

# **PERCEPTION OF STAKEHOLDERS ON ONLINE LEARNING AT SECONDARY LEVEL**

Dissertation  
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**MASTER OF EDUCATION**

*by*  
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UNIVERSITY OF CALICUT  
2019 - 2021**

## **DECLARATION**

I, **MUHAMMED FAIZ K.P.**, do hereby declare that this dissertation entitled, “**PERCEPTION OF STAKEHOLDERS ON ONLINE LEARNING AT SECONDARY LEVEL**” is a record of original research work done by me under the supervision and guidance of **Dr. AFEEF THARAVATH**, Assistant Professor in Education, Farook Training College Kozhikode and has not been submitted by me in this university or any other university for the award of any Degree/Fellowship or recognition before.

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## **CERTIFICATE**

I, **Dr. Afeef Tharavath**, do hereby certify that this dissertation entitled “**PERCEPTION OF STAKEHOLDERS ON ONLINE LEARNING AT SECONDARY LEVEL**” is a record of bonafide study and research carried out by **MUHAMMED FAIZ K.P**, of M.Ed. Programme (2019-2021) under my supervision and guidance and has not been submitted by him for the award of a Degree, Diploma, Title or Recognition before.

Farook Training College  
Date: 25-07-2021

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Farook Training College

**MUHAMMED FAIZ K.P**

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## **CHAPTER I**

# **INTRODUCTION**

- 
- ◆ **Introduction of the Study**
  - ◆ **Need and Significance of the Study**
  - ◆ **Statement of the Problem**
  - ◆ **Definition of Key Terms**
  - ◆ **Variables for the Study**
  - ◆ **Objectives of the Study**
  - ◆ **Hypothesis of the Study**
  - ◆ **Methodology**
  - ◆ **Scope and Limitations of the Study**
  - ◆ **Organization of the Report**
-

## **INTRODUCTION**

Transformation is the characteristic of the modern world. Education is undergoing such a transformation through online learning. These days online learning is one of the most popular means in education. There are several definitions for online learning. Khan (1997) defines online learning as the delivery of instruction to a remote audience using the internet as an intermediary. Carliner (1999) defines online learning as educational material that is presented via a computer. Online learning is the type of instruction that is mediated via the internet. Instruction may be synchronous or asynchronous and various technologies can be used to mediate the process (Horvitz, Dabbagh and Bannan-Ritland, 2007). The term online learning implies that “the learner is at a distance from the tutor or instructor, that the learner uses some form of technology to access learning materials” (Anderson, 2008). Online learning is a form of distance learning or distance education, which has long been a part of the American education system, and it has become the largest sector of distance learning in recent years (Bartley & Golek, 2004). Most authors define online learning in terms of access to learning experiences but also on the potential for flexibility and participant interaction.

Online learning is seen to be suitable allowing students to study at their own pace and time. It enables students, teachers, and parents to hold a higher level of responsibility for their learning and to learn independently. The major problem with online learning is the insufficient opportunity for direct interactions and face-to-face group discussion on the subject matter. Online learning is flexible for both teachers and students. Students have the opportunity to choose a suitable time for

online learning. It offers a wide selection of programs, students can take any courses and is accessible from anywhere in the world. Teacher plays an important role in online learning as guiding students through online learning experiences.

Online learning meets the needs of students who cannot participate in traditional classroom settings. These learners include those unable to attend traditional classes, who cannot find a particular class at their chosen institution, who live in remote areas, who work full-time and can only study at or after work, and those who simply prefer to learn independently. The minimum requirement for students to participate in an online course is access to a computer or any smartphones, the internet, and the motivation to succeed in a non-traditional classroom. Familiarity with Web browsers, Web-based interactions such as email, discussion boards, and chat rooms, experience with typing and word processing, experience in successful internet searches using a variety of search engines skills would be helpful in an online class.

### **NEED AND SIGNIFICANCE OF THE STUDY**

The development and progress of the citizens of any country are defined by the knowledge society and skilled manpower. An education system has to serve the demands of the technological generation so that a competitive edge can be maintained. The quality of modern education has been increased by the latest technological advancements. New developments in Information Communication Technology (ICT), globalization of education, and the ever expanding competitive environment are almost revolutionizing the education scene (Thanji, 2018). Many secondary institutions have adopted online learning for providing courses completely online or to complement the traditional courses. This offers learners of

different age groups with different abilities continuous learning at any time, any place.

E-learning became an important instrument for the educational environment in the digital age which creates student-centered learning and educational practice, offering new more flexible learning methods (Shopova, 2012). Online platforms enable students to meet teachers in relevant disciplines in online. The terms 'online learning' and 'e-learning' are used interchangeably by many authors. Online education is defined as an approach to learning that uses network, internet, or standalone electronic devices to communicate, collaborate in the educational context. Education systems are channeling attempts into advanced teleconferencing, video conferencing, etc to expand their online engagement.

Learners are the consumers of e-learning, whereas, instructors guide the educational experiences of students in the case of online learning as well. Learners look forward to the high level of knowledge acquisition, also the adoption of online capabilities requires huge investment in terms of resources, time, money and space (Thanji, 2018).

The influence and relevance is at their peak in present days. Especially in this Covid-19 pandemic situation, schools were shut all across the world. Globally, over 1.2 billion children are out of the classroom. As a result, education has changed drastically, with the distinctive shift from traditional learning to online learning, whereby teaching is undertaken remotely and on digital platforms. Studies on various dimensions and advantages and disadvantages of online learning are a need of the hour. Hence the investigator feels this study timely and relevant.

## **STATEMENT OF THE PROBLEM**

The present study is entitled as: “PERCEPTION OF STAKEHOLDERS ON ONLINE LEARNING AT SECONDARY LEVEL”

## **DEFINITION OF KEY TERMS**

### **1. Perception**

The ability to see, hear, or become aware of something through the senses (Oxford Dictionary).

In this study by the term perception, the investigator means a meaningful understanding of a situation.

### **2. Stakeholders**

The term stakeholders refer to the students, teachers, and parent of secondary level.

### **3. Online Learning**

Online learning is the delivery of instruction to a remote audience using the Web as an intermediary (Khan, 1997).

Online learning is educational material that is presented via a computer (Carliner, 1999).

Online learning is a form of distance learning or distance education, which has long been a part of the American education system, and it has become the largest sector of distance learning in recent years (Bartley & Golek, 2004).

Online learning is the type of instruction that is mediated via the internet. Instruction may be synchronous or asynchronous and various technologies can be used to mediate the process (Horvitz, Dabbagh and Bannan-Ritland, 2007).

The term online learning implies “that the learner is at a distance from the tutor or

instructor, that the learner uses some form of technology to access learning materials” (Anderson, 2008).

In this study by the term online learning, the investigator means the learning that takes place on an online platform or the internet.

### **VARIABLES FOR THE STUDY**

The variable in the study is “Perception of stakeholders on online learning”.

### **OBJECTIVES OF THE STUDY**

1. To study whether there exists any significant difference in the perception of secondary school students on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
  - ◆ Medium of instruction
2. To study whether there exists any significant difference in the perception of secondary school teachers on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
3. To study whether there exists any significant difference in the perception of parents on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality

## **HYPOTHESES OF THE STUDY**

- 1) There exist no significant difference in the perception of secondary school students on online learning based on the sub-samples gender, locality, and medium of instructions.
- 2) There exist no significant difference in the perception of secondary school teachers on online learning based on the sub-samples gender and locality.
- 3) There exist no significant difference in the perception of parents on online learning based on the sub-samples gender and locality.

## **METHODOLOGY**

### **1. Sample**

The population for the study comprises students, teachers, and parents at the secondary level. The sample will comprise 100 individuals from each group in Malappuram revenue district. Stratified random sampling technique giving due weightage to all the four educational districts in Malappuram revenue district is used for the selection of the sample.

### **2. Tool**

To measure the variable, a scale on perception of stakeholders on online learning developed by the investigator in collaboration with the supervising teacher (Afeef Tharavattath & Muhammed Faiz KP, 2020) is used.

### **3. Statistical Techniques**

Data were analyzed and interpreted using descriptive statistics and differential analysis (t-test)

## **SCOPE AND LIMITATIONS OF THE STUDY**

The study has been intended to evaluate the perception of students, teachers, and parents on online learning in Malappuram revenue district. The study was conducted on 100 students, 100 teachers and 100 parents from various schools of Malappuram revenue district. The investigator hopes that the present study will help the new researchers for knowing the present condition and also improving the present practices of online learning. Even though maximum precaution was taken to make the study as accurate as possible, certain limitations have crept into the study. The following are some limitations that the investigator could not consider due to the limitation of time, geographical differences and other practical reasons.

1. The study has been conducted in Malappuram revenue district.
2. The sample study was limited to 100 students, 100 teachers and 100 parents only.
3. Due to the Covid-19 pandemic issue, data are collected through Google forms.

