

# Pedagogical and Technical Intricacies Confronted by the Pre-Service Teachers During the Virtual Internship

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## Abstract

The paper is intended to measure the level of the intricacies confronted by the pre-service teachers during virtual Internship. Therefore, the investigator adopted a normative survey method to collect the data for this study of Pre-service teachers' problems at the time of virtual Internships in Kasaragod district. Virtual internships are online practical teaching sessions where teachers transmit complex professional skills by working collaboratively using the support of computer and internet (Oner, 2020). The pedagogical structuring of the content in a virtual internship is done through TPACK framework mostly (Vijayan & Joshith, 2018). Virtual internship has significantly decreased the professional anxiety of Pre-Service teachers in blended learning environment (H. Theelen et al., 2020). So, using the normative survey method, the investigator gathered information regarding Pre-service teacher's problems during the virtual Internships. In this study, all the pre-service teachers studying in the Bachelor of Education Programme in Kasaragod have been taken as the population for the study. Two hundred forty pre-service teachers were selected as the sample of the study through simple Random sampling method. The investigator prepared the tool to measure the problems of pedagogical aspects and technical issues confronted during the virtual internship. The findings of the study were: 40 (16.7%) of the sample have low level, 160 (66.7%) of the sample have moderate level and 40 (16.7%) of sample have a high level of intricacies that they are subjected to confront during virtual Internship. The pre-service students faced pedagogical challenges during the virtual internship. Similarly, most of the pre-service teachers faced technical issues during the virtual internship.

## Keywords

Virtual Internship, Pedagogy, Technology, Intricacies, Confronted, Pre-service Teachers.

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## Introduction

Problems are how people organize and interpret their sensory input, what they see and hear, and call it a reality. A pandemic is upon the world. The hunt for several pandemics continues, and now it is COVID -19. It knocked down different sectors of the world. The socio-economic conditions of the people were affected erroneously. The education sector also faced a downturn. But the phenomenal growth and penetration of the internet shifted education to online platforms. India has the second internet users after China. The unprecedented situation has made many think critically. Apart from online classes, E-internship is also getting popular among students. E-internship represents learning experiences that are often fully computer-mediated with supervisors, interns, and their colleagues located in different locations (Pearson, 2003). Internships must be a part of the curriculum because education aims to enrich the students with the knowledge and equip them with practical experiences (Cervetti et al., 2006). Acquisition of knowledge should not have an end. Knowledge acquired through Internship must be purposeful. It helps to gain experience in one's preference and is a steppingstone to one who is looking for a job. Since hands-on Internship or traditional Internship is in use now, many colleges are beginning with online internships, also known as virtual Internship or E-internship. E-internship, as an innovation of curriculum, has changed one's view of the work (Darling-Hammond, 2010). As per the UGC guidelines, they recommend different universities of our country to encourage students to take up an 'online internship' to be performed digitally from home. The pandemic has forged an understanding that technologies provide multiple opportunities to embark life during the time of lockdown.

### Need and Significance

The covid 19 pandemic had brought the concept of virtual internship in the educational context. But even well before that some of the institutions were using this technique for their internship programs but now the system has transformed totally to the form of virtual internship which will be continued even after the end of pandemic (Bisland, 2020). A well planned and systematically executed virtual internship can be a real substitute for transforming the practical skills in the real time situations (Park & Jones, 2021). The scope of virtual internship will be continuing with an enhanced vigour even after the present situation is over and the things returns to normal, many companies are still willing to offer online internships. The online internships will become a novel pathway for increased skill based understanding for a professional market to enhance the employability opportunities (Stefanovic et al., 2021). The flexibility that is offered by the virtual internships is its main attraction as a programme. You can take part remotely during your busy school or work schedule, and you don't have to adhere to the traditional office internship schedule (Hanneke Theelen et al., 2019). The work can be scheduled at any time as per the convenience in the case of a technology, science or management subject but in the case of Education it is possible to schedule at your convenience but it is not possible to alter immediately as it requires the presence of learners at the other end. In the other hand people are finding virtual internship difficult because it does not correct the real time mistakes which are normally not happened or even unrecognized in a virtual environment. Overall, the success of virtual internship will depend on the performance of the interns. Intern will indeed have to be self-motivated and independent (Jen et al., 2020). The other strategies to ensure the success of this programme are to reduce the problems and minimize the complexities in its design and execution (Ruggiero & Boehm, 2017).

