

Promoting Classroom Management Skills in New Hires through a Training Intervention

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Introduction

Brief Context

“An effective teacher training system can produce quality teachers who are committed, pedagogically sound, and concerned about student learning and development” (Siddiqui et al., 2021). The problem of untrained and inexperienced teachers is the existing problem of the IT department at Govt. College for Women, Gujranwala, Pakistan. Due to lack of training and proper guidance, they become nervous and lost. They cannot manage their time well, they don't know how to plan lessons, and they are unable to motivate students in the classrooms. The orienting context suggests that new hires (CTIs, Interns, Fresh Graduates) are not trained and experienced.

Recognition of the Problem

I came to know about these problems because I am myself a part of this system as a co-coordinator of a BS program and I teach Business Communication to the First and Third Semesters of IT. Other than that, I talked to the SME that I requested to help me in this project. “The subject-matter expert is qualified to provide information about content and resources relating to all aspects of the topics for which instruction is to be designed” (Morrison et al., 2010). She informed me about the intensity of this problem, and we discussed other issues quite in detail. She is Associate Professor at our college. Her subject is Networking. I had an online meeting with her for about 45 minutes. She talked about all the problems that the IT department has been facing. I had prepared a set of questions that I asked her, and I wrote her responses in [Appendix A](#). She told me that more than 70 percent of students were unsatisfied with the new teachers in their 1st and 5th semesters. She prepared a report on the basis of teachers' problems,

students' progress reports, and their complaints, discussions in department, and face to face meetings with BS In-charge, and Coordinator of BS program [Appendix B](#).

I also conducted a survey about this problem. I emailed the survey questions to my colleague (Coordinator of BS program). She helped me complete that survey. After completion, she took pictures of those surveys separately and sent them to me. 14 students were selected randomly for this survey. 9 students out of 14 were totally unsatisfied with their new teachers and 5 others had other responses but not even a single student was completely satisfied. The survey questions are attached in [Appendix C](#). I arranged online meetings with two of our CTIs (who will be leaving college in the mid of October probably. CTIs' recruitment process starts in Mid-September and their appointment takes place in October) about the problems they face being the staff members. I have noted the minutes of the meetings and I recorded their responses in writing [Appendix D](#). The problem of untrained teachers is gross because students' precious time is wasted, they do not have suitable instructions in their classes, their careers are at stake, their money is misspent, and the reputation of the college is in jeopardy. The survey, observation sheet of SME, online interviews with CTIs, and online meeting with the SME will be used as evidence to show that the problem is real and needs to be solved. There is a dire need for arranging potential training programs for those teachers and the related need is to use college funds to support these programs.

This project is an attempt to make a 'long-range' (Gagne et al., 1916) instructional plan for new hires so that they may get trained before teaching the students. First of all, the new hires are the major stakeholders for whom the entire project is going to be designed. These teachers are a great source to perform various administrative duties assigned to them besides teaching. Other stakeholders in this design will be the students for whom the new hires will be trained.

Parents come next who pay a huge amount in the form of fee and expect the best for their children. The Higher Education Commission that gives funds for the BS program in different categories and the college with its administration have their stake in this project because the college will be funding this training program with the help of HEC, reserved resources, and a socially active group called 'Ambrians'. In short, there are three major groups that will be considered in this project. Learners who are new hires in this project are the most important part of the design. Then there are students who will be the beneficiaries of this training program, and lastly, supervisors and administrators who will be helping in funding, planning, analyzing, and executing this program.

“Supervisor involvement increases the likelihood that the employee will learn what is expected” (Morrison et al., 2010). The supervisors and administrators include Principal and Vice principal of college, In-charge BS program, Coordinator BS program, SME and HOD of IT department, Bursar In-charge, College Caretaker, 2 lab attendants, and one Senior Clerk. They will be responsible for everything starting from generating money, calling the trainers, selecting suitable dates and time, gathering and entering data of participants and trainers, arranging and setting of required media, tools, furniture, stationery, power supplies, and back up plans in case of electricity shortage, and staying in touch with the participants. They will also make arrangements for tea and lunch breaks. For this particular area, food is supplied from the college's hostel's mess. The in-charge of the hostel and her colleagues will supervise the food department.

“Contextual analysis provides information about environmental factors that will affect the design and delivery of the instruction” (Morrison et al., 2010). As I have mentioned earlier in the prospectus, our college is the largest college in the division, so it is always chosen for various

meetings, seminars, workshops, training courses, and much more. This training will include new/temporary employees (as permanent staff members are already trained for 15 days after their appointment before teaching). The trainers can be called from the University of Engineering and Technology (Lahore), Punjab University (Lahore), or Gift University, Gujranwala. The SME will be able to make a request to the person concerned in this regard.

Both the IT labs of our college and the conference room can be utilized for the training sessions. All three rooms are well equipped and have all the facilities that a good IT room should have. HOD has a preference to use the IT lab (I got to know about it through our online meeting) that is located in the BS campus of the college. She finds it more suitable as it has new computers, unlimited access to WIFI (only teachers and lab attendants have access to the password), power cords, connecting cables, white boards, projector screens, printer, new furniture, and sufficient stationery. The entire building of BS Block is new as its construction started in 2011 and was completed in 2012. The last principal of our college took much pain to have a better infrastructure. She retired in 2019. The IT lab in this campus was constructed in 2017.

The SME also believes that each trainee should have access to the computers individually and this is what they can have in the new lab. The training course will consist of two weeks excluding the Sundays. The salaries/stipend of the trainers will be generated from the grant that is given to the college by HEC yearly. I have asked the Bursar In-charge to let me know about the progress in generating funds to conduct the training. She told me that some amount can be generated from the 'burqa fund' as it is already being utilized to pay two of the honorary teachers. She further informed that through the College Council's meeting that was conducted on 5th October 2021, the college will pay 18000 rupees to those honorary teachers through 'burqa

fund'. These teachers were hired on 1st October 2021 by the college administration. If we are unable to secure 2 seats for CTIs, this year then we will have to hire two more honorary teachers depending on our need. The admissions are going on and students will be coming in the first semester so we will need more teachers especially in the IT department. Points of meeting with the Bursar Incharge are in [Appendix E](#).

The causes of the existing problem are manifold. First, we have only two permanent staff members in the IT department as there are only 3 IT seats in our college. One is still vacant, and no one has been appointed for that seat by the Government yet. The HOD is an Associate Professor who teaches Networking, and we have an Assistant Professor who teaches Programming. For other subjects of the IT program, we have to rely on CTIs, Honorary teachers, Fresh Graduates, and Visiting teachers. Second, it is exceedingly difficult to hire a maximum number of CTIs every year as the Government does not allow the recruitment of more than one or two CTIs per year. Sometimes, we fail to secure even one seat for CTIs. As a result, we hire interns and fresh graduates to facilitate students. Fourth, we have sufficient funds to conduct training and workshops for new teachers, but those funds and grants are not utilized properly. Last but not the least, the interns we hire are fresh Graduates and both interns and CTIs are untrained and inexperienced.