## **ORGANIZATION OF THE REPORT**

The report of the study is presented in five chapters. The details incorporated in each chapter are as follows.

**Chapter I:** Presents a brief introduction of the study, need and significance of the study, statement of the problem, definition of key terms, variables for the study, objectives of the study, methodology, scope and limitations of the study and organization of the report.

**Chapter II:** Presents the review of related literature which includes a theoretical overview and review of related studies.



**Chapter III:** Presents the methodology of the study, details of variables, tools used, selection of sample procedure for data collection, scoring techniques used for analysis and statistical technique used.

**Chapter IV:** Brings out the details of statistical analysis of the data and discussion of the result.

**Chapter V:** Deals with a summary of the study, major findings, educational implications of the study and suggestions for further research in this area.

## **CHAPTER II**

# **REVIEW OF RELATED LITERATURE**

- 
- ◆ **Introduction**
  - ◆ **Theoretical Overview**
  - ◆ **Review of Related Literature**
  - ◆ **Conclusion**
-

# **REVIEW OF RELATED LITERATURE**

## **INTRODUCTION**

Research is the process of solving problems and finding facts in a structured way. Research is done by applying what is known and building on it. Additional knowledge can be found out by proving existing theories and by trying to better explain observations. In this chapter, the researcher summarizes the current state of knowledge of the topic. It creates an understanding of the topic for the reader by analysing the findings presented in recent research papers. A review of the related literature must lead up to any well planned research study. Hence, a careful review of the research journal, books, dissertations, theses and other sources of information on the problem to be investigated is one of the important steps in the planning of any research study. The researcher goes through some studies and a brief review is given below.

## **THEORETICAL OVERVIEW**

The theoretical framework describes the theory that explains why the research problem under study exists. The background literature related to the relevant concepts in this research study is included. Theoretical overview serves the purpose of stating as clearly and as concisely as possible the state of knowledge in the area in which the researcher proposed to work.

Online Learning includes a range of technologies such as the worldwide web, chat, email, new groups and texts, audio and video conferencing delivered over computer networks to impart education. It helps the learner to learn at their own pace, according to their own convenience. Online education requires suitable resources and careful planning. In online learning, teachers act as facilitators

rather than transactions of content knowledge and ICT is a resource that enhances the learning experience of students. Learners learn through e-learning tools which are available to all.

### **REVIEW OF RELATED LITERATURE**

Summary of the studies reviewed by the investigator related to online learning is given below.

Shivangi Dhawan (2020) in the article online learning: a panacea in the time of Covid-19 crisis describes strengths, weaknesses, opportunities, and challenges (SWOC) analysis of online learning during the Corona Virus pandemic and natural disasters. Also give some suggestions and recommendations for the success of online mode of learning during a crisis like situation.

#### Strength

- ◆ Time flexibility
- ◆ Location flexibility
- ◆ Catering to wide audience
- ◆ The wide availability of courses and content
- ◆ Immediate feedback.

#### Weakness

- ◆ Technical difficulties
- ◆ Learner's capability and confidence level
- ◆ Time management
- ◆ Distractions, frustration, anxiety, and confusion
- ◆ Lack of personal/physical attention taken as a weakness.

#### Opportunities

- ◆ Scope for Innovation and digital development
- ◆ Designing flexible programs
- ◆ Strengthen skills: problem solving, critical thinking, and adaptability

- ◆ Users can be of any age
- ◆ An innovative pedagogical approach (Radical transformation in all aspects of education)

Challenges

- ◆ Unequal distribution of ICT infrastructure
- ◆ Quality of Education
- ◆ Digital illiteracy
- ◆ Digital Divide
- ◆ Technology cost

Investigator concluded that online methods of teaching support and facilitate the teaching learning process. Disasters and pandemics such as Covid-19 can create a lot of confusion and tensions; therefore, there is an important need to study the technology deeply to balance these fears and tensions to adjust to such crises.

Meenakshi Thanji (2018) in the study on the effectiveness of online learning methods offered by educational institutions – learner's perspective to identify the area of usage of various online learning methods in the context of technical education, to analyse the factors which determine online learning effectiveness and to identify the merits and limitations faced by the learners in online learning methods. In the study, the investigator collected data using a well-constructed questionnaire (Survey instrument). The results of the study were, quality and the flexible nature of online learning components positively influence student satisfaction. Satisfaction is also influenced by student's intrinsic goal orientation and their self-efficacy. Better ICT infrastructure, proper availability of technical support, and knowledge of using computers significantly affects learner satisfaction. If these factors are positively nurtured, then the effectiveness of

online learning methods will increase.

Anna Sun and Xiufang Chen (2016) in a review on online education and its effective practice using a qualitative content analysis approach, this study reviewed 47 published studies and research on online teaching and learning since 2008, mainly focusing on how theories, practices, and assessments apply to the online learning environment. By analyzing the data they organized the findings into three major themes to answer their research questions, which included the evolution of online education, effective online teaching, and effective online learning.

Tuan Nguyen (2015) in the article effectiveness of online learning: beyond no significant difference and future horizons examines the evidence of the effectiveness of online learning by organizing and summarizing the findings and challenges of online learning into positive, negative, mixed, and null findings. It would be observed that about 92% of all distance and online education is at least as effective, if not better, than traditional education. That is the traditional face-to-face format is more effective, these are different but intertwining paths, that researchers and educators can take at the stage. This article suggested that more mature students with better independent learning skills were better candidates for online learning.

K. F. Hew (2015) found the main elements leading to student dissatisfaction in online learning. Those were peer review activities, forum-related issues, unhappiness about the claims or supposed biases in the teachings, a dislike of reading academic papers, and assignment-related issues. These reasons yield complementary information that could help student engagement in online learning

more comprehensively.

Z. Zamakhsari and A. Ridzuan (2015) focus on a study of student's involvement and satisfaction towards online learning. The researcher has found out that the majority of online learning activities used among students are online tests and quiz, followed by searching for notes and online group discussion. In addition, upload assignments in-group forum is the highly-used approach by lecturers to promote student's involvement. The researcher has found out that there is a significant positive relationship between student's involvement and satisfaction towards online learning.

A.M. Mohamad et al. (2014) studied the connection between interaction and communication in online learning. The result using Repeated Measure ANOVA discovered that there is no significant difference in student's opinions. The results put forward that student's opinions should always be considered as the implementation of online learning may vary in each session. Therefore, the result affects the role of lecturers towards easing the teaching learning process.

Stephanie J. Blackmon and Claire Major (2012) in the study student experiences in online courses: a qualitative research synthesis is to investigate student's overall experiences in online learning environments. The researcher search with online databases like Educational Resources Information Center, Academic Search Elite, and Google Scholar, and specifically searched for the terms "online learning" and "online courses". The five major themes about student experiences from each study include the ability to balance school and life, time management skills, acceptance of personal responsibility, instructor accessibility, and connection with peers. The studies taken together suggest that

students take online courses for many personal reasons. Several factors influence their experience, some of which students control and some of which faculty control. Students have to balance work and family, manage time, and make personal commitments. Instructors should work to make intellectual relationships with students and work to build a sense of community.

S. Luo and X. Huang, (2012) proposed a questionnaire survey about online learning adaptation, which contains five aspects: online learning environment, online learning mode, online learning ability, online learning efficacy, online learning motivation, and achievement. The results show that the total level of college student's online learning adaptation was comparatively low.

Nikolova, Gacheva and Georgiev (2008) in an article on the challenges in the secondary school e-learning process put forward a viewpoint on online learning. The technological novelties are very attractive for many organizations such as universities, businesses, and governmental structures. However, most of the online learning systems are oriented to support the academic levels of education. Soon after the universities many high schools also have implemented online learning systems as an additional option to the traditional educational process. This article presents a new approach in the development and implementation of an online learning platform for the secondary school educational level. The paper is focused on the pedagogical and instructional challenges during the realization and validation of the system. The challenge persists in front of the teachers who do not have sufficient computer literacy. For them, the use of online learning system is a new instrument for achieving educational and pedagogical goals.



Yi Yang and Linda F. Cornelius (2004) in the study on student's perceptions towards the quality of online education: a qualitative approach followed qualitative method using interviews, observations, and documents to investigate the perceptions of students from two universities and one community college about the quality of online education based on their own online learning experiences. The findings of this study group into two clusters: student's positive experiences and negative experiences. Flexibility, cost-effectiveness, electronic devices availability, and ease of connection to the Internet were the student's positive experiences. The student's negative experiences were identified as: delayed feedback from instructors, unavailable technical support from instructors, lack of self motivation and self-regulation, and the sense of loneliness. The study suggested that the instructor plays a key role in the process of ensuring the quality of online education. However, this does not mean that the administrator should be set aside in ensuring the quality of online education. More importantly, the administrator should give adequate supports (administrative, training, monetary, and promotional), qualified faculty, and motivate faculty to provide effective online teachings.

