-learning-the-foundation-for-active-learning

Jr., G. C. M. (2017). Creativity styles and emotional intelligence of filipino student teachers: A search for congruity. *Asia Pacific Journal of Multidisciplinary Research*, *5*(1), 175–184. http://www.apjmr.com/wp-content/uploads/2017/01/APJMR-2017.5.1.20.pdf

Kayalar, F., & Kayalar, F. (2017). The effects of auditory learning strategy on learning skills of language learners (students' views) [Retrieved from]. https://www.researchgate.net/publication/320880247

Khan, A., & Yousof. (2019). A study of the relationship between learning styles and student academic performance in polytechnic education. *International Journal of Innovation and Learning*, *25*(3), 306–324. https://doi.org/10.1504/IJIL.2019.10017392

Koca, F. (2016). Motivation to learn and teacher–student relationship. *Journal of International Education and Leadership*, *6*(2), 1–20. https://files.eric.ed.gov/fulltext/EJ1135209.pdf

Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The big five personality traits, learning styles, and academic achievement [Retrieved from https://psycnet.apa.org/record/2011-14164-022]. *Personality and Individual Differences*, *51*, 472–477.

Kubat, U. (2018). Identifying the individual differences among students during learning and teaching process by science teachers. *International Journal of Research in Educational and Science (IJRES)*, *4*(1), 30–38. https://doi.org/10.21890/ijres.369746

Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E., & Dochy, F. (2013). A meta-analysis of the effects of face-to-face cooperative learning. do recent studies falsify or verify earlier findings? [Retrieved from https://daneshyari.com/article/preview/355161.pdf]. *Educational Research Review*, *10*, 133–149.

Lai, E. R. (2011). *Motivation: A literature review – research report*. http://www.pearsonassessments.com/hai/images/tmrs/motivation_review_final.pdf

Lai, M., Luong, D., & Young, G. (2015). *A study of kinesthetic learning activities effectiveness in teaching computer algorithms within an academic term*. http://worldcomp%20proceedings.com/proc/p2015/FEC2400.pdf

Lee, W., & Reeve, J. (2012). Teachers' estimates of their students' motivation and engagement: Being in synch with students. *Educational Psychology*, *32*(6), 727–747. https://doi.org/10.1080/01443410.2012.732385

Lu, T., & Yang, X. (2018). *Effects of the visual/verbal learning style on concentration and achievement in mobile learning*. http://www.ejmste.com/Effects-of-the-Visual-Verbal-Learning-Style-on-Concentration-and-Achievement-in-Mobile,85110,0,2.html

Maranan, V. (2017). *Basic process skills and attitude towards science: Input to an enhanced students' cognitive performance*. https://files.eric.ed.gov/fulltext/ED579181.pdf

Mbatha, S. (2015). *The relationship between self-efficacy, motivation, and academic performance among students from various gender and generational groups*. http://scholar.ufs.ac.za:8080/xmlui/bitstream/handle/11660/4592/MbathaS.pdf?sequence=1

Metzler, R. (2016). *The academic effects of kinesthetic movement with multiplication fact acquisition instruction for students in third grade*. https://mdsoar.org/bitstream/handle/11603/2849/Metzler.AR.5.11.16.Finished.pdf?sequence=1&isAllowed=y

Meyer, E. J. (2010). *Transforming school cultures. gender and sexual diversity in schools*. https://doi.org/10.1007/978-90-481-8559-7_7

Minner, D. D., Levy, A. J., & Century, J. (2010). Inquiry-based science instruction – what is it and does it matter? results from a research synthesis, years 1984 to 2002 [Retrieved from http://math.kendallhunt.com/Documents/seattle/Minner_Inquiry − Based.pdf]. *Journal of Research in Science Teaching*, *47*(4), 474–496.

Mitra, D. L., & Serriere, S. C. (2012). Student voice in elementary school reform examining youth development in fifth graders. *American Educational Research Journal*, *49*(4), 743–774. https://doi.org/10.3102/0002831212443079

Moradi, A. M. (2013). *Non-verbal communication skills*. alimortezamoradi.blogfa.com/post/23

Naik, B. (2013). Influence of culture on learning styles of business students [Retrieved from http://www.ascd.org/publications/educational-leadership/may94/vol51/num08/The-Culture Learning-Style-Connection.aspx]. *International Journal of Education Research*, *8*(1), 129–139.