It must be found out whether virtual Internship contributes to better practice at higher education institutions. The problem is that much research has been done exploring the perceptions of teachers, instructors, and experts regarding eLearning. Still, when it comes to virtual Internships, there are many assumptions about student teachers' opinions, but relatively little research into what teacher educators think about virtual Internships (Keefe, 2020). Therefore, this research aims to obtain first-hand information on pre-service teachers' problems confronted during virtual Internship. In this context, attempting the study on problem confronted during virtual Internship among the pre-service teachers is worthy. Therefore, the investigators will plan to do a research work on problem confronted during virtual Internship among the pre-service teachers of Kasaragod district. The researcher conducted this survey among participating students, which

revealed their general perception, concerns, and technical obstacles regarding virtual Internships by giving a response to the statements provided.

## Literature Review

Technology has penetrated in the field of education in such an extent that it is used to replace the field experiences or practical components of learning through virtual laboratories and in the field of education as a subject it comes through Virtual internships (Araújo et al., 2020). Virtual internship is new concept in educational literature which had gained popularity recently due to pandemic. Virtual internships offer new plethora of learning but not sure about its learning opportunities in the market force (Jeske & Linehan, 2020). The scope of community-oriented programmes and skill development on it through virtual internship with specified problem-based learning proved promising responses (Ward & Killian, 2011). When this virtual internship was introduced to teaching profession, it really affected the performance of the prospective teachers because they were not exposed to this training modality any time before and never got any training on it, so they felt lot of problems in it especially in technical aspects and in communication aspect (Eliyana, 2021). The pandemic had brought the world halted for months where academicians were started to think and conceptualize on virtual internship programmes (Kier & Clark, 2020). Mixed reality had become a solution for providing virtual internship to students (Handoko et al., 2020). Science teachers need to design instructional practices in such a way that students need to solve real world problems as stated by United States Next Generation Science Standards (Jen et al., 2020). Online high school internship had been converted to virtual internship which proves to be beneficial for school children (Lalish et al., 2021). Virtual undergraduate internship was practised for research students as a compliment to mentoring (Samad et al., 2021). Virtual internship has been examined on the context that the knowledge gained through this can be treated as an experience for getting placements internationally in reputed organizations (Thiyagu & Joshith, 2021). Finally the research on virtual internship is a very important area which gives thorough understanding on the technical glitches, pedagogical perspective and employment opportunities but a very broad concept of generating socio emotional skills is ignored (Joshith, 2012). There are certain psychological traits which can only be nurtured through the physical presence of the teacher. For example, skills like life skills and management skills are modelled through the live interactions which take place between the teacher and taught in a teaching learning context.

## Research Questions

The following Research Questions were formulated based on the objectives.

1. What is the percentage of sample in terms of their experience in using the internet?
2. How many hours, the respondents are spending their time on the internet for virtual Internships?
3. What are the pedagogical problems confronted by the pre-service teachers during their Virtual Internship?
4. What are the technical intricacies faced by the pre-service teachers during their Virtual Internship?
5. What is the level of the problems confronted by the pre-service teachers during their virtual Internship?

## Research Method

The investigators intended to determine the level of the problems confronted during virtual Internships among pre-service teachers of Kasaragod District. Therefore, the investigators adopted normative survey method to collect the data for this study of intricacies confronted by pre-service teachers on virtual Internships in Kasaragod district. Using the normative survey method, the investigators gathered information regarding Pre-service teacher's problems during their virtual Internships.

## Population and Sample

In this study, all the pre-service teachers studying for their Bachelor of Education Programme in Kasaragod district have been taken as the population of the study. Samples were selected for this study from the total population of pre-service teachers in Kasaragod. Two hundred forty pre-service teachers were selected as the sample for this study through simple Random sampling method.