Neuhauser, C. (2002) conducted a study on the learning style and effectiveness of online and face-to-face instruction. In this study the investigator compared two sections of the same course – one section was online and asynchronous; the other was face-to-face – by examining gender, age, learning preferences and styles, media familiarity, the effectiveness of tasks, course effectiveness, tests grades, and final grades. The two sections were taught by the same instructor and used the same instructional materials. The results discovered

no significant differences in test scores, assignments, participation grades, and final grades, although the online group's averages were slightly higher. Ninety-six percent of the online students found the course to be more effective to their learning than their face-to-face course. There were no significant differences between learning preferences, grades, and styles in either group. The study indicates that equivalent learning activities can be equally effective for online and face-to-face learners.

### **CONCLUSION**

From the review of related studies, the investigator found several studies on online learning and e-learning. Most of the studies are from western countries. The studies on online learning were done mainly on graduate students. The studies show the effectiveness, challenges facing, and quality of online learning. No studies are found to be done on the perception of students, teachers, and their parents on online learning. It will be useful to know the perception of these stakeholders on online learning. So this study is an attempt to know the perception of students, teachers, and their parents on online learning at the secondary level.

## **CHAPTER III**

# **METHODOLOGY**

- 
- ◆ **Variable of the Study**
  - ◆ **Objectives of the study**
  - ◆ **Research Methods**
  - ◆ **Sample Selected for the Study**
  - ◆ **Tools Used for Data Collection**
  - ◆ **Data Collection Procedure**
  - ◆ **Scoring and Consolidation of Data**
  - ◆ **Statistical Techniques Used**
-

## **METHODOLOGY**

Research methodology is a science of studying how research is done scientifically. It is a systematic way to solve the research problem. It is also defined as the study of methods by which knowledge is gained. Research methodology aims to give the work plan of research. In the second chapter, the review of literature helps a researcher to choose a broad field of education within which the researcher conducts the study, whereas the present chapter provides details about the chapter looks at the various research methodologies and research methods that are commonly used by researchers in the field of information systems. The research methodology and research method used in this research are acknowledged and discussed. Through the survey and review of literature studies, the researcher gets a thorough understanding of the problems which have remained unsolved or need a fresh interpretation.

The title of the present study is “Perception of stakeholders on online learning at secondary level”.

The research methodology that has been utilised for this research is discussed and the reason why the particular research method was chosen with proper justification is explained. Then research methods, in general, are discussed and the types of research methods suitable for information systems research are explained. Various types of methods are employed for educational research.

This chapter on Methodology offers an overview of the research design, types of data to be collected, sampling design, and relevant interpretation towards the conducting of respective research, and necessary statistical tools selected for the proposed research. Research methodology involves the systematic procedures

by which the researcher starts from the initial identification of the problem to its conclusions.

The methodology adopted for the present study is described under the following major headings:

- ◆ Variable of the study
- ◆ Objectives of the study
- ◆ Research Methods
- ◆ Sample selected for the study
- ◆ Tools used for data collection
- ◆ Data collection procedure
- ◆ Scoring and consolidation of data
- ◆ Statistical techniques used

#### **VARIABLE OF THE STUDY**

The variable in the study is “Perception of stakeholders on online learning”.

#### **OBJECTIVES OF THE STUDY**

1. To study whether there exists any significant difference in the perception of secondary school students on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
  - ◆ Medium of instruction

2. To study whether there exists any significant difference in the perception of secondary school teachers on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
3. To study whether there exists any significant difference in the perception of parents on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality

## **RESEARCH METHODS**

The main aim of our study was to find out whether there exists any significant difference in the perception of secondary school students, teachers, and their parents on online learning. In this study, we conduct a survey using a perception scale among students, teachers, and parents of secondary level in Malappuram district to know about the perception of online learning.

A perception scale is a tool for gathering statistical information about the perception of a population by a structured set of questions. It is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. They can be carried out face to face, by telephone, Google form, mail, computer, or post.

In the present research study, the investigator has used single tool for gathering data from the selected samples. With the help of the perception scale, the researcher was able to collect the required amount of information from 100

students, 100 teachers, and 100 parents.

### **SAMPLE SELECTED FOR THE STUDY**

A sample is a group of people, objects, or items that are taken from a larger population for measurement. The sample should be representative of the population to ensure that we can generalise the findings from the research sample to the population as a whole, it can determine the adequate respondents from the total number of the target population. Sampling is of different types and in this study the researcher uses Stratified random sampling.

**Stratified Random Sampling** is a method of sampling that involves dividing a population into smaller groups called strata. The groups or strata are organized based on the shared characteristics or attributes of the members in the group. The process of classifying the population into groups is called stratification. Stratified random sampling is also known as quota random sampling and proportional random sampling.

The population for the study consists of selected students, teachers, and their parents of various schools in Malappuram revenue district. The sample of the study constituted 100 students, 100 teachers, and 100 parents from eight high schools in Malappuram educational district of Kerala state. The sampling technique was conceived to be best suited for the selection of the sample of the present study. The sample for the study from the population was selected by the researcher based on gender and locale. The sample was selected randomly from the following schools accordingly.

Table 1

*List of High Schools in Malappuram Revenue District*

Sl. No.	Name of Schools	No. of Students	No. of Teachers	No. of Parents
Educational District – Malappuram				
1.	AMMHS Pulikkal	15	15	15
2.	GHSS Pookottur	10	10	10
Educational District – Tirur				
3.	GHSS Kuttippuram	13	13	13
4.	GHSS Ezhur	12	12	12
Educational District – Wandoor				
5.	GHSS Thiruvalli	11	11	11
6.	SOHS Areacode	14	14	14
Educational District – Thirurangadi				
7.	GHSS Peruvallur	12	12	12
8.	NNMHSS Chelembra	13	13	13
Total		100	100	100

**Gender** has a great influence on the findings of the research. So, the investigator decided to give due weightage to male and female students, teachers, and parents. In this study, the researcher chooses 55 male and 45 female students, 47 male and 53 female teachers, and 47 male and 53 female parents from various schools giving due weightage to all the four educational districts in Malappuram



revenue district.

**Locale** is an important factor which inference the method of lifestyle of students, teachers, and parents and moreover the lifestyle of urban and rural are entirely different. In this study, the researcher chooses 53 rural and 47 urban students, 55 rural and 45 urban teachers and 52 rural and 48 urban parents from various schools giving due weightage to all the four educational districts in Malappuram revenue district.

**Medium of instruction** also is an important factor influence the achievement of student's academic life and moreover the teaching learning strategies of English and Malayalam medium are entirely different. In this study, the researcher chooses 56 Malayalam medium and 44 English medium students from various schools giving due weightage to all the four educational districts in Malappuram revenue district.

### **TOOLS USED FOR DATA COLLECTION**

Data collection tools refer to the devices or instruments used to collect data, such as a paper questionnaire or computer-assisted interviewing system. Surveys or Questionnaires, Rating Scales, Checklists, Interviews, and Observation are all tools used to collect data. The objective behind data collection is to capture quality evidence that allows analysis to lead to the formulation of believable and realistic answers to the questions. During the research process, any instrument used to collect data consistent with the objectives of the study is known as a tool.

For the purpose of collecting data, the investigator used the tool

- ◆ A scale on perception of stakeholders on online learning developed by the investigator in collaboration with the supervising teacher

(Afeef Tharavattath and Muhammed Faiz KP, 2020)

Detailed description of the tool is given below.

### **Planning of the Scale**

The investigator has needed to prepare a perception scale for conducting the study. Based on the information identified through reviews, a perception scale was prepared for knowing the perception of stakeholders (Students, teachers, and their parents) about online learning. The perception scale contains 30 items which indicate the pros and cons of online learning at the secondary level. For each item, a rating from strongly agree to strongly disagree (Five point) is given based on the nature of the questions. The respondent has to mark his/her response at the respective level.

### **Preparation of the scale**

The investigator developed the tool perception scale consists of 30 items, which were distributed equally as 15 positive and 15 negative statements. The investigator focused on academic, physical, social, emotional, and psychological aspects for the construction of the scale. Based on the above mentioned aspects, the investigator set up five point scale (strongly agree, agree, neutral, disagree, strongly disagree) for the preparation of the tool according to adopting prompted weightage to each area. The items of the scale were prepared in Google form.

### **Finalization of the scale**

Perception is the way in which something is regarded, understood, or interpreted. Necessary instruction was given in the scale to make the statement more clear. Hence the final scale contains 30 items.

## **DATA COLLECTION PROCEDURE**

### **Administration of the tool**

For the collection of data, the investigator prepared a schedule to visit the selected schools from four educational districts in Malappuram revenue district. Due to the Covid-19 pandemic issue, it was difficult to collect data directly from schools. The investigator collected phone numbers and emails of students, teachers, and parents. Then investigator distributes the Google form for the selected samples through Whatsapp and Gmail.