Naserieh, F. (2009). *The relationship between perceptual learning style preferences and skill-based learning strategies*. https://asian-efl-journal.com/wp-content/uploads/mgm/downloads/01729100.pdf

Nedeljković, J. (2012). *Integrative model of psychological predictors of academic non-efficacy* [Dissertation]. Faculty of Philosophy, Niš.

Newton, P. M. (2015). The learning style myth is thriving in higher education. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2015.01908

Palabıyık, P. Y. (2014). *Perceptual learning style preferences among turkish junior high school students*. https://www.academia.edu/7806095/Perceptual_Learning_Style_Preferences_Among_Turkish_Junior_High_School_Students?auto=download

Parr, K. (2011). *The influence of interest and working memory on learning* [Dissertation]. University of Florida.

Perez-Sabater, C., Montero-Fleta, B., Perez-Sabater, M., & Rising, B. (2011). Active learning to improve long-term knowledge retention. *Proceedings of the XII Simposio Internacional de Comunicación Social*, *4*, 75–79. https://www.sciencedirect.com/science/article/pii/S1877042815036277

Psaltou-Joycey, A., & Kantaridou, Z. (2011). Major, minor, and negative learning style preferences of university students. *System*, *39*, 103–112.

Ray, B., & Seely, C. (2012). *Fluency through tpr storytelling: Achieving real language acquisition in school* (6th). https://www.amazon.com/Fluency-Through-Storytelling-Contee-Seely/dp/0929724216

Rhouma, W. B. (2016). Perceptual learning styles preferences and academic achievement. *International Journal of Arts Sciences*, *9*(2), 479–492. https://www.academia.edu/30712785/PERCEPTUAL_LEARNING_STYLES_PREFERENCES_AND_ACADEMIC_ACHIEVEMENT?auto=download

Roell, K. (2019). *The visual learning style*. https://www.thoughtco.com/visual-learning-style-3212062

Saadi, I. A. (2012). *An examination of the learning styles of saudi preparatory school students who are high or low in reading achievement*. http://vuir.vu.edu.au/19421/1/Ibrahim_Abdu_Saadi.pdf

Sandoval-Pineda, A. (2018). *Attitude, motivation and english language learning in a mexican college context*. https://arizona.openrepository.com/bitstream/handle/10150/145743/azu_etd_11639_sip1_m.pdf?sequence=1&isAllowed=y

Schmid, R. F., Bernard, R. M., Borokhovski, E., Tamim, R. M., Abrami, P. C., & Surkes, M. A. (2014). The effects of technology use in postsecondary education: A meta-analysis of classroom applications. *Computers Education*, *72*, 271–291. https://dl.acm.org/citation.cfm?id=2754110

Seifoori, Z., & Zarei, M. (2011). The relationship between iranian efl learners' perceptual learning styles and their multiple intelligences. *Procedia-Social and Behavioral Sciences*, *29*, 1606–1613. https://www.sciencedirect.com/science/article/pii/S1877042811028709

Sever, M., Ulubey, Ö., Toraman, Ç., & Türe, E. (2014). An analysis of high school students' classroom engagement in relation to various variables. *Education and Science*, *39*(176), 183–198. https://doi.org/10.15390/EB.2014.3633

Shoval, E., & Shulruf, B. (2011). Who benefits from cooperative learning with movement activity? [Retrieved from Ebscohost. Web. 17]. *School Psychology International*, *32*(1), 58–72.