## Instrument

The tool employed by the researchers for this study was a Rating Scale. The tool has been prepared considering the two important dimensions of the study. That is problems related to pedagogical issues and technological issues. Here the researcher prepared a 3-point rating scale on the perception of the virtual internship programme. It is a three-point scale ranging from the value 0 to 2. The statements of the tool were prepared based on the two components, such as pedagogical and technological problems confronted during the virtual Internship. The investigators employed Cronbach's alpha (0.81) and split-half method (0.65) for reliability of the tools. Content validity was established as part of the standardisation procedure of the tools.

## Data Analysis and Findings

### Research Question 1

What is the sample in terms of their experience in using the internet?

**Table 1**

Analysis of the sample in terms of their experience in using the internet.

Years of Experience	Number of Pre-service Teachers	Percentage (%)
2 Years	19	7.9
2-5 year	78	32.5
Above 5year	143	59.6

The above table presents the sample's distribution in terms of their experience in using the internet. As seen from the above, 7.9 percent of the sample had two years of experience in internet usage. 32.5 percent of the sample had 2 to 5 years of experience in internet usage remaining 59.6 percent had an experience of internet usage over five years. It seems that most of the samples had above five years of experience in using the internet.

### Research Question 2

How many hours, the respondents are spending their time on the internet for virtual Internships?

**Table 2**

Analysis of the Sample based on the duration of time spent on the internet per day

Time is taken for internet usage	Number of Pre-service teachers	Percentage (%)
2 - 4 hours	108	45.0
4 - 6 hours	93	38.8
6 - 8 hours	18	7.5
More than 8 hours	21	8.8

The above table presents the distribution of the sample in terms of the amount of time in spending on the internet per day. As seen from the above table, 45 percent of the sample accessing internet 2-4 hours per day 38.8 percent of sample accessing internet 4 to 6 hours per day 7.5 percent accessing 6 - 8 hours per day and the remaining 8.8 percent accessing internet more than 8 hours per day. The above table shows that most of the pre-service teachers spend an average time of 2 – 4 hours per day on the internet during their virtual Internship.

### Research Question 3

What are the pedagogical problems confronted by the pre-service teachers during their Virtual Internship?

**Table 3**

Pedagogical problems confronted by the pre-service teachers during their Virtual Internship.

Statements	Agree with the problem	Undecided with problem	Disagree with the problem
Issues faced in planning a methodology for the virtual Internship	137 (57.1%)	86 (35.8%)	17 (7.1%)
Has a negative experience on student management in the virtual platform	119 (49.6%)	83 (34.6%)	38 (15.8%)
Real classroom teaching experience was not perceived during the virtual Internship	168 (70%)	58 (24.2%)	14 (5.8%)
Virtual mode of instruction is not at all possible for the entire discipline subject.	139 (57.9%)	72 (30%)	29 (12.1%)
Has limitation in developing teaching ability in individuals during virtual Internship	153 (63.8%)	63 (26.3%)	24 (10%)
Not able to analyse the extra-curricular activities of students during the virtual Internship	169 (70.4%)	55 (22.9%)	16 (6.7%)
The virtual Internship does not integrate theory with practical	149 (58.3%)	73 (30.4%)	27 (11.3%)
Creates problems in the evaluation of the achievement of the learners in the virtual Internship	144 (60%)	82 (34.2%)	14 (5.8%)
Case study record preparation / Counselling and guidance practices are very difficulty during the virtual Internship	156 (64.6%)	67 (27.9%)	18 (7.5%)
Explaining the concept with Different methods and techniques are not possible in the virtual Internship	158 (65.8%)	52 (21.7%)	30 (12.5%)

The above table presents the analysis of the sample in terms of the problem confronted by pre-service teachers during the virtual Internship.

**Statement:** *Issues faced in planning a methodology for the virtual Internship*

Among 240 pre-service teachers, 137 samples were agreed, 86 undecided with the statement, 17 disagree with this statement. It is happened due not to receive the proper pedagogical training for online teaching.