## **SCORING AND CONSOLIDATION OF DATA**

### **Scoring procedure**

Each response of the scale has the responses strongly agree, agree, neutral, disagree, and strongly disagree. For the positive statements, the representative for the five responses are 5, 4, 3, 2, and 1, and for negative statements, the scoring was done in the reverse order.

### **Tryout the preliminary scale**

To try out the preliminary draft of the scale was administered to a sample of 100 students, teachers, and their parents at Secondary Schools, selected by stratified random sampling technique, giving due consideration of gender, locale, and medium of instruction. Proper instructions were given regarding the method of answering.

### **Item analysis**

As data was collected through Google form, the responses were consolidated automatically in excel format. As the item were given has required, no omissions in the responses were there. The 300 responses obtained were scored

and the total score was calculated and they were arranged in the descending order of the total score, the highest 27 percent and the lowest 27 percent of the total score were separated.

The mean and standard deviation of the score obtained for each item for the upper group and the lower group were calculated separately.

Table 2

*Item analysis*

Sl. No.	Group	N	Mean	Std. Deviation	Std. Error Mean	Remarks
1	Upper	81	3.35	1.03	9.75	Accepted
	Lower	81	1.88	0.89		Accepted
2	Upper	81	2.80	1.10	2.53	Accepted
	Lower	81	2.37	1.08		Accepted
3	Upper	81	3.57	1.11	11.43	Accepted
	Lower	81	1.85	0.78		Accepted
4	Upper	81	3.35	1.00	12.42	Accepted
	Lower	81	1.70	0.64		Accepted
5	Upper	81	3.09	1.09	8.41	Accepted
	Lower	81	1.79	0.86		Accepted
6	Upper	81	3.15	1.17	10.08	Accepted
	Lower	81	1.54	0.82		Accepted
7	Upper	81	3.11	1.05	8.01	Accepted
	Lower	81	1.85	0.95		Accepted
8	Upper	81	2.53	1.12	6.95	Accepted
	Lower	81	1.49	0.74		Accepted
9	Upper	81	3.35	1.17	8.35	Accepted
	Lower	81	1.91	1.00		Accepted
10	Upper	81	2.83	1.08	8.47	Accepted
	Lower	81	1.60	0.72		Accepted
11	Upper	81	3.59	0.96	4.48	Accepted
	Lower	81	2.86	1.10		Accepted

12	Upper	81	2.60	1.16	6.35	Accepted
	Lower	81	1.60	0.82		Accepted
13	Upper	81	2.81	1.15	8.83	Accepted
	Lower	81	1.47	0.74		Accepted
14	Upper	81	3.40	1.01	7.61	Accepted
	Lower	81	2.09	1.17		Accepted
15	Upper	81	2.64	1.14	6.71	Accepted
	Lower	81	1.58	0.85		Accepted
16	Upper	81	2.80	1.05	3.73	Accepted
	Lower	81	2.17	1.09		Accepted
17	Upper	81	2.89	1.27	7.84	Accepted
	Lower	81	1.57	0.82		Accepted
18	Upper	81	2.06	1.05	5.35	Accepted
	Lower	81	1.32	0.67		Accepted
19	Upper	81	3.67	0.87	7.54	Accepted
	Lower	81	2.52	1.06		Accepted
20	Upper	81	2.90	0.97	10.18	Accepted
	Lower	81	1.53	0.73		Accepted
21	Upper	81	3.10	1.18	6.93	Accepted
	Lower	81	1.94	0.94		Accepted
22	Upper	81	3.73	0.89	5.42	Accepted
	Lower	81	2.80	1.25		Accepted
23	Upper	81	2.72	1.09	5.72	Accepted
	Lower	81	1.81	0.91		Accepted
24	Upper	81	3.22	0.96	9.49	Accepted
	Lower	81	1.79	0.96		Accepted
25	Upper	81	3.16	1.16	7.22	Accepted
	Lower	81	1.85	1.15		Accepted
26	Upper	81	2.46	1.15	7.94	Accepted
	Lower	81	1.31	0.61		Accepted
27	Upper	81	2.86	0.93	8.61	Accepted
	Lower	81	1.67	0.84		Accepted

28	Upper	81	3.00	1.07	6.39	Accepted
	Lower	81	1.96	0.99		Accepted
29	Upper	81	3.15	1.07	8.17	Accepted
	Lower	81	1.81	1.00		Accepted
30	Upper	81	3.54	0.98	10.19	Accepted
	Lower	81	1.99	0.97		Accepted

### Reliability

Reliability refers to the consistency of measurement, to how consistent test scores or other evaluation results are from one measurement to another. The reliability of the scale was calculated by the Cronbach Alpha method which was found out to be 0.871. Table 3 shows the reliability statistics.

Table 3  
*Reliability Statistics*

Cronbach's Alpha	No. of Items
0.871	30

### Validity of the Tool

Validity refers to how accurately a method measures what it is intended to measure. If research has high validity, which means it produces results that correspond to real properties, characteristics, and variations in the physical or social world. Validity is the quality of a data gathering instrument or procedure that enables it to measure what it is supposed to measure (Best and Khan, 2011). The investigator ensured the validity of the tool by using face validity. Face validity was ensured by giving the prepared draft test to the experts and after considering their suggestions, some modifications were made.

A copy of the final version of the tool on the perception of stakeholders on online learning at secondary level in Malappuram revenue district along with perception scale is appended as Appendix I.

### **STATISTICAL TECHNIQUES USED**

For the purpose of analyzing the collected data, descriptive statistics and differential analysis (t-test) is used.

#### **Preliminary analysis**

#### **Test of significance of difference between means for large independent samples**

The means obtained were compared using the test of significance of difference between means for large independent samples. The formula used for finding the critical ratio is

$$\text{Critical Ratio} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

$\bar{X}_1$  = Mean of each item in the upper group

$\bar{X}_2$  = Mean of each item in the lower group

$S_1$  = Standard deviation of each item for the upper group

$S_2$  = Standard deviation of each item for the lower group

$N_1$  = Sample size for the upper group

$N_2$  = Sample size for the lower group

**ANALYSIS AND  
INTERPRETATION  
OF DATA**

- 
- ◆ Objectives of the study
  - ◆ Hypothesis of the study
  - ◆ Preliminary analysis
  - ◆ Major analysis
  - ◆ Conclusion
-



## **ANALYSIS AND INTERPRETATION OF DATA**

Data analysis is the process of extracting information from data. It is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings. In other words, it is the process of breaking up the study into its constituent parts of categories according to specific questions under the statement of the problem.

Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, reduce and sum up and evaluate data. An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings. Data analysis is a process of applying statistical techniques to organise, represent, describe, evaluate and interpret data. It aims at evaluating the data using analytical and logical reasoning to examine each component of the data provided.

There are mainly two types of data analysis, qualitative and quantitative. Qualitative data is data that uses words and descriptions. Qualitative data can be observed but is subjective and therefore difficult to use for the purposes of making comparisons. Descriptions of texture, taste, or an experience are all examples of qualitative data. Quantitative data can be represented visually in graphs and tables and be statistically analyzed. The perception scale collects quantitative data. Here the investigator followed the qualitative one.

### **OBJECTIVES OF THE STUDY**

- 1) To study whether there exists any significant difference in the perception of secondary school students on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
  - ◆ Medium of instruction
- 2) To study whether there exists any significant difference in the perception of secondary school teachers on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality
- 3) To study whether there exists any significant difference in the perception of parents on online learning for the total sample and sub-samples based on
  - ◆ Gender
  - ◆ Locality

### **HYPOTHESES OF THE STUDY**

- 1) There exist no significant difference in the perception of secondary school students on online learning based on the sub-samples gender, locality, and medium of instructions.
- 2) There exist no significant difference in the perception of secondary school teachers on online learning based on the sub-samples gender and locality.
- 3) There exist no significant difference in the perception of parents on online learning based on the sub-samples gender and locality.

### PRELIMINARY ANALYSIS

The preliminary analysis consists of checking the nature of the distribution of the variable perception on online learning among secondary school students, teachers, and their parents. The important statistical constants such as mean, median, mode, standard deviation, skewness, and kurtosis are calculated for the total sample in order to get the general nature of scores of the variable perception on online learning.