Shuib, M., & Azizan, S. N. (2015). *Learning style preferences among male and female esl students in universiti-sains malaysia*. https://files.eric.ed.gov/fulltext/EJ1068392.pdf

Sikhwari, T. D. (2014). *A study of the relationship between motivation, self-concept and academic achievement of students at a university in limpopo province, south africa*. http://krepublishers.com/02-Journals/IJES/IJES-06-0-000-14-Web/IJES-06-1-000-14-ABST-PDF/IJES-06-1-019-14-123-Sikhwari-T-D/IJES-06-1-019-14-123-Sikhwari-T-D-Tt.pdf

Soyogul, E. C. (2015). *Students' motivational beliefs and learning strategies: An investigation of the scholar development program*. http://www.thesis.bilkent.edu.tr/0006876.pdf

Strauss, V. (2013). *Howard gardner: Multiple intelligences are not learning styles*. http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/10/16/howa%09rd-gardner-multiple-intelligences-are-not-learning-styles/

Svobodová, L. (2015). *Factors affecting the motivation of secondary school students to learn the english language*. http://is.muni.cz/th/363215/pedf_m/Diploma_Thesis_Svobodova.pdf

Syofyan, R., & Siwi, M. K. (2018). The impact of visual, auditory, and kinesthetic learning styles on economics education teaching. *Advances in Economics, Business and Management Research*, *57*, 642–649. http://creativecommons.org/licenses/by-nc/4.0/

Tabatabaei, O., & Mashayekhi, S. (2013). The relationship between efl learning styles and their l2 achievement. *Procedia - Social and Behavioral Sciences*, *70*, 245–253. https://www.sciencedirect.com/science/article/pii/S1877042813000621

Tasgin, A., & Tunc, Y. (2018). Effective participation and motivation: An investigation on secondary school students. *World Journal of Education*, *8*(1), 58–74. https://files.eric.ed.gov/fulltext/EJ1173992.pdf

Teevan, C. J., Michael, L. I., & Schlesselman, L. S. (2011). Index of learning styles in a u.s. school of pharmacy. *Pharmacy Pract*, *9*(2), 82–87. https://doi.org/10.4321/S1886-36552011000200004

Thoe, N., Thah, S., & Fook, F. (2010). *Development of a questionnaire to evaluate students' perceived motivation towards science learning incorporating ict tool*. http://www.mjet-

meta.com/resources/5%20-%20V10N1%20-%20NKT%20-%20_SMS_JrnlArtMyJET. pdf

Ting, Y. L. (2013). Using mobile technologies to create interwoven learning interactions: An intuitive design and its evaluation. *Computers Education*, *60*(1), 1–13. https://www. learntechlib.org/p/132158/

Tuli, T. (2015). *A study on the similarities and differences in learning styles between english medium and bengali medium learners*. http://dspace.bracu.ac.bd/xmlui/bitstream/handle/ 10361/4977/final.pdf?sequence=1&isAllowed=y

Vaseghi, R., Barjesteh, H., & Shakib, S. (2013). Learning style preferences of iranian efl high school students. *International Journal of Applied Linguistics English Literature*, *2*(4), 83–89. https://doi.org/10.7575/aiac.ijalel.v.2n.4p.83

Vaseghi, R., Ramezani, A. E., & Gholami, R. (2012). Language learning style preferences: A theoretical and empirical study. *Advances in Asian Social Science (AASS)*, *2*(2), 441–451. www.worldsciencepublisher.org

Velki, T. (2011). The correlation considering the degree of autonomous motivation, academic achievement and mental health. *Croatian Journal of Education*, *13*, 56–87.

Williams, K. C., & Williams, C. C. (2011). Five key ingredients for improving student motivation. *Research in Higher Education Journal*, *12*(1), 11–12. https://scholarsarchive.library. albany.edu/cgi/viewcontent.cgi?article=1000&context=math_fac_scholar

Wrenn, J., & Wrenn, B. (2009). *Enhancing learning by integrating theory and practice*. https: //files.eric.ed.gov/fulltext/EJ899313.pdf

Yilmaz, E., Sahin, M., & Turgut, M. (2017). Variables affecting student motivation based on academic publications. *Journal of Education and Practice*, *8*(12), 112–120. https://files. eric.ed.gov/fulltext/EJ1140621.pdf

Zeidan, A. H., & Jayosi, M. R. (2015). Science process skills and attitudes toward science among palestinian secondary school students [Retrieved from https://files.eric.ed.gov/fulltext/EJ1158460.pdf]. *World Journal of Education*, *6*(1).

Zyngier, D. (2011). (re)conceptualising risk: Left numb and unengaged and lost in a no-man's-land or what (seems to) work for at-risk students. *International Journal of Inclusive Education*, *15*(2), 211–231. https://doi.org/10.1080/13603110902781427