The solution that comes to my mind is to address the primary problem and that is the inexperienced and untrained teaching staff. In order to produce an efficient training design and to solve a problem, it is very important to keep the characteristics of performance context in view. There are some evident performance problems in this context that need to be addressed. "To answer the question of what to include, the instructional designer begins by identifying the performance problem and then uses a variety of tools to determine what knowledge and skills are

needed to solve the problem” (Morrison et al., 2010). This design will focus on the interest level, regularity, sense of responsibility, and punctuality of the participants. Then their effective participation, complete attention and high motivation can fill the gaps that emerge as poor time management, insufficient lesson planning skills, and inability to motivate students in the classrooms. In order to have a check on the participants’ performance during the training sessions, different post surveys will be conducted to know how well they learn different ideas, engage themselves in discussions and how interested or motivated they are to get a training session. The attendance of the trainees will be taken on a daily basis. They will print their arrival and departure time on the attendance sheet. If they go out for short or long breaks during the training, that time will also be noted. A sample attendance sheet will be attached as [Appendix F](#).

Discrepancy-Based Needs Assessment (if applicable)

“The basic reason for designing instruction is to make possible the attainment of a set of educational goals” (Gagne et al., 1916). After recognizing the existing problem at our college, the goals of the organization are as under.

1. Making an effective plan to train new hires
2. Utilize the unutilized funds productively.
3. Increase the importance of training
4. Bring all new hires on the same page
5. Fill the gaps in education that emerge as poor time management, improper lesson planning, and ineffective motivation skills

The goals are not achieved yet. The coordinator of the BS program told me on the phone that the process of hiring new teachers has started. Due to COVID, students are taking online classes and admission for the first semester has just started. We are also waiting for new seats for

CTIs. On 30th September, students were informed to stay at home and take online classes due to the increasing spread rate of COVID in Pakistan. Some of the honorary staff are busy assisting the students of 8th semester in their theses. Once the duration of these teachers is finished and we complete the hiring process, the training program will be conducted to facilitate the new hires and new students. The data we get after the program will be updated. She further informed me that the gaps that we can have in achieving these goals can be finding a proper resource person according to our needs. He/she may have issues with the dates and time. Fundraising can be a hurdle also. Participants' consistency and commitment are required to make this program successful, and we don't know yet how they will perform. Lastly, bringing teachers from other colleges will also create problems as we will have to wait for the recruitments in those colleges also. We need at least 15 teachers to be trained otherwise there will be no use of training only 4 of our teachers. Other than that, no resource person will agree to train this minimum number of new hires. She also said that the HOD of the IT department is willing to train our four teachers if we fail to gather more teachers from other two colleges.

After talking to her, I realized that the most important gap that needs to be filled is the gap created by financial problems. We have to make sure that we have sufficient funds to conduct this training program and to pay the resource persons (There can be more than one resource person). Then calling an efficient resource person is also a big deal. They demand a lot of money, and they can have issues of dates and time. It is very important to convince them according to our prior needs. She also told me that nonstop power supply is of crucial importance so that the training sessions run smoothly and without wasting any one's time. Power failure can be a big gap that needs to be addressed. We will have to make a backup plan for that. Lastly, we have to make sure that the venue (IT lab in BS Block) that we have decided to use for our

training program is not preoccupied during those days. We have to see that the classes are not meeting in labs during those sessions and also when we conduct training there, the lab should be fully equipped with working computers, instruments and tools required for training.

The unavailability of experienced and trained teachers is the major educational gap that we are facing. This gap needs instructional intervention. The availability of trainers and successful training sessions can fill this gap to a large extent. Being a junior coordinator at the BS office, I myself know how classes suffer when teachers are not attending classes with proper planning and good time management. Students used to come to me and had face to face meetings with all three of us about the prevailing problems. Sometimes they used to say that new teachers seem to have enough knowledge, but they do not know how to convey or how to satisfy their students. Both SME and the coordinator emphasized the importance of this training intervention to raise the standards of education in the IT department. They said that if we get successful in conducting this program, we can set a standard and will be able to conduct this kind of training every year. We might become able to fill the educational gap that results because of untrained teachers.

Problem-Solving (if applicable)

“There are scores of teachers who are at the end of their career and have not had any in-service training” (Memon, 2007). The major problem we face because of untrained teachers is that classes suffer, and the reputation of college is at stake. Students often complain that the new teachers, especially the fresh graduates are unable to maintain discipline in the class. They are unable to finish the courses in time and that is why they go for tuitions after college. They are paying for college and tuition also. The teachers also mentioned this problem that being new here, they are unfamiliar with the requirements of the courses. They said it took 2 or 3 months to

adjust in the college and during those months much of the time of the students was wasted. They were just given the syllabus and were informed about the recommended books. They were not trained at all. They did not have any personal meetings with the authorities to teach students effectively. Sometimes, their students did not take them seriously and they faced mismanagement in classes in the beginning. HOD was also reported about this issue several times by these teachers. It also happened that teachers did not know how to plan their lessons effectively. As a result, many parents used to come to the college to complain about the teachers.

Being a part of the system and after talking to several people in this regard, I have come to find out the causes of all these problems. The major cause is definitely the lack of untrained teachers. The other cause is less age gap between teachers and students. Students take them lightly and create indiscipline when these teachers are unable to engage them through proper lesson planning and time management. The other big cause is lack of seats for permanent staff members. At this point we cannot do anything about it. The only solution in our hands is to train the honorary staff members and help them gain experience in their particular field. The step that we can take right now is to plan an instructional intervention in the form of a teacher training program. Through the analysis of HOD's responses and her observation sheet, it has become clear that students' satisfaction is of prior importance and that satisfaction can be achieved through effective training methodologies and their good results. In order to achieve that target it is crucially important to focus on new hires and the development of their efficiency level. Lapses in past results and the feedback of students (14 students who participated in the survey) are clear evidence in this regard.

In order to conduct this program successfully, it is very important to focus on the characteristics of the learning environment. "Why should a designer be concerned with this

larger environment? First, instruction and learning do not take place in a vacuum. The context influences every aspect of the learning experience. Second, context is a collection of factors that can inhibit or facilitate instruction and learning” (Morrison et al., 2010). The learning environment that we are considering for this program seems appropriate as it is a well-equipped lab with all the required instruments, sufficient light, tools, technological devices, stationery, furniture and power supply. The place where the lab is located is peaceful and there is no external noise that may be a hurdle during the instructions. The major fear we have is the electricity shortage, but we are planning to arrange a generator in case we don't have electricity during the sessions. The performance of the learners and instructors depends on the learning environment to a large extent. If we fail to provide all the facilities in our learning environment, the trainers will face problems in instruction and the outcome will not be effective. Both the learning environment and performance environment go hand in hand. They have their distinct importance, and both depend on each other to make a lesson productive.