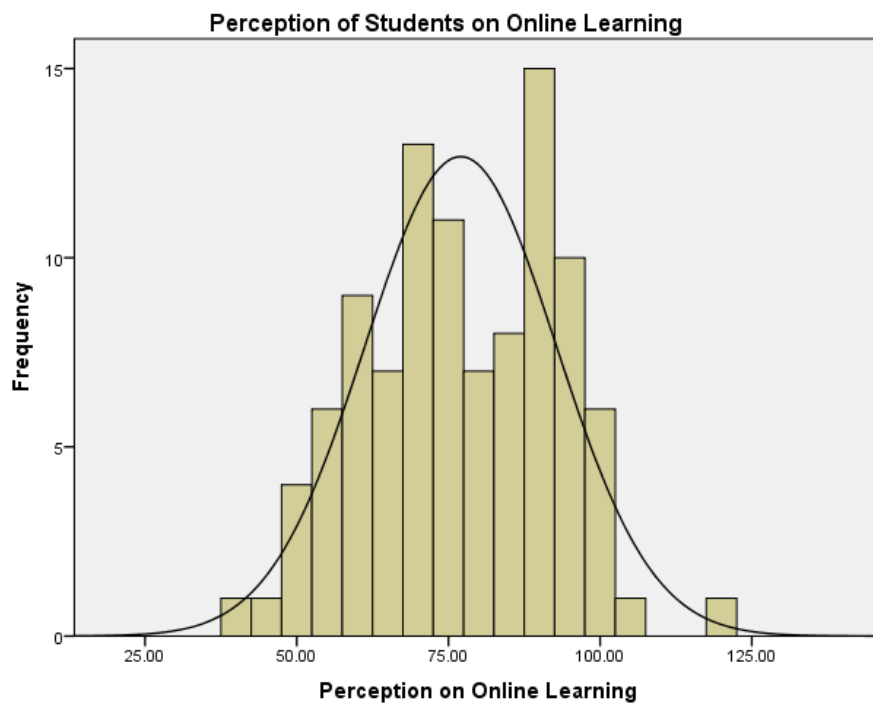
As the first step of the analysis, the important statistical constants such as mean, median, mode, standard deviation, skewness, and kurtosis were calculated. This was done to see whether the variable perception on online learning was normally distributed or not. The details of the analysis mentioned above are given in Table 4.

Table 4  
*Descriptive statistics of the variable perception of stakeholders on online learning among secondary school students.*

Statistics	Students	Teacher	Parent
Mean	77.01	68.96	71.13
Median	76.50	69.00	69.00
Mode	70.00	69.00	61.00
Std. Deviation	15.74	12.26	14.73
Skewness	-0.02	1.22	0.23
Kurtosis	-0.51	3.71	0.39

Table 4 reveals that the measures of central tendencies viz, mean, median, mode are approximately equal in students, teachers, and parents. The extent of

skewness or index of symmetry in students is  $-0.02$ , which indicates the distribution is slightly negatively skewed; the extent of skewness or index of symmetry in teachers is  $1.22$  and in the parents is  $0.23$ , which indicates the distribution is slightly positively skewed. The index of kurtosis in students is  $-0.51$ , which means that the distribution is slightly platy kurtic. The index of kurtosis in teachers is  $3.71$ , which means that the distribution is leptokurtic. The index of kurtosis in parents is  $0.39$ , which means that the distribution is **mesokurtic**. Graphical representation of the scores of perception of stakeholders on online learning for the total sample is presented in Figures 1, 2, and 3.



*Figure 1.* Frequency curve for scores of perception of students on online learning for the total sample.

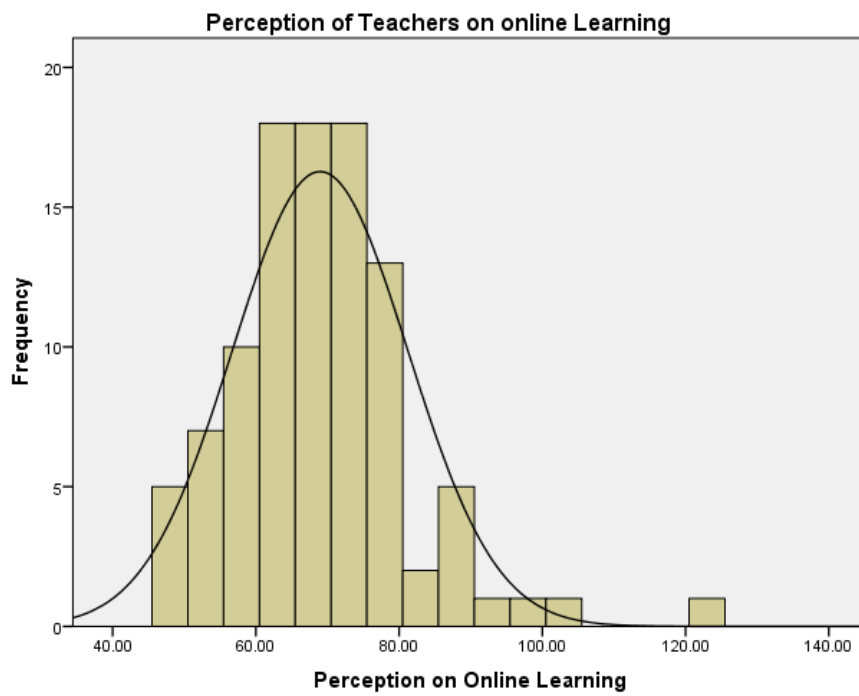


Figure 2. Frequency curve for scores of perception of teachers on online learning for the total sample.

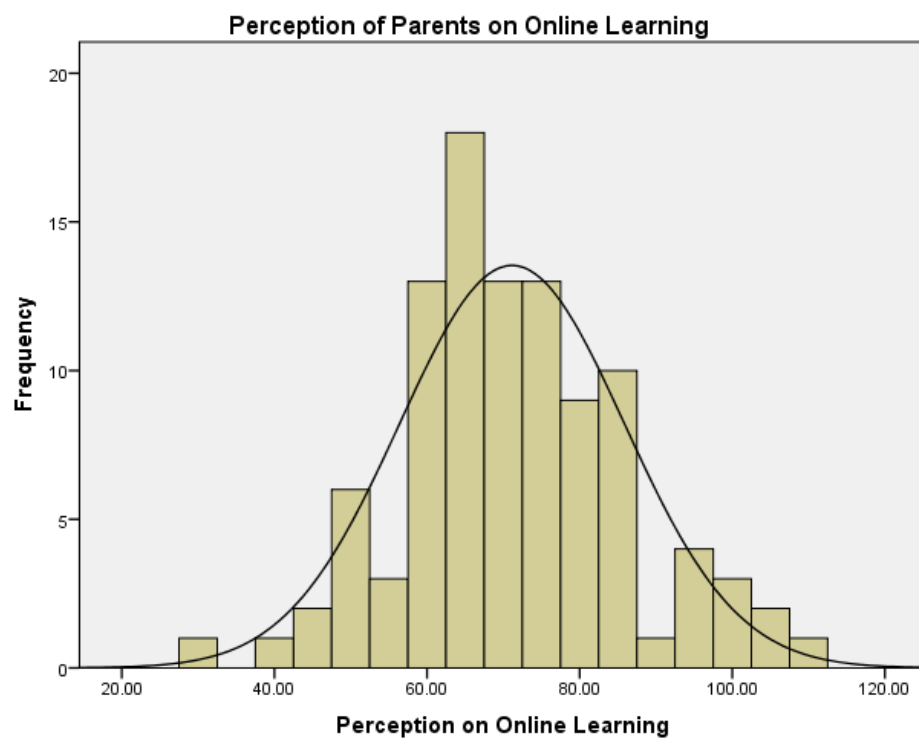


Figure 3. Frequency curve for scores of perception of parents on online learning for the total sample.

This statistical constants and the graphical representation of the variable perception on online learning reveal that the distribution is approximately normal.

**The extent of Perception on Online Learning among Secondary School Students in the Total Sample and Relevant Sub Samples.**

The extent of perception on online learning among secondary school students in the total sample and relevant subsamples based on gender, locale, and medium of instruction of the students are established by calculating mean scores.

The mean scores of perception on online learning among secondary school students in the total sample and subsamples are presented in Table 5.

Table 5  
*Mean scores of perception on online learning among secondary school students in the total sample and subsamples.*

<b>Total</b>	<b>Gender</b>		<b>Locality</b>		<b>Medium of Instruction</b>	
	<b>Male</b>	<b>Female</b>	<b>Rural</b>	<b>Urban</b>	<b>Malayalam</b>	<b>English</b>
77.01	77.18	76.80	79.19	74.55	77.04	76.98

Table 5 reveals that the mean score of perception on online learning among secondary school students in the total sample is 77.01. This means that the perception on online learning among secondary school students is below average as it is smaller than the neutral value of 90. While gender was considered male students have the high mean score in perception on online learning than female students. When we consider the locality of the students, rural students have the higher mean score in perception on online learning than urban students. When the

medium of instruction of students is considered, Malayalam medium students higher mean score in perception on online learning than the English medium students.