**Statement:** *Has a negative effect on student management in the virtual platform*

Among 240-preservice teachers, 119 respondents were agreed, 83 undecideds with the statement and 38 disagree with this statement. Classroom management is not easy in the case of online classes. In addition, the pre-service teacher is not getting enough high-level training to maintain the online class discipline.

**Statement:** *Real classroom teaching experience was not perceived during the Virtual Internship*  
Among 240 pre-service teachers, 168 respondents agreed, 58 undecided with the statement, and 14 disagreed with this statement. The pre-service teacher not perceived the actual classroom teaching experience in the virtual Internship. In Virtual teaching, the real-time face-to-face student and teacher interaction was lacking compared to the actual face-to-face classes. The virtual classroom provides only the artificial teaching experiences.

**Statement:** *Virtual mode instruction is not at all possible for the entire discipline subject.*  
Among 240 pre-service teachers, 139 respondents were agreed, 72 were undecided with the statement, and 29 disagree with this statement. The teacher may use a lot of teaching strategies while teaching the scientific concept to the students. However, in virtual teaching, the pre-service teacher cannot incorporate all the teaching methods or techniques for the entire subject. Especially for the science subject, the teacher may explain the concept in the face-to-face classes using some laboratory instruments or with demonstration mode. Still, in the virtual Internship, the pre-service teacher cannot use different teaching methods based on the subjects.

**Statement:** *Has limitation in developing teaching ability in individuals during VI*  
Among 240 pre-service teachers, 153 respondents were agreed, 63 were undecided with the statement, and 24 disagree with this statement. The pre-service teacher was not able to receive immediate feedback during the virtual Internship. Virtual Internship may be more comfortable to those who are expertise in the ICT skills compare to those who have good teaching aptitude, reasoning aptitude, etc. Virtual Internship provides a few scopes to developing the teaching ability of an individual.

**Statement:** *Not able to analyze the extra-curricular activities of students during the Virtual Internship*

Among 240 pre-service teachers, 169 respondents agreed, 55 were undecided with the statement, and 16 disagreed. The virtual Internship does not provide enough space to observe the extracurricular actives of the students. Each student is unique in his/her caliber. However, in the online mode, the pre-service teacher cannot measure the students' extra-curricular activities correctly in various domains.

**Statement:** *The virtual Internship does not integrate theory with practical*  
Among 240 pre-service teachers, 149 respondents agreed, 73 were undecided with the statement, and 27 disagreed with this statement. Most of the course contents describe the normal face-to-face classroom transaction and its management procedure as pre-service teachers. However, during the virtual Internship, the practical teaching is not at all matched with the theoretical input gained during the course time.

**Statement:** *Creates problems in the evaluation of the achievement of the learners in the Virtual Internship*

Among 240 pre-service teachers, 144 respondents agreed, 82 were undecided with the statement, and 14 disagreed with this statement. Virtual Internship is not provided a space to evaluate or measure the students' achievement. Organizing the Proctored examination is costly. Due to that, the training teacher could not incorporate the proper mechanism to measure the leaner's performance.

**Statement:** *Case study record preparation / Counselling and guidance practices are very difficult during the Virtual Internship*

Among 240 pre-service teachers, 156 responders were agreed, 67 were undecided with the statement, and 18 disagree with this statement. The case study can be done in an intensive mode. The main objectives of the case study are to find out the learners' problems and give the proper remedies. In the virtual mode, we could not connect the problematic students, lacking personalized touches between the teacher and student.

**Statement:** *Explaining the concept with Different methods and techniques are not possible in the VI*

Among 240 pre-service teachers, 158 respondents agreed, 52 were undecided with the statement, and 30 disagree with this statement. Incorporating the different pedagogical methods and techniques in the virtual mode is very much difficult. Even some of the face-to-face pedagogical methods are not able to incorporate into the virtual model.

#### Research Question 4

What are the technical problems confronted by the pre-service teachers during their Virtual Internship?

**Table 4**

Technical problems confronted by the pre-service teachers during the Virtual Internship.