This training program has not been implemented yet. We are still waiting for the recruitment of new CTIs. Due to COVID, there can be chances of no recruitments this year. If we do not get any CTIs by the end of this month, we shall hire two more honorary staff members and then these 4 honorary teachers (two are already hired) will be our learners along with 8-10 more teachers from other colleges. We don't expect any other change or innovation in our plan until now. The administration, college council, the principal, and above all our new teachers (two already hired) are really looking forward to this plan. The conflict or difficulties that can be expected in this program are financial (this is also least expected now as the administration is willing to support this program from their existing unutilized funds), availability of trainers

(depending on their time and date), and shortage of electricity (this one can also be handled through proper back up plans).

“Training needs in business or industry may be derived from a job analysis or from data on the productivity of a particular department” (Gagne et al., 1916). The need of this training program has always been evident. Our past principal also faced the same problems, and she did whatever she could to counter this problem. She put in much effort to get funds for the construction of new buildings, labs, buy furniture, technological devices, new libraries, and tools to facilitate students according to the modern advances. She also used to conduct various training programs for students each year. These trainings were conducted on a self-finance basis and were mostly related to research projects. She also felt this need to train the new hires in the IT department. Unfortunately, due to various administrative problems, the learning environments were paid more attention than the performance context. This issue remained unattended and the permanent staff members went through extra burden to facilitate students. They used to take extra classes of students whenever they felt that a teacher was not available or if new teachers were facing initial difficulties.

Being a teacher of IT first and third semesters myself, I have seen them going through all these problems. As a small part of the administration also, I have paid close attention to this issue. After availing study leave, I have remained in contact with my colleagues and got updates about all the happenings in my institution. After my online meetings with the SME, the old teachers, the survey report from students, SME’s observation sheet, and my conversations with the coordinator on a daily basis, I find it extremely important to design this instruction for new hires. I am also trying to collect data about the annual reports of IT department’s performance.

As it is of confidential nature, the authority is showing reluctance to share it. If I get any other data related to my project, I shall attach it also.

The main resources that will help me design this project are Subject Matter Expert, BS In charge, Coordinator of BS program, and Bursar Office In charge. The textbooks of Gagne and Morrison are other big resources that I will be using. Other than that, the OU library and the articles I chose to know about the existing problems in education in Pakistan will also guide me in the design, development, implementation, and evaluation of the program. In order to evaluate the effectiveness of the program, I plan to rely on the feedback of teachers when they are trained. The daily feedback sheet will also be utilized to check the effectiveness of the sessions and lastly, a survey will be conducted for students once these teachers start teaching them. Students will be asked about the performance of the teachers and how satisfied they are being in the classes of teachers who are trained. I shall also compare that survey to the survey I conducted before planning this project and 14 students participated in it.

Learners' Analysis

As designers we need to understand the relevant characteristics of our learners and how those characteristics provide either opportunities or constraints on our design (Morrison et al., 2010). The general characteristics of learners involved in this project are age, gender, number, and education. This project is designed to facilitate CTIs (age ranging from 25 to 33) and fresh graduates/interns (age ranging from 23 to 28). The training program will be for all the new CTIs and Graduates/Interns from both male and female colleges of Gujranwala (There are 3 big colleges in Gujranwala where the BS Honors program is running successfully). The total number of these teachers can range from 12 to 15. There are two female colleges and one male college where we have a BS program so more than 8 participants are expected to be females and others

will be males. There will be 4 teachers from our college (2 CTIs and 2 Graduates/Interns). This plan does not include the Visiting Professors as they are always the permanent staff members in other colleges and are already trained. There can be some female teachers with their kids. The facility of a Day Care Centre will be provided to them. There can also be participants with some disabilities. The medium of instruction will be Urdu as it is the national language of Pakistan. This language is abundantly used for easy flow of communication.

All the participants will be master's, and some can be M.Phils. and Phds in different subjects of IT. The two honorary staff members that we have already hired are M.Phils. and have recently completed their degrees. Both of them belong to Gujranwala and one of them completed her BS Honors degree from our college. They have some experience of working at schools and one of them has worked with a multinational company as an intern. When the BS coordinator talked to them about this project and their participation, they showed their consent, and they were eager to be a part of it. Once I get data about other participants, I shall add it in the learners' profile. My own past experience of working with the honorary teaching staff in the administration tells me that they have great potential to face new challenges and if they get proper guidance and training, they can perform better in their classes. Specific entry characteristics of learners like skills, attitudes, or aptitudes and learners' style will be analyzed once the program starts.

Design Implications

The design has not been implemented yet, but it is important to keep in mind the possible implications of it. I think that the design may seem simple to implement but once it's in practice, there can be several problems. The participants' efficiency is very important to make this plan

successful. Although they are mature people and expectations from them are high, their attitude and levels of motivation can vary. It will be a huge task to maintain their interest in the sessions. If there is a participant with any kind of disability, it will be our responsibility to facilitate them accordingly. I remember from my own training that three teachers were disabled. One was blind and the other two could not walk. They were on wheelchairs. They used to bring their family members with them to lift them up and climb the stairs before reaching the hall where the training was conducted. They remained bound for all day with them. For our blind teacher, there was no material to hand her over in braille and she complained often about not understanding many things.

I think we will need more attendants to facilitate people with any disability. Especially, if there is a blind person, we should plan to provide them with the training material in braille. This is nearly impossible to do, so all we can do is to hand over the recordings of the sessions to them so that they may listen to them whenever they get time. Some people may have hearing or problems like low eyesight, or some may be facing psychological issues. So, policies should be made to make this training accessible to all. Thirdly, as I mentioned earlier that electricity shortage is a major problem in Pakistan, but I am quite sure that we can have a backup plan to deal with this problem. Lastly, some female teachers can come with their children so we will have to accommodate them in the Day Care Centre of our college.

Time management and selection of relevant material to teach can be another challenge. The purpose of this training is to acquaint the participants with sufficient knowledge. So, it will be required from the trainers to include all the material in the sessions that teachers must learn in order to be the best providers. It will depend on the trainers how well they plan their lessons and

how they can convey the necessary information to the participants keeping in view the time limit and days decided for training.

Findings

“The findings reveal that the challenges related to policy and planning are poor induction of teachers, lack of resources in teacher training institutions, demotivation among teachers, and unequal distribution of skilled and productive teachers, dual training system and infrequent training” (Siddiqui et al., 2021). There are numerous challenges that the Pakistani Education system is facing. The problem of untrained and inexperienced staff members is one of them. Being an Assistant Professor and an administrative member of a renowned college, I have myself closely observed the ground realities.

Through my personal experience and interactions with a number of colleagues both seniors and juniors, I have come to the conclusion that teachers need to be trained before they join their service. It does not matter what subject or at what level they are going to teach, what matters is the production of effective results and the satisfaction of stakeholders. In order to achieve that target, teacher training is one of the solutions.

Ineffective teaching has resulted in the increase of dropped students or leaving the college. About the loopholes in the administrative system, Rashid & Mukhtar (2012) stated, “teachers’ absenteeism, poor professional training, sub-standard materials and obsolete teaching methods act as the major contributing factors towards the low enrolment in schools. After having multiple conversations with the SME and the coordinator of the BS program, I have realized that our new hires are talented and have potential to do more. Their talents are not well utilized, and their capabilities remain unexplored because of the extra burden they carry in the form of different challenges from the course content, students and their massive number, administration,

deadlines, lots of exams, professional conflicts, and extra classes. If we implement this training program, we can help them manage their time, understand their duties as teachers, plan their lessons, prepare themselves for upcoming challenges, maintain discipline in the classrooms, and complete their courses in time.