### **Discussion**

When considering the total sample, the level of perception on online learning among secondary school students is below average. The male students have more level of perception on online learning than female students. When we consider the subsample based on locality, rural students have more level of perception on online learning than urban students. With respect to the medium of instruction of students, Malayalam medium students have more level of perception on online learning than the English medium students.

### **The extent of Perception on Online Learning among Secondary School Teachers in the Total Sample and Relevant Sub Samples.**

The extent of perception on online learning among secondary school teachers in the total sample and relevant subsamples based on gender and locale are established by calculating mean scores.

The mean scores of perception on online learning among secondary school teachers in the total sample and subsamples are presented in Table 6.

Table 6

*Mean scores of perception on online learning among secondary school teachers in the total sample and subsamples.*

<b>Total</b>	<b>Gender</b>		<b>Locality</b>	
	<b>Male</b>	<b>Female</b>	<b>Rural</b>	<b>Urban</b>
68.96	68.70	69.19	69.35	68.49

Table 6 reveals that the mean score of perception on online learning among secondary school teachers in the total sample is 68.96. This means that the perception on online learning among secondary school teachers is below average as it is smaller than the neutral value of 90. While gender was considered female teachers have the high mean score in perception on online learning than male teachers. When we consider the locality of the teachers, rural teachers have higher mean score in perception on online learning than the urban teachers.

### **Discussion**

When considering the total sample, the level of perception on online learning among secondary school teachers is below average. The female teachers have more level of perception on online learning than male teachers. When we consider the subsample based on locality, rural teachers have more level of perception on online learning than urban teachers.

### **The extent of Perception on Online Learning among Secondary School Parents in the Total Sample and Relevant Sub Samples.**

The extent of perception on online learning among secondary school parents in the total sample and relevant subsamples based on gender and locale are established by calculating mean scores.

The mean scores of perception on online learning among secondary school parents in the total sample and subsamples are presented in Table 7.



Table 7

*Mean scores of perception on online learning among secondary school parents in the total sample and subsamples.*

<b>Total</b>	<b>Gender</b>		<b>Locality</b>	
	<b>Male</b>	<b>Female</b>	<b>Rural</b>	<b>Urban</b>
71.13	74.72	67.94	72.77	69.35

Table 7 reveals that the mean score of perception on online learning among secondary school parents in the total sample is 71.13. This means that the perception on online learning among secondary school parents is below average as it is smaller than the neutral value of 90. While the gender was considered male parents have the high mean score in perception on online learning than female parents. When we consider the locality of the teachers, rural parents have higher mean score in perception on online learning than urban parents.

### **Discussion**

When considering the total sample, the level of perception on online learning among secondary school parents is below average. The male parents have more level of perception on online learning than female parents. When we consider the subsample based on locality, rural parents have more levels of perception on online learning than urban parents.

## **MAJOR ANALYSIS**

### **Test of significance of difference between means**

This part of the analysis was intended to find out whether there is any significant difference in the mean scores of perception scores of students, teachers, and parents on online learning among sub samples based on gender,

locality and medium of instruction.

**A. Mean difference in the scores of perception score of students on online learning for the sub sample gender.**

As part of the analysis, the difference in the mean scores of perception score of students on online learning for the sub sample gender was found out. For this purpose, the mean and standard deviation of perception score on online learning between male and female students were subjected to two tailed tests of significance of difference. The results of t-test are given in Table 8.

Table 8

*Test of significance of difference in the mean scores of perception score on online learning of male and female students.*

Variable	Gender	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Male	55	77.18	15.60	0.120
	Female	45	76.80	16.08	

Table 8 shows that the male students have a mean of 77.18 with a standard deviation 15.60. Also, female students have a mean score of 76.80 with standard deviation of 16.08. The critical ratio for the test of significance of difference in the mean of perception score on online learning of male and female students is found to be 0.120 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from male and female students.

**B. Mean difference in the scores of perception score of students on online learning for the sub sample locale.**

As part of the analysis, the difference in the mean scores of perception

score of students on online learning for the sub sample locale was found out. For this purpose, the mean and standard deviation of perception score on online learning between rural and urban students were subjected to two tailed test of significance of difference. The results of the t-test are given in Table 9.

Table 9

*Test of significance of difference in the mean scores of perception score on online learning of rural and urban students.*

Variable	Locality	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Rural	53	79.19	15.98	1.48
	Urban	47	74.55	15.26	

Table 9 shows that the rural students have a mean of 79.19 with a standard deviation 15.98. Also, urban students have a mean score of 74.55 with standard deviation of 15.26. The critical ratio for the test of significance of difference in the mean of perception score on online learning of rural and urban students is found to be 1.48 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from rural and urban students.

**C. Mean difference in the scores of perception score of students on online learning for the sub sample medium of instruction.**

As part of the analysis, the difference in the mean scores of perception score of students on online learning for the sub sample medium of instruction was found out. For this purpose, the mean and standard deviation of perception score on online learning between English and Malayalam medium students were

subjected to two tailed test of significance of difference. The results of t-test are given in Table 10.

Table 10

*Test of significance of difference in the mean scores of perception score on online learning of English and Malayalam medium students.*

Variable	Medium of Instruction	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Malayalam medium	56	77.04	16.27	0.018
	English medium	44	76.98	15.22	

Table 10 shows that the Malayalam medium students have a mean of 77.04 with a standard deviation 16.27. Also, English medium students have a mean score of 76.98 with standard deviation of 15.22. The critical ratio for the test of significance of difference in the mean of perception score on online learning of English and Malayalam medium students is found to be 0.018 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from English and Malayalam medium students.

**D. Mean difference in the scores of perception score of teachers on online learning for the sub sample gender.**

As part of the analysis, the difference in the mean scores of perception score of teachers on online learning for the sub sample gender was found out. For this purpose, the mean and standard deviation of perception score on online learning between male and female teachers were subjected to two tailed test of

significance of difference. The results of t-test are given in Table 11.

Table 11

*Test of significance of difference in the mean scores of perception score on online learning of male and female teachers.*

Variable	Gender	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Male	47	68.70	11.25	0.197
	Female	53	69.19	13.19	

Table 11 shows that the male teachers have a mean of 68.70 with a standard deviation 11.25. Also female teachers have a mean score of 69.19 with standard deviation of 13.19. The critical ratio for the test of significance of difference in the mean of perception score on online learning of male and female teachers is found to be 0.197 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from male and female teachers.

#### **E. Mean difference in the scores of perception score of teachers on online learning for the sub sample locale.**

As part of the analysis, the difference in the mean scores of perception score of teachers on online learning for the sub sample locale was found out. For this purpose, the mean and standard deviation of perception score on online learning between rural and urban teachers were subjected to two tailed test of significance of difference. The results of t-test are given in Table 12.

Table 12

*Test of significance of difference in the mean scores of perception score on online learning of rural and urban teachers.*

Variable	Locality	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Rural	55	69.35	10.67	0.346
	Urban	45	68.49	14.07	

Table 12 shows that the rural teachers have a mean of 69.35 with a standard deviation 10.67. Also, urban teachers have a mean score of 68.49 with standard deviation of 14.07. The critical ratio for the test of significance of difference in the mean of perception score on online learning of rural and urban teachers is found to be 0.346 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from rural and urban teachers.

#### **F. Mean difference in the scores of perception score of parents on online learning for the sub sample gender.**

As part of the analysis, the difference in the mean scores of perception score of parents on online learning for the sub sample gender was found out. For this purpose, the mean and standard deviation of perception score on online learning between male and female parents were subjected to two tailed test of significance of difference. The results of t-test are given in Table 13.

Table 13

*Test of significance of difference in the mean scores of perception score on online learning of male and female parents.*

Variable	Gender	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Male	47	74.72	15.70	2.35*
	Female	53	67.94	13.16	

Note: \* Indicates significance at 0.05 level

Table 13 shows that the male parents have a mean of 74.72 with a standard deviation 15.70. Also female parents have a mean score of 67.94 with standard deviation of 13.16. The critical ratio for the test of significance of difference in the mean of perception score on online learning of male and female parents is found to be 2.35 which greater than the table value 1.96 at 0.05 level of significance. This reveals that there exists significant difference in the mean of perception score on online learning of samples from male and female parents.

#### **G. Mean difference in the scores of perception score of parents on online learning for the sub sample locale.**

As part of the analysis the difference in the mean scores of perception score of parents on online learning for the sub sample locale was found out. For this purpose, the mean and standard deviation of perception score on online learning between rural and urban parents were subjected to two tailed test of significance of difference. The results of t-test are given in Table 14.

Table 14

*Test of significance of difference in the mean scores of perception score on online learning of rural and urban parents.*

Variable	Locality	N	Mean	Std. Deviation	t-value
Perception on Online Learning	Rural	52	72.77	12.66	1.16
	Urban	48	69.35	16.65	

Table 14 shows that the rural parents have a mean of 72.77 with a standard deviation 12.66. Also, urban parents have a mean score of 69.35 with standard deviation of 16.65. The critical ratio for the test of significance of difference in the mean of perception score on online learning of rural and urban parents is found to be 1.16 which is less than the table value 1.96 at 0.05 level of significance. This reveals that there exists no significant difference in the mean of perception score on online learning of samples from rural and urban parents.