Statements	Agree with the problem	Undecided with problem	Disagree with the problem
Share the screen in the virtual conferencing tool such as google meet and zoom is also highly complicated	114 (47.5%)	77 (32.1%)	49 (20.4%)
Not create a friendly atmosphere with students in the digital platform during the Virtual Internship.	159 (66.3%)	56 (23.3%)	25 (10.4%)
Video editing and video making may be the more complicated task in the Virtual Internship	139 (57.9%)	75 (31.3%)	26 (10.8%)
A lot of technical problem arises during Virtual Internship	131 (54.6%)	93 (38.8%)	16 (6.7%)
Finding or creating the quality-based audio/video / text materials are very much complicated during the Virtual Internship	151 (62.9%)	66 (27.5%)	23 (9.6%)
Not able to implement the various teaching methods / strategies/ techniques during the Virtual Internship	162 (67.5%)	65 (27.1%)	13 (5.4%)
Problems to convert the average paper-based records work into digital-based recording system during the Virtual Internship	140 (58.3%)	75 (31.3%)	25 (10.4%)

The above table presents Analysis of the sample in terms of technical problems confronted by the pre-service teachers during the virtual Internship.

**Statement:** *Share the screen in the virtual conferencing tool such as google meet and zoom is also highly complicated*

Among 240 pre-service teachers, 114 respondents were agreed, 77 undecided with the statement, and 49 disagree with this statement. The pre-service teachers are not provided with adequate training for effectively handling the virtual conferencing tools such as google meet, zoom etc. Even some of the pre-service teachers not having any proper devices to use these virtual conferencing tools.

**Statement:** *Not create a friendly atmosphere with students in the digital platform during the Virtual Internship.*

Among 240 pre-service teachers, 159 respondents were agreed, 56 were undecided with the statement, and 25 disagree with this statement. It becomes impossible for the pre-service teachers to make friendly atmosphere in the virtual classrooms due to the lack of proficiency to handle the online tools. The pre-service teachers do not get any proper training because of the sudden transition from the normal teaching methodology that they were practicing and the incorporation of online mode for their internship.

**Statement:** *Video editing and video making may be the more complicated task in the VI*  
Among 240-pre-service teachers, 139 respondents were agreed, 75 were undecided with the statement. 26 were disagree with this statement. The main components of virtual Internship are video and audio content. However, the trainee teacher did not gain proper training on editing the video and preparing their video contents. Due to that, most of the trainers may feel more difficulties editing and making the video content.

**Statement:** *A lot of technical problem arises during Virtual Internship*  
Among 240 pre-service teachers, 131 respondents agreed, 93 were undecided with the statement, and 16 disagreed with this statement. The main barriers of online teaching are technological issues such as bandwidth, configuration, cross platforms, electricity etc. Therefore, as pre-service teachers, they could not know how to resolve any technical glitches from their end or their student's end. It was also happened due to the inadequate training of ICT Skills.

**Statement:** *Finding or creating the quality-based audio/video / text materials are very much complicated during the VI*

Among 240 pre-service teachers, 151 respondents agreed, 66 were undecided with the statement, and 23 disagreed with this statement. The pre-service teacher cannot find a way to search or create the audio or video or text materials online due to the inadequate training of ICT skills. The pre-service teachers are not aware of the OER or creative commons licenses. It is the main reasons they could not be able to search the proper and ethical contents from the net source.

**Statement:** *Not able to implement the various teaching methods / strategies/ techniques during the Virtual Internship*

Among 240 pre-service teachers, 162 respondents were agreed, 65 were undecided with the statement and 13 disagree with this statement. Even the teacher trainees, those in good in ICT skills, could not effectively implement the various teaching methods and techniques during the virtual Internship because they could not know how to blend the pedagogy and technology.

**Statement:** *Problems to convert the average paper-based records work into digital-based recording system during the VI*

Among 240 pre-service teachers, 140 respondents were agreed, 75 were undecided with the statement, and 25 disagree with this statement. The pre-service teacher cannot find the mechanism of converting the paper-based record work into the digital-based recording system due to the lack of a digital teaching training programme.

## Research Question 5

What is the level of the problem confronted by the pre-service teachers during the virtual Internship?