Funding is one of the major problems in our college. If we fail to generate funds for this project, there will be no implementation. The conversation with the Bursar In-charger gives me hope and she ensured to update me further in this regard.

It is crucially important to keep in view both the learning context and the performance context to achieve the desired goals. As far as the learning context is concerned, I have come to the conclusion that we can have a well-supplied training venue where trainers or trainees will be facilitated with all the required technological instruments, furniture, stationery, access to WIFI, uninterrupted power supply and all that is required to conduct a training program smoothly. As far as the performance context is concerned, it depends on the trainers. We are not sure how effective their strategies, planning, methodology, and execution will be. Other than that, we don't know how successful they will be to motivate the learners and engage them in their training sessions. Their availability can be another area to consider. If they are unable to come even for a single day, there will be a huge loss of the learners. Therefore, we will have to plan our program in such a way that if a trainer does not come due to any reason, a substitute trainer must be available at that time. Supervisors and administration have a major responsibility in this regard. They will have to supervise the entire program keeping in view all the limitations and challenges in view. If they fail to provide better services to trainers or learners, this program cannot achieve its desired results. Lastly, the most important responsibility falls on the shoulders of the learners.

If they don't attend this program with interest, motivation, attentiveness and enthusiasm, there will be no use of conducting such an expensive program.

Conclusion

“The Education sector in Pakistan suffers from insufficient financial input, low levels of efficiency for implementation of programs, and poor quality of management, monitoring, supervision and teaching” (Memon, 2007). The problem that exists in our college in the form of untrained teachers is a massive problem. The poor quality of teaching, insufficient funding, and ineffective policy making have been experienced at our college also for many years. We have felt this need time and again that the department of Information Technology has suffered the most in this regard. As far as the other subjects are concerned, we have sufficient staff members who are permanent and were appointed after proper training programs. Here in IT, we have only two trained permanent staff members who cannot bear all the burden alone. They have to rely on the Honorary staff members or the CTIs. Unfortunately, teachers are never trained since the BS system started at our college. We have a massive number of students in all disciplines. As far as other disciplines are concerned, they do not face such troubles as the IT department does. The only solution we can foresee or find out is to conduct an efficient training program for our new hires so that they may not feel confused or discouraged in their classrooms. Through this program, they will have proper directions, their time management and lesson planning skills will develop, and they will be able to have discipline in their classrooms. Also, students will perform well in the classrooms if they are satisfied with their teachers' performance and the reputation of the college will also increase. “It is evident that without teachers' transformation we cannot transform the education system for improving the quality of education” (Memon, 2007).

Task Analysis

This project aims to design a teacher training session for the new hires (who are untrained and inexperienced) regarding classroom management. For this purpose, three areas will be brought into light. They are effective lesson planning, development of motivational skills and problem-solving skills. The steps or tasks involved will be analyzed in this part of the project. A task analysis breaks difficult tasks into a series of smaller steps or actions. Morrison et al. (2010) refer to task analysis as the collection of procedures for defining the content of an instructional unit. Through task analysis, the target skill will be identified, prerequisites and material to train will be discussed, skills to train will be determined and will be broken into components, tasks will be analyzed, intervention will be implemented, and progress of the learners will be monitored through various assessment methods.

Information Processing Analysis with the SME

After a couple of meetings with the SME, this design will focus on information processing analysis. "Conducting an information-processing analysis is the first step in 'decomposing' or breaking down a goal into its constituent parts, identifying what the students need to learn to attain the goal (Smith & Ragan, 1999, p. 69). Through this analysis, learners will be able to complete various tasks successfully. My SME helped me a lot in analyzing the tasks. She is an Assistant Professor and has an experience of more than 20 years. We decided to apply Gagne's five domains to teach motivational skills, problem solving skills and lesson planning skills for better learning outcomes. These domains are verbal information/declarative knowledge, intellectual skills, cognitive strategies, attitudes, and psychomotor skills. Out of these five, intellectual skills, cognitive skills, and affective domain (attitudes) will stay dominant especially

for the development of motivational and problem-solving skills. We also thought of using Bloom's Taxonomy to meet the goals and objectives of this design.

Goals/Objectives

“Global instructional goals must be made more specific before systematic instruction can be designed to attain them” (Gagne et al., 1916). Goals of an instructional design are the outcomes that an instructional designer wants to achieve whereas objectives are the actions and assessable stages to reach a goal. “Once objectives are stated in performance terms, the curriculum can be analyzed in terms of sequence and completeness and the requirements of prerequisite skills” (Gagne et al., 1916). This project is an attempt to train new hires about the importance of classroom management by adopting suitable lesson planning skills, and motivational and problem-solving skills. To gain a proper direction and stay focused, the goals and objectives of this instructional design are as under.

Goal:

Enabling teachers to develop classroom management skills

Objectives 1

Teachers will be able to

1. understand different components in a lesson plan
2. make action-oriented lesson plans
3. execute the lesson plans effectively in classrooms

Objectives 2

Teachers will be able to

1. understand the importance of motivating students
2. make effective strategies to motivate students

3. apply their motivational skills in the classroom

Objectives 3

Teachers will be able to

1. understand the importance of problem-solving skills
2. plan their own problem-solving techniques
3. implement problem-solving skills in the classroom

Prerequisites

After talking to the SME, the following prerequisites should be kept in view to achieve the desired outcomes.

1. The consistency and commitment of the trainers, participants, and the supervisors is required.
2. Background knowledge of class management skills is required from all the participants.
3. A copy of the training material will be given to the SME in case a trainer fails to come or anything unexpected happens to him/her, the SME will take care of the session that day.
4. Time management will be of central importance and trainers will include all the important material in their lectures. For this, they will have to plan their lessons well.
5. Sufficient funds will be managed to arrange the training session and to pay the resource persons.
6. Non-stop power supply and availability of Wi-Fi will be ensured to run the training session without any interruption.
7. It will be made sure that the decided venue (IT lab in BS Block) is not occupied for classes on training days. (The training will be conducted after college hours).

8. The lab will be fully equipped with working computers, instruments, tools, sufficient lights, stationery, furniture, and other technological devices.
9. The management will make sure that participants don't get disturbed by any external noise during the sessions.
10. There can be participants with any disability like blindness, hearing problems, low eyesight, and some may have some psychological issues. They will be taken care of accordingly. For this, attendants will be vigilant.
11. There will be several teachers who must bring their children with them so their children will be taken care of in the Day Care Centre.
12. Water supply, tea and lunch breaks will be arranged by the management.