### **Discussion**

The mean scores of perception on online learning among the subsample based on the gender of students revealed that there exists no significant difference in the mean of perception score on online learning of samples from male and female students.

The mean scores of perception on online learning among the subsample based on the locale of students revealed that there exists no significant difference in the mean of perception score on online learning of samples from rural and urban students.

Also, the mean scores of perception on online learning among the



subsample based on the medium of instruction of students revealed that there exists no significant difference in the mean of perception score on online learning of samples from English and Malayalam medium students.

In the case of teachers, the mean scores of perception on online learning among the subsample based on gender revealed that there exists no significant difference in the mean of perception score on online learning of samples from male and female teachers.

Also, we can see that the mean scores of perception on online learning among the subsample based on the locale of teachers revealed that there exists no significant difference in the mean of perception score on online learning of samples from rural and urban teachers.

In the case of parents, the mean scores of perception on online learning among the subsample based on gender revealed that there exists a significant difference in the mean of perception score on online learning of samples from male and female parents.

But in the case of the subsample based on the locale of parents, there exists no significant difference in the mean of perception score on online learning of samples from rural and urban parents.

### **CONCLUSION**

From the data analysis, we can see that there exists no significant difference in the mean of perception score on online learning of the subsamples gender, locale, and medium of instruction among secondary school students, teachers, and their parents. But there exists a significant difference in the mean of perception score on online learning of samples from male and female parents.

**SUMMARY, FINDINGS,  
CONCLUSION, AND  
SUGGESTIONS**

- 
- ◆ **Study in Retrospect**
  - ◆ **Major Findings of the Study**
  - ◆ **Conclusion of the Study**
  - ◆ **Educational Implications for the study**
  - ◆ **Suggestions for Further Research**
-

## **SUMMARY, FINDINGS, CONCLUSION AND SUGGESTIONS**

This chapter provides an overview of the significant aspects of the various stages of the study, the major findings of the study and their educational implications, and suggestions for further research. The chapter is organized under the following headings:

- ◆ Study in Retrospect
- ◆ Major Findings of the Study
- ◆ Educational Implications
- ◆ Suggestions for Further Research

### **STUDY IN RETROSPECT**

This section tries to make a retrospective study of different stages of the present study such as the title, variables of the study, objectives of the study, hypotheses, and methodology used for the study.

#### **Restatement of the Problem**

The present study is aimed to find the perception of stakeholders on online learning at secondary level.

#### **Variables for the Study**

The variable in the study is "Perception of stakeholders on online learning".

#### **Objectives of the Study**

1. To study whether there exists any significant difference in the perception of secondary school students on online learning for the total sample and sub-samples based on

- ◆ Gender
  - ◆ Locality
  - ◆ Medium of instruction
2. To study whether there exists any significant difference in the perception of secondary school teachers on online learning for the total sample and sub-samples based on
- ◆ Gender
  - ◆ Locality
3. To study whether there exists any significant difference in the perception of parents on online learning for the total sample and sub-samples based on
- ◆ Gender
  - ◆ Locality

## **Methodology**

### **1. Sample**

The population for the study comprises students, teachers, and parents at the secondary level. The sample will comprise 100 individuals from each group in Malappuram revenue district. Stratified random sampling technique giving due weightage to all the four educational districts in Malappuram revenue district is used for the selection of the sample.

### **2. Tool**

To measure the variable, a scale on perception of stakeholders on online learning developed by the investigator in collaboration with the supervising teacher (Afeef Tharavattath & Muhammed Faiz KP, 2020) is used.

### **3. Statistical Techniques**

Data was analyzed and interpreted using descriptive statistics and differential analysis (t-test)

#### **MAJOR FINDINGS OF THE STUDY**

1. There exists no significant difference in perception on online learning between male and female secondary school students (t-value = 0.120).
2. There exists no significant difference in perception on online learning between rural and urban secondary school students (t-value = 1.48).
3. There exists no significant difference in perception on online learning between English and Malayalam medium secondary school students (t-value = 0.018).
4. There exists no significant difference in perception on online learning between male and female teachers (t-value = 0.197).
5. There exists no significant difference in perception on online learning between rural and urban teachers (t-value = 0.346).
6. There exists significant difference in perception on online learning between male and female parents (t-value = 2.35).
7. There exists no significant difference in perception on online learning between rural and urban parents (t-value = 1.16).

#### **CONCLUSION OF THE STUDY**

The results of the study can be summarized, the academic, physical, social, emotional and psychological aspects of students, teachers and parents towards online learning. From the perception scale used in this study, it is clear that there exists no significant difference within gender, locale, and medium of instruction in students by considering aspects of online learning like academic, physical, social,

emotional, and psychological. And also from the perception scale used in this study, it is clear that there exists no significant difference within gender, locale, and medium of instruction in teachers by considering aspects of online learning like academic, physical, social, emotional, and psychological. From the perception scale used in this study, it is clear that there exists no significant difference within locale and medium of instruction in parents by considering aspects of online learning like academic, physical, social, emotional, and psychological. Whereas it is found that there is a significant difference in gender in the case of parents.

#### **EDUCATIONAL IMPLICATIONS OF THE STUDY**

The result of the study has important implications in the field of online learning. The study was done by considering the academic, physical, social, emotional, and psychological aspects of students, teachers, and parents towards online learning.

- ◆ During the teaching learning process through online, teacher should consider the physical, social, emotional, and psychological problems of the students.
- ◆ Parents must be aware of the physical, social, emotional, and psychological problems of the students while they are learning in online mode.
- ◆ Students should overcome physical, social, emotional, and psychological problems during online learning.
- ◆ The teacher should try to familiarize students with the different online learning platforms to reduce the technical difficulties of students.
- ◆ To increase the interest of students in online learning teachers should use various methods and applications for teaching learning processes.
- ◆ The teacher should ensure that content is accessible to everyone, including

those with disabilities to reduce the barriers to comprehension.

- ◆ While there may not be bells in an online learning environment, every teacher should have a schedule that is posted and easily accessible to students.
- ◆ The teacher should perform live interaction classes which will help to improve the relationship between teacher and students.
- ◆ Parents should provide a good learning atmosphere at home which will make the students attentive in classes.
- ◆ The teacher should provide opportunities for group discussions among students through online platforms.
- ◆ The teacher should design interesting activities for students which will reduce the workload feeling of students.

#### **SUGGESTION FOR FURTHER RESEARCH**

The findings of the study and limitations encountered in the present study helped the investigator to suggest the following areas for further research.

- ◆ This study was limited to Malappuram revenue district. It can be conducted in Kerala state as a whole.
- ◆ The sample of this study was limited to 100 students, 100 teachers and 100 parents only. This can be conducted on a large sample size.
- ◆ More detailed and specific studies can be conducted to examine the various factors (such as physical, social, emotional, and psychological) affecting the online teaching learning process.
- ◆ Studies can be conducted to examine the difficulties faced by students, teachers, and parents during online learning and teaching.

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# **APPENDICES**

# APPENDIX I

## FAROOK TRAINING COLLEGE PERCEPTION SCALE

Dr. Afeef Tharavattath  
Assistant Professor  
Farook Training College

Muhammed Faiz KP  
M.Ed Student  
Farook Training College

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### Instructions

Feel free to express your responses as per the given format for all the statements and I ensure that all the responses will be kept confidentially and will be used only for research purposes.