**Table 5**

Level of the problems confronted by the pre-service teachers during the virtual Internship

Level of Problems Confronted on virtual Internship	Number of Pre-service teachers	Percentage (%)
Low	40	16.7
Moderate	160	66.7
High	40	16.7



The above table presents the analysis of the sample in terms of Level of pre-service teachers' problems towards virtual Internship. As seen from the above table, 40 (16.7%) of the sample have low level, 160 (66.7%) of the sample have moderate level and 40(16.7%) of sample have a high level of perception towards virtual Internship.

### **Educational Implications and Suggestion for the Research.**

COVID-19 makes a lot of impact on the teacher education programme. The normal classroom transition had affected in each and every domain but almost in all places internet and the collaborative platforms functioning on internet became a substitute for it. But the area which was affected deeply was the internship programmes. The government and policy makes without considering any consequences had made a cent percent transition from face to face mode to virtual mode in all programs including the internship. But the interns really face problems for their presentation over the internet (Thiyagu, 2021). Sometimes we cannot even call these as problems they are technical or pedagogical intricacies which really affects the outcome of their learning. At the same time when no other means were available for testing the teaching competencies and creating specific teaching skills in pre-service teachers, Internet and the collaborative platforms became the new medium for skill based transactions which were sometimes really proved to be beneficial (Thiyagu & Muthuchamy, 2012). The prospective teachers at the pre-service level had to overcome lot of problems and issues linked to it for maintaining a divergent and homogenous performance before their learners to feel their live presence in front of them The covid pandemic has caused students to put their best to do virtual Internships over coming all those intricacies. The educational implication of the study was.

- Structurally sequenced and properly executed virtual Internship promote the globalization of education and exchange of knowledge resource
- Virtual Internship done through properly customized learning management system provides more space for self-assessment, leading to immediate self-correction and improvement in teaching and learning.
- Virtual Internship widens the reach of education by providing an opportunity for rural and remote area students to participate in education.
- Through virtual Internship, the student can improve their competency in using a computer for other educational purposes.
- Online internship projects will develop the value of cooperation, mutual acceptance, and sharing tendency in students.
- A set of written guidelines about internship program from the concerned department should be given to the concerned student-teachers and principals of the concerned schools to act according to the rules and regulations as mentioned in the document and conduct activities in a structured way.

The aim of this study was to assess the pre-service teacher's problem confronted during virtual Internship. Based on the findings of this study, as well as the disparity of empirical studies related to the pre-service teacher's perception towards virtual Internship, the following are suggestions for research:

- Organising the orientation programme related to TPACK to student teachers.
- Conducting the digital micro-teaching practices for exploring the technological pedagogical skills to the student's teachers.
- Prepare the proper model for implanting the virtual internship program to the teacher education institutions.
- Adequate planning and strategies to design successful internship programme by teacher education institutions for eliminating obstacles.
- Prepare proper guidelines for monitoring the virtual internship programme.
- Implementation of remedial instruction to student teachers facing problems during Internship.
- Developing model digital school for strengthening the digital pedagogical skills to the trainee teachers.
- The principals of collaborative schools and student teachers should be briefed before the internship programme so that all activities could be conducted smoothly.

## Conclusion

This study attempted to find the problems of pre-service teachers towards virtual Internship. This study intended to examine how students felt while taking an internship online and to answer research questions on stress, concentration, difficulties, student convenience etc. in appearing online Internship. As educational systems are adopting new and innovative methods, it is important to know pre-service teachers' problems on virtual internship (Bilsland, 2020). It is crucial to know how they perceive the different features of virtual Internship (Kennedy et al., 2013). The traditional face-to-face interaction is gradually giving way to online, which can occur anywhere, anytime and at the comfort and pace of the people (Stapleton et al., n.d.). These in turn bring about global integration and standardization in the educational processes. Finally, even though the intricacies associated with virtual internships are many, and that leads to cognitive confrontation in the learners but the concept of virtual internship can be re-modelled to meet with the demands of our learners this will bring many changes in the field of teacher education (Thiyagu, 2012). In order to cope with the problems relevant strategies must be prepared and student teachers must be educated on these problems.

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