Task Analysis

Task Analysis for classroom management

“Lesson planning allows teachers to explore multiple aspects of pedagogical content knowledge. In developing lesson plans, teachers have opportunities to think deeply about the subject matter, including the way the subject matter is represented textbooks or in such aspects of the curriculum as standards and benchmarks” (Shen et al., 2007)

1. Teachers will identify the learning objectives. For example
 - Students will be able to analyze and interpret quantitative psychological data using statistics, graphs, and data tables.
 - Students will be able to solve problems using the object-oriented paradigm.
2. Teachers will plan specific learning activities. For example
 - Code.org offers three Minecraft activities that can be used to teach the principles of coding. These three modules include Minecraft Designer, Minecraft Adventurer, and

Hero's Journey. Each activity consists of several challenges that get students using block coding to program their Minecraft characters.

- Robot, make me a Sandwich is another interesting activity to make students understand the steps in coding. As they create a set of directions to guide a volunteer "robot" in making a sandwich, they quickly see how important it is to think through all the steps, be very specific, and not leave anything out.
3. Teachers will make effective strategies to assess students' understanding. For example
 - Live coding sessions
 - Open programming questionnaires
 4. Teachers will be able to sequence the lesson in an engaging and meaningful manner. For example
 - A process flow chart could define general phases such as project preparation, project execution, and project completion, which is then used as the basis for concretizing the project flow chart.
 - Teachers will create a realistic timeline. They will estimate how much time each of the activities will take, then plan some extra time for each. While preparing their lesson, next to each activity, they will indicate how much time they expect it will take.
 5. Teachers will plan for a lesson closure including a review sheet, feedback, and checklists etc.

Task Analysis for Motivational Skills

Motivation is the driving force to encourage the learner to learn, while strategy being the techniques or devices for a learner to use for gaining knowledge (Feng & Chen, 2009).

1. Teachers will define the objectives clearly. It can be a frustrating moment for students to complete a task or even to behave in class if the objectives are not clearly defined.

Teachers will keep in view the wants and needs of students to motivate them. They will lay out clear objectives, rules, regulations, and expectations to avoid any confusion.

2. Teachers will break down the task into its components.

- Teachers will look at the big picture.
- Teachers will examine the parts of the task.
- Teachers will present a logical order of completing the pieces.
- Teachers will create a timeline for students to complete a task.
- Teachers will plan to help students stay on track (encouragement, appreciation, incentives).
- These steps can motivate students to follow a direction.

3. Teachers will determine the level of the students. For this

- Teachers will create assignments.
- Teachers will create exams.
- Teachers will use classroom assessment techniques (Think pair-share, Memory Matrix, concept mapping etc.)
- Teachers will engage students in group works and will observe them.
- Teachers will create and use rubrics.

4. Teachers will structure the environment. For this

- Teachers will establish a supportive learning environment based on equity literacy and connectedness.
- Teachers will address students' needs.

- Teachers will make students establish control (Practice of self-regulation and Self Determination Theory can help in this regard)
 - Teachers will introduce creativity and variety in the activities in class. (Both plugged and unplugged activities can be utilized here)
5. Teachers will establish motivation with rewards (Positive reinforcement, incentives, external motivation in general and internal motivation in particular)
 6. Teachers will teach students one task at a time.
 7. Teachers will use prompts and feedback to shape behavior.
 8. Teachers will evaluate and record the progress of students

Task Analysis for Problem-solving Skills

“The goals of PBL include helping students develop 1) flexible knowledge, 2) effective problem-solving skills, 3) SDL skills, 4) effective collaboration skills, and 5) intrinsic motivation” (Hamel-Silver, 2004).

1. Teachers will identify and define the problem as clearly as possible. For example, in programming there can be four common problems. They are decision problems, search problems, counting problems, and optimization problems. Teachers will define a problem clearly. (Teachers can use PowerPoint slides, audio-visual aids or any other medium for this step).
2. Teachers will generate possible solutions. For example, if an optimization problem occurs, LINGO or other software can be used (pair or group activities can be problem solving in this kind of situation).
3. Teachers will evaluate alternatives. If the problem persists, the teacher will think of other means to solve that problem. Here teachers can engage students in different

brainstorming activities to find alternative means by giving students autonomy.

Teamwork is quite suitable here. For example, if LINGO does not solve a particular optimization problem, both teachers and students will go through the alternative steps or will consult other teachers or experts in this regard. Different authentic websites can also be utilized to find a possible solution.

4. Teachers will decide on a solution. After the consensus of the majority of students on a solution, a teacher can decide on that solution. It's not that the teacher agrees or disagrees with students, or he/she will decide on a solution keeping in view the opinion of the majority. Rather, the teacher will value each student's opinion and will give his/her own suggestions. The examples to solve different computer programming problems are as under.

- Algorithm (Solution Design)
- The flow chart or block diagram
- Coding
- Program debugging
- Running

5. Now teachers will implement the solution. For this purpose, the teachers will

- identify the actions required
- schedule the actions
- identify the resources required
- put measures in place to counter adverse consequences.
- identify management of the action.
- review the plan.

6. Teachers will evaluate the outcome. For example, in Networking class, teachers can ask simple questions about the type, size, stage of development, and purpose of networking to evaluate students' performance. They can ask questions about open, closed, or web-based networks. It just depends on the topic they are teaching. The methods of evaluation can and will also be other than asking questions. These evaluations can be goal-based, process-based, and outcome-based.

Assessment Methods

After a thoughtful discussion with the SME, we decided that teachers will be assessed on the knowledge and skills that they learned via this training. A set of 20 post training questions will be asked to see how well the teachers understood the concepts and how much they are able to do within their experiences and outcomes [Appendix G](#). Their progress and achievements will be assessed through these questions. A survey will be conducted to get the feedback of teachers about the training [Appendix H](#). This survey will consist of 20 questions. Last but not the least, a checklist [Appendix I](#) will be provided to teachers which they can use to assess their own performance after each class they take. Using this checklist, they will be able to see their progress in making effective lesson plans for better classroom management.

Instructional Plan

This instructional plan aims to design a teacher training session for the new hires (who are untrained and inexperienced) regarding classroom management. For this purpose, three areas will be brought into light. They are effective lesson planning, development of motivational skills and problem-solving skills. In the previous parts, I presented needs, context, and learners' analyses that helped me identify the problems of the learners and gave me different ideas to solve

those problems through an effective instructional plan. Keeping in view the context, needs and learners' analysis, I moved to task analysis that assisted me in breaking down the difficult tasks into a series of small steps or actions. Morrison et al. (2010) refer to task analysis as the collection of procedures for defining the content of an instructional unit. I set up these tasks after identifying certain goals and objectives. The next part of this instructional plan is goals and objectives.

Sequencing in Instruction

Sequencing is the efficient ordering of content in such a way as to help the learner achieve the objectives (Morrison et al., 2010). After setting the objectives in task analysis with the help of SME, I felt the need to arrange the instructional plan in a sequence. Task analysis provided me with a direction about how to present the content of the instructions. Morrison et al. (2010) describe the importance of sequencing keeping in view the objectives. According to them, for the task of changing a tire, the sequence is developed through a proper procedure and for other topics like writing a research paper, the sequence will be less obvious. Different instructors will adopt different approaches to write a research paper. One may start with how to read a research paper and another may start with teaching how to use the library. There are several general methods to arrange a content in sequence. One well-known method is the prerequisite method (Gagne, 1985), which is based on a learning hierarchy that identifies skills that are dependent on other skills. Prerequisite skills are taught first (e.g., how to sort checks before making them as cleared). A second approach described by Posner and Strike (1976), is a set of strategies for sequencing the instruction based on learning-related, world-related, and concept-related content.

Keeping in view the objectives of this instructional plan, I talked to the SME about selecting a suitable sequencing method so that we can facilitate both the instructors and the learners. Our aim is to develop the classroom management skills of newly hired teachers. Our past experiences suggest that lack of training sessions was the cause of teachers' problems. Through this instructional plan, we shall be working on three modules that will be helpful in developing the motivational and problem-solving skills of teachers. We thought of developing these modules based on the needs and learner analysis. With the help of the SME, I decided to follow a sequencing pattern that can best suit this instructional plan. We assume that sequencing will be a helpful tool to develop the skills of learners for better classroom management. There are several sequencing methods (Morrison et al. and Gagne's books can be consulted in this regard) that can be adopted to plan this instruction, but we thought of choosing learning-related sequencing as we considered it suitable for this instructional plan.

Learning-related Sequencing

The learning-related sequencing suggests the ways of sequencing the content based on learner characteristics identified in the learner analysis (Morrison et al., 2010). Learning related sequencing is divided into five main steps. First, there are identifiable prerequisites a learner must master before demonstrating a more complex task. Second, the instructor should teach about the familiar or known before teaching about the unknown. Third learning related scheme is difficulty. Fourth is the sequencing of content based on interest. Fifth, the content is sequenced according to a development theory (Morrison et al., 2010).

Rationale

Sequencing is helpful to follow a routine in instruction. Through sequencing, an instructor can conduct different activities and make learners execute their skills for various

learning tasks. Keeping in view the current project, I have selected a learning-related sequencing method. I chose this sequence because of the five steps it contains. For the first step, prerequisites should be determined. We identified several prerequisites like the efficiency and motivation of learners is required to complete the desired tasks. Second, the existing knowledge about the task should be tested by the instructors. For example, learners can be asked about what they already know of the organization of a lesson plan. Third, the difficulty level of the learners will be focused. For example, the learner analysis of this project suggests that teachers face difficulty in completing a task according to the limitation of time. Strategies will be introduced to conduct such activities regarding various topics that can be completed according to the time limitation decided in the lesson plan. This stage involves the cognitive development of the learners. They will use their cognitive abilities to achieve their goals. Fourth, the content of the lesson should be sequenced based on the interest of the learners. For this purpose, such activities should be introduced that learners find more interesting and are more eager to perform. In this way, they will feel motivated to perform well. Fifth step is to incorporate a developmental theory in the instruction. Piaget's cognitive development theory and Kohlberg's moral development theory can be extremely helpful to make an instructional plan successful. Through these theories, the learners will be morally encouraged, and they will be using their cognitive abilities effectively. Keeping in view all the five steps of learning-related sequencing, we preferred using it in this instructional plan.

Sequencing of Modules

Module 1: Development of Lesson Planning Skills

Total Time: 1 hour and 35 minutes

Steps	Time
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1. Teachers will identify the learning objectives	10 minutes
2. Teachers will plan learning activities	25 minutes
3. Teachers will make strategies to assess students' understanding	25 minutes
4. Teachers will sequence the lesson in a meaningful manner	20 minutes
5. Teachers will create a realistic timeline	10 minutes
6. Teachers will close the plan	5 minutes

Module 2: Development of Motivational Skills

Total Time: 1 hour and 35 minutes

Steps	Time
1. Teachers will identify the objectives	5 minutes
2. Teachers will break down the tasks into components	15 minutes

3. Teachers will determine the level of students	20 minutes
4. Teachers will structure the environment	10 minutes
5. Teachers will use rewards for motivation and encouragement	10 minutes
6. Teachers will plan one task at one time	10 minutes
7. Teachers use prompts and feedback to shape behaviors	10 minutes
8. Teachers will evaluate and record the progress of students	15 minutes

Module 3: Development of Problem-solving Skills

Total Time: 1 hour and 35 minutes

Steps	Time
1. Teachers will identify and define the problem	10 minutes

2. Teachers will generate possible solutions	20 minutes
3. Teachers will plan alternatives to solve the problem	20 minutes
4. Teachers will decide on a solution	20 minutes
5. Teachers will implement the solution	15 minutes
6. Teachers will evaluate the outcome	10 minutes

Rationale for Modules

I have designed all three modules for the teachers in a way that they may start from a simple task and then they can move towards the complex one. In all three modules learning-related sequencing will be applied as the new hires do not have the knowledge of implementing lesson planning skills, motivational skills, and problem-solving skills. This sequencing method will improve their learning and they will be able to utilize their cognitive and moral abilities for effective classroom management.

Conclusion

After knowing the needs of the learners, and analyzing the tasks, it was very important to plan every step in a sequence. Learning-related sequencing is adopted for the organization and

makes this instructional plan worthwhile. For the next part of the plan, one module will be selected, and specific steps/stages will be designed in detail.

Specific Instructional Plan

This part of the project will focus on designing one of the modules from part 4. I have chosen Module 3 to plan instruction according to the needs, learners, context, and task analysis. For better delivery and outcome of the instructional plan, I shall be using Merrill's First principles to follow a strategic pattern in making this instruction effective.

First Principles of Merrill

The main steps of Merrill's first principles are as under

1. Prior knowledge of the learners is activated.
2. New knowledge is demonstrated to the learners.
3. Learners apply the newly gained knowledge.
4. Learners integrate that knowledge into their surroundings
5. Learners learn more when they are engaged in a problem centered strategy to progress in real life scenario

Module 3: Development of Problem-solving Skills

Total Time: 2 Hours

Objective 1: Teachers will identify and define a problem
Time: 20 minutes

Delivery Strategies (macro and micro): For the chosen module (development of problem-solving skills), the instructor will start with checking the background knowledge of the new hires. He/she will engage the learners in introductory session to classify the search types and identify a search problem. For example, in programming there can be four common problems. They are decision problems, search problems, counting problems, and optimization problems. This design will focus on the search problems as a sample. Before moving to the identification of a search problem, a discussion will be held about the kinds of search in programming and problems can be related to any of these kinds. For this purpose, teachers must identify whether it's a linear search, binary search, jump search, interpolation search, exponential search, Sublist search, Fibonacci search, Ubiquitous binary search, unbounded binary search, or any other search type. Through interactive instruction, the instructor will develop the discussion and elaborate the steps involved in the identification of a search problem. Instructor will emphasize the importance of identifying a problem. As an example, he/she will use PowerPoint slides to show how a search problem in programming can be identified through a set of states, start state, or goal state. Q/A session will take place at the end.

Organizational (macro) and Management Strategies (macro and micro): As far as the organizational strategies are concerned, teachers will define the problem at the first step. Second, they will visualize the problem. Third, they will draw it on the paper the way they prefer (It can be in the form of graphs, shapes, algorithms or symbols). Fourth, they will break the problem into smaller parts keeping in view the preference of which part to focus on first. Fifth, they will collect and organize information about the problem. Sixth, the instructor will emphasize the value of identifying a problem. Lastly, the instructor will hold a Q/A session for teachers at the end. For management strategies, the instructor will develop friendly behavior with the teachers. He/she will appreciate the initiatives and will avoid disagreements. The instructor will use Urdu as a medium of instruction and sometimes he/she can use non-verbal communication skills while training. The instructor will make sure that his voice is audible to all the learners and that the slides he is showing are clearly visible to all. Last but not the least, the instructor will make sure that time limitation for this step is kept in view.

Instructional Material and learning activities: The instructor will use multimedia for his/her PowerPoint slides. All teachers will have their own computer to work on. White board and markers will be used when needed during the instruction. Lead pencils, erasers, sharpeners, and note pads will be provided for sketching the problem and taking notes. For the learning activity, the learners will be involved in interactive discussions with the instructor. They will also learn through the Q/A session at the end.

Instructional Strategy (micro level): Following the First principles of Merrill, the instructor will activate the learners by checking their background knowledge and will demonstrate how a search problem can be identified. Learners will be engaged in a Q/A session at the end.

Rationale and Theoretical Support: We plan to use First principles of Merrill to design this instruction because we felt that all five principles will be helpful in organizing the instructions and to improve the learning of the new hires. First step of this module involves Activation and Demonstration from the First principles of Merrill. Through activation, the prior knowledge of learners will be activated, and they will be encouraged to take part in a productive discussion about the topic. “Instruction should activate relevant cognitive structures in learners by having them recall, describe, or demonstrate relevant prior knowledge or experience. Instruction should have learners share previous experiences with each other. Instruction should have learners recall or acquire a structure for organizing new knowledge (Merrill, 2009). As this design is not for students, it is for teachers so the instructors will not need to explain a topic. The requirement here is to explain the ways through which a topic or instruction can be made effective, engaging, and meaningful. That is why interactive discussion is preferred in which learners will be given complete autonomy to participate. The instructor will demonstrate the multiple ways in which a search problem can be identified and defined. In this way, learners will be able to learn new knowledge along with recalling their prior knowledge about the topic. According to Merrill (2009), the demonstration principles are as under.

- Instruction should provide a demonstration of the skill consistent with the type of component skill: kinds-of, how-to, and what-happens.
- Instruction should provide guidance that relates the demonstration to generalities.

- Instruction should engage learners in peer discussion and peer demonstration.
- Instruction should allow learners to observe the demonstration through media that are appropriate to the content.

The major benefit of using multimedia techniques in learning is that it activates the brain's ability to make connections between verbal and visual representations. This will increase a deeper understanding of the learners and they will be able to transfer their learning to other situations. “Multimedia is multi-sensory that stimulates multiple senses of the audience at a time. Its interactive nature enables teachers to control the content and flow of information” (Shah & Khan, 2015).

When learners ask questions from their instructor or peers and answer his/her or their peers' questions, it will provide the learners a break from passive attention, and they will focus on the instructor's or peers' speaking. It will raise their level of attention and performance, and this will last for a while afterwards. The instructor should keep in mind that questions should be open ended so that he/she may be able to produce desired changes in the learners' behavior. “It is important that teachers' questions should not be viewed as an end in themselves. They are a means to an end—producing desired changes in student behavior” (Gall, 1970).

Objective 2: Teachers will generate possible solutions

Time: 20 minutes

Delivery Strategies (macro and micro): Once it comes to generating solutions, the instructor will ask the teachers to generate solutions for a problem. For example, he/she can present before them a linear search problem and can ask them to think of a solution for this problem. For this step, the instructor will divide the teachers into peers. He/she will stay connected with the teachers during the peer work activity. For this step, the instructor will be an observer and will provide feedback during the activity when needed. At the end, the instructor will present his/her slides and will emphasize the importance of such activities like peer work and group work in generating solutions, sharing ideas and to learn in a better way. The instructor will also throw light on the importance of keeping all students engaged in the activity of solving a problem. This step will end at the Q/A session.

Organizational (macro) and Management Strategies (macro and micro): First organizational step here is that teachers will find the causes of a linear search problem. Second, they will find a solution for that problem. Third, the instructor will highlight the importance of incorporating different activities in generating a solution. Fourth, Q/A session will be held at the end. As far as the management strategies are concerned, the instructor will stay connected with the teachers throughout the peer work by giving them feedback at various steps. The instructor will also make sure that no participant is disengaged and that everyone is participating actively. For this, the instructor will be monitoring them efficiently. To keep the motivation of learners high, the instructor can throw random questions at them. He/she should appreciate the initiatives and avoid disagreements. The instructor will use Urdu as a medium of instruction and sometimes he/she can use non-verbal communication skills while training. The instructor will make sure that his voice is audible to all the learners

and that the slides he is showing are clearly visible to all. Last but not the least, the instructor will make sure that time limitation for this step is kept in view.

Instructional Material and learning activities: Teachers will use the required stationery according to their needs. The instructor will use multimedia to teach this part of the module. For learning activities, the teachers will be engaged in peer work to share their ideas about a linear search problem. They will ask questions once the instructor is done presenting his/her slides. Even during peer work activity, they can engage with the instructor like for the development of a thought regarding the solution of a problem

Instructional Strategy (micro level): The instructor will engage the learners in a brainstorming activity by making them find a solution for the problem. This will also test their cognitive abilities. For this step, the instructor will conduct peer consultation in the learning environment. During the peer work, the instructor will be providing his/her feedback after careful observation of the working style of the learners. The instructor will also demonstrate the value of activities like peer work to solve a problem through his/her multimedia presentation. This step will also end at a Q/A session.

Rationale and Theoretical Support: Brainstorming helps people think more freely, without any fear of getting judged. Brainstorming incites open and continuing partnership to solve problems and generate new ideas. Through brainstorming learners can generate many ideas within less time, which can be polished and combined to create an ideal solution. The use of brainstorming instructions is essential to the production of a large number of good ideas (Rossiter & Lilien, 1994).

Peer work activity is chosen for this step because learners can develop their learning when they get together and share their creative ideas to generate a solution. Through this activity, they can solve a problem in less time and get motivated to engage themselves in an efficient manner. “In general, peer support has been defined by the fact that people who have similar experiences can better relate and can consequently offer more authentic empathy and validation” (Mead & MacNeil, 2006).

The major benefit of using multimedia technique in learning is that it activates the brain's ability to make connections between verbal and visual representations. This will increase a deeper understanding of the learners and they will be able to transfer their learning to other situations. “Multimedia is multi-sensory that stimulates multiple senses of the audience at a time. Its interactive nature enables teachers to control the content and flow of information” (Shah & Khan, 2015).

Feedback of the instructor is the backbone of good instruction, and it supports the learners to grow potentially. Through feedback, the instructor can provide helpful information about prior action or behavior from a learner and communicate with them freely. This will help the learners to use this feedback to adjust and improve their current and future actions or

behaviors. “Feedback is most valuable when students have the opportunity to use it to revise their thinking as they are working on a unit or project” (Bransford et al., 2000)

When learners ask questions from their instructor or peers and answer his/her or their peers’ questions, it will provide the learners a break from passive attention, and they will focus on the instructor’s or peers’ speaking. It will raise their level of attention and performance, and this will last for a while afterwards. The instructor should keep in mind that questions should be open ended so that he/she may be able to produce desired changes in the learners’ behavior. “It is important that teachers' questions should not be viewed as an end in themselves. They are a means to an end—producing desired changes in student behavior” (Gall, 1970).

Objective 3: Teachers will plan alternatives to solve the problem and will decide on a solution

Time: 40 minutes

Delivery Strategies (macro and micro): For this step, the instructor will ask learners who are already in peers to think of alternative solutions for the same problem and decide on a solution. During this activity, the instructor will be performing the same role as he/she did in the previous step. He/ She will be an observer and give feedback when required. At the end, the instructor will ask one member from each peer to write all the solutions on the white board (in points only) and choose the best possible solution according to them. The volunteers will be taking the role of an instructor and will give the reasons why and how they thought of those solutions and will provide a rationale about why they decided on one specific solution. They will justify their selection by proving that the solution that they ultimately decided will be more efficient, less time consuming and long lasting. Through this activity, all teachers can see each other's way of working and can get many new ideas to think of alternatives for a linear search problem and to decide on one effective solution. At the end, an interactive discussion will take place including the Q/A session.

Organizational (macro) and Management Strategies (macro and micro): For choosing the alternatives for a linear search problem, the learners will divide the task into 5 main steps. First, they will postpone evaluating alternatives initially. Second, the instructor will make sure that both the individuals in peers are involved in generating the alternatives. Third, the learners will specify the alternatives (short and long-term alternatives). Fourth, they will brainstorm on each other's ideas. Fifth, they will seek alternatives that may solve the problem. Then they will switch roles from a learner to an instructor and will write their chosen alternatives on the white board. To decide on a solution for a linear search problem, the learners can follow these steps as a general example. First, they will find out the length of the data set. Second, they will set the count to 0. Third, they will examine values held in the list at the counter position. Fourth, they will check to see if the value at the position matches the value searched for and if it matches, the value is found. They will explain how they thought of those alternatives and why they prefer one solution out of those choices so that all teachers can be engaged in a productive discussion. This step will also end in an interactive session. As far as the management strategies are concerned, the instructor will stay connected with the teachers throughout the peer work by giving them feedback at various steps. The instructor will also make sure that no participant is disengaged and that everyone is participating actively. For this, the instructor will be monitoring them efficiently. To keep the motivation of learners high, the instructor can throw random questions at them. He/she should appreciate the initiatives and avoid disagreements. The instructor will use Urdu as a medium of instruction and sometimes he/she can use non-verbal communication

skills while training. Last but not the least, the instructor will make sure that time limitation for this step is kept in view.

Instructional Material and learning activities: Teachers will use stationery according to their needs. White board and markers are also required for this activity. Learners will continue doing the peer work and at the end, they will switch their roles from being the learners to the instructors. They will be engaged in interactive discussion including questions and answers.

Instructional Strategy (micro level): The instructor will engage the learners in a brainstorming activity by making them find alternate solutions for linear search problems. This will also test their cognitive abilities. For this step, the instructor will conduct peer consultation in the learning environment. During the peer work, the instructor will be providing his/her feedback after careful observation of the working style of the learners. Role switching is the later part of the activity. During the entire activity and especially at the end, the instructor will initiate interactive discussions which will include a Q/A session.

Rationale and Theoretical Support: Brainstorming helps people think more freely, without any fear of getting judged. Brainstorming incites open and continuing partnership to solve problems and generate new ideas. Through brainstorming learners can generate many ideas within less time, which can be polished and combined to create an ideal solution. The use of brainstorming instructions is essential to the production of many good ideas (Rossiter & Lilien, 1994).

Peer work activity is chosen for this step because learners can develop their learning when they get together and share their creative ideas to generate a solution. Through this activity, they can solve a problem in less time and get motivated to engage themselves in an efficient manner. “In general, peer support has been defined by the fact that people who have similar experiences can better relate and can consequently offer more authentic empathy and validation” (Mead & MacNeil, 2006).

Feedback of the instructor is the backbone of good instruction, and it supports the learners to grow potentially. Through feedback, the instructor can provide helpful information about prior action or behavior from a learner and communicate with them freely. This will help the learners to use this feedback to adjust and improve their current and future actions or behaviors. “Feedback is most valuable when students have the opportunity to use it to revise their thinking as they are working on a unit or project” (Bransford et al., 2000)

Role playing is a beneficial strategy in a classroom environment. It will motivate and engage the learners. Teaching strategies will be enhanced through role playing. Through this strategy, the instructor can provide real-world scenarios to help students learn. Learners will use their skills like negotiation, debate, teamwork, cooperation, and persuasion in real-world situations. They will also get an opportunity to observe their peers critically. Both the

instructor and the teachers will receive immediate feedback regarding the content. Lastly, teachers will engage in higher order thinking and will learn the content in a deeper way.

“Basically, role playing calls for a student's stepping outside the accustomed role that he plays in life, relinquishing his usual patterns of behavior in exchange for the role and patterns of another person” (Chesler & Fox, 1966).

When learners ask questions from their instructor or peers and answer his/her or their peers' questions, it will provide the learners a break from passive attention, and they will focus on the instructor's or peers' speaking. It will raise their level of attention and performance, and this will last for a while afterwards. The instructor should keep in mind that questions should be open ended so that he/she may be able to produce desired changes in the learners' behavior. “It is important that teachers' questions should not be viewed as an end in themselves. They are a means to an end—producing desired changes in student behavior” (Gall, 1970).

Objective 4: Teachers will implement the solution

Time: 20 minutes

Delivery Strategies (macro and micro): The instructor will demonstrate a general way of implementing a linear search on white board (The SME told me that teachers are already familiar with this method. The instruction will be given to initiate the group activity so that teachers may have an exposure to implement a solution by sharing each other's ideas that they got in the previous activity). Generally, steps of this implementation are as under.

1. Begin with the leftmost element of arr [] and one by one compare x with each element.
2. If x matches with an element, then return the index.
3. If x does not match with any of the elements, then return -1.

After this demonstration, he/she will divide the learners in groups (maximum 4 members, if learners are in odd numbers, then one group may contain one extra member) and will ask them to apply the solution that they chose in the previous activity. It will depend on the teachers in a group to decide which solution they prefer from the peer activity.

Organizational (macro) and Management Strategies (macro and micro): For group work, the teachers will plan and prepare to implement the solution. They will implement and monitor the action. Lastly, they will review and analyze the progress of the action. As far as the management strategies are concerned, the instructor will plan the group activity and will stay connected with the teachers throughout the group work by giving them feedback at various steps. The instructor will also make sure that no participant is disengaged and that everyone is