1. Online classes can be more attentive than regular classes
  - (a) Strongly disagree
  - (b) Disagree
  - (c) Neutral
  - (d) Agree
  - (e) Strongly agree
2. Online learning is limited to textbooks only.
  - (a) Strongly disagree
  - (b) Disagree
  - (c) Neutral
  - (d) Agree
  - (e) Strongly agree
3. Online learning enhances the motivation.
  - (a) Strongly disagree
  - (b) Disagree
  - (c) Neutral
  - (d) Agree
  - (e) Strongly agree
4. Online learning decreases the academic excellence.
  - (a) Strongly disagree
  - (b) Disagree
  - (c) Neutral
  - (d) Agree
  - (e) Strongly agree
5. Online learning causes for headaches.
  - (a) Strongly disagree
  - (b) Disagree
  - (c) Neutral
  - (d) Agree
  - (e) Strongly agree

6. As a result of online class, the relationship between teacher and student increases.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

7. Online learning is more burdensome than regular classes.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

8. Online learning is better than the usual learning method.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

9. Home environment makes online classes more comfortable.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

10. Communication between students decreases in learning activities.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

11. Presentation related to online learning activities is useful.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

12. Lack of internet availability makes online classes difficult.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

13. Online classes causes for eye related problems.

- (a) Strongly disagree      (b) Disagree      (c) Neutral

(d) Agree (e) Strongly agree

14. Online classes increase the relationship between parents and teachers.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

15. Online learning seems isolated.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

16. Online learning allows spend more time than regular classes.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

17. Multiple children in a household find it difficult to study in online.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

18. Missing good moments with friends because of online learning.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

19. Online learning helps in self-assessment.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

20. Online learning destroys students' extracurricular skills.

(a) Strongly disagree (b) Disagree (c) Neutral

(d) Agree (e) Strongly agree

21. People at home find it difficult to engage in other activities with online classes.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

22. Parents can pay more attention to their children learning.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

23. Lack of an accurate schedule for online learning can be difficult.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

24. Online exams are standardized.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

25. Online learning is not tiring.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

26. Online classes reduce relationship with the community.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

27. Online learning style increases confidence in students.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

28. Online learning materials are expensive.

- (a) Strongly disagree      (b) Disagree      (c) Neutral  
(d) Agree      (e) Strongly agree

29. Online classes increase the relationship between parents and the school.



- (a) Strongly disagree      (b) Disagree      (c) Neutral
- (d) Agree      (e) Strongly agree

30. Learning activities can be completed effectively.

- (a) Strongly disagree      (b) Disagree      (c) Neutral
- (d) Agree      (e) Strongly agree

## APPENDIX II

### FAROOK TRAINING COLLEGE PERCEPTION SCALE (MALAYALAM)

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Assistant Professor  
Farook Training College

Muhammed Faiz KP  
M.Ed Student  
Farook Training College

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#### നിർദ്ദേശങ്ങൾ

നിങ്ങളുടെ പ്രതികരണങ്ങൾക്ക് റഹസ്യ സ്വഭാവം ഉറപ്പ് നൽകുന്നു. അവ ഗവേഷണാവശ്യത്തിന് മാത്രമേ ഉപയോഗിക്കുകയുള്ളൂ. എല്ലാ ചോദ്യങ്ങൾക്കും ഉത്തരം നൽകുക. ചോദ്യങ്ങൾ വായിച്ച ശേഷം ശ്രദ്ധാപൂർവ്വം ഉത്തരത്തിൽ ശരി അടയാളപ്പെടുത്തുക.

- ഓൺലൈൻ ക്ലാസുകളിൽ സാധാരണ ക്ലാസുകളെക്കാൾ ശ്രദ്ധിച്ചിരിക്കാൻ കഴിയുന്നു.  
(a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.  
(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.  
(e) ശക്തമായി യോജിക്കുന്നു.
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(a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.  
(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.  
(e) ശക്തമായി യോജിക്കുന്നു.
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(a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.  
(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.  
(e) ശക്തമായി യോജിക്കുന്നു.
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(a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.

- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
5. ഓൺലൈൻ ക്ലാസുകൾ തലവേദനക്ക് കാരണമാകുന്നു.
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
6. ഓൺലൈൻ ക്ലാസിന്റെ ഫലമായി അധ്യാപകനും കുട്ടിയുമായുള്ള ബന്ധം കൂടുന്നു.
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
7. ഓൺലൈൻ പഠനം സാധാരണ പഠനത്തേക്കാൾ അധിക ഭാരമാകുന്നു.
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
8. സാധാരണ പഠന രീതിയേക്കാൾ മികച്ചതാണ് ഓൺലൈൻ പഠനം
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
9. വീട്ടിലെ സാഹചര്യം ഓൺലൈൻ ക്ലാസുകൾക്ക് കൂടുതൽ സുകകരമാവുന്നു.
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
10. പഠന പ്രവർത്തനങ്ങളിൽ കുട്ടികൾ തമ്മിലുള്ള ആശയവിനിമയം കുറയുന്നു.
- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.

- (e) ശക്തമായി യോജിക്കുന്നു.
11. ഓൺലൈൻ വഴിയുള്ള പഠനപ്രവർത്തനങ്ങളുമായി ബന്ധപ്പെട്ട അവതരണം പ്രയോജനമുള്ളതാകുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
12. ഇന്റർനെറ്റിന്റെ ലഭ്യതക്കുറവ് ഓൺലൈൻ ക്ലാസുകൾക്ക് പ്രയാസം സൃഷ്ടിക്കുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
13. ഓൺലൈൻ ക്ലാസുകൾ കണ്ണി സംബന്ധമായ പ്രശ്നങ്ങൾക്ക് കാരണമാകുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
14. ഓൺലൈൻ ക്ലാസുകൾ രക്ഷിതാക്കളും അധ്യാപകരും തമ്മിലുള്ള ബന്ധം കൂട്ടുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
15. ഓൺലൈൻ പഠനം ഒറ്റപ്പെട്ടതുപോലെ തോന്നുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.
16. സാധാരണ പഠന രീതിയെക്കാളും കൂടുതൽ സമയം ചിലവഴിക്കാൻ ഓൺലൈൻ പഠനത്തിന് സാധിക്കുന്നു.
- (a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.

- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

17. ഒരു വീട്ടിൽ ഒന്നിലധികം കുട്ടികൾ ഓൺലൈൻ പഠനം നടത്തുന്നതിൽ പ്രയാസം നേരിടുന്നു.

- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

18. ഓൺലൈൻ ക്ലാസിന്റെ ഫലമായി സുഹൃത്തുക്കളുമൊത്തുള്ള നല്ല നിമിഷങ്ങൾ നഷ്ടപ്പെടുന്നു.

- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

19. ഓൺലൈൻ പഠനം സ്വയം വിലയിരുത്തലിന് സഹായകമാകുന്നു.

- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

20. ഓൺലൈൻ പഠനം കുട്ടികളുടെ പാഠ്യേതര കഴിവുകളെ ഇല്ലാതാക്കുന്നു.

- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

21. ഓൺലൈൻ ക്ലാസ് കൊണ്ട് വീട്ടിലുള്ളവർക്ക് മറ്റു കാര്യങ്ങളിൽ ഏർപ്പെടാൻ ബുദ്ധിമുട്ട് അനുഭവപ്പെടുന്നു.

- (a) ശക്തമായി വിരോധിക്കുന്നു. (b) വിരോധിക്കുന്നു.
- (c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.
- (e) ശക്തമായി യോജിക്കുന്നു.

22. കുട്ടികളുടെ പഠനത്തിൽ രക്ഷിതാക്കൾക്ക് കൂടുതൽ ശ്രദ്ധ ചെലുത്താൻ കഴിയുന്നു.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.
- (e) ശക്തമായി വിധേയമാകുന്നു.

23. ഓൺലൈൻ പഠനത്തിന് കൃത്യമായ സമയക്രമം ഇല്ലാത്തത് ബുദ്ധിമുട്ടായി അനുഭവപ്പെടുന്നു.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.
- (e) ശക്തമായി വിധേയമാകുന്നു.

24. ഓൺലൈൻ പരീക്ഷകൾ നിലവാരം പുലർത്തുന്നവയാണ്.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.
- (e) ശക്തമായി വിധേയമാകുന്നു.

25. ഓൺലൈൻ പഠനം മടുപ്പുണ്ടാക്കുന്നില്ല.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.
- (e) ശക്തമായി വിധേയമാകുന്നു.

26. ഓൺലൈൻ ക്ലാസുകൾ സമൂഹവുമായുള്ള ബന്ധം കുറയ്ക്കുന്നു.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.
- (e) ശക്തമായി വിധേയമാകുന്നു.

27. ഓൺലൈൻ പഠനരീതിയിലേക്കുള്ള മാറ്റം കുട്ടികളിൽ ആത്മവിശ്വാസം വർധിക്കുന്നു.

- (a) ശക്തമായി വിധേയമാകുന്നു. (b) വിധേയമാകുന്നു.
- (c) തീരുമാനമില്ല. (d) വിധേയമാകുന്നു.

(e) ശക്തമായി യോജിക്കുന്നു.

28. ഓൺലൈൻ പഠനോപകരണങ്ങൾ ചെലവേറിയതാണ്.

(a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.

(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.

(e) ശക്തമായി യോജിക്കുന്നു.

29. ഓൺലൈൻ ക്ലാസുകൾ രക്ഷിതാക്കളും സ്കൂളും തമ്മിലുള്ള ബന്ധം കൂട്ടുന്നു.

(a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.

(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.

(e) ശക്തമായി യോജിക്കുന്നു.

30. പഠന പ്രവർത്തനങ്ങൾ ഫലപ്രദമായി പൂർത്തീകരിക്കാൻ സാധിക്കുന്നു.

(a) ശക്തമായി വിയോജിക്കുന്നു. (b) വിയോജിക്കുന്നു.

(c) തീരുമാനമില്ല. (d) യോജിക്കുന്നു.

(e) ശക്തമായി യോജിക്കുന്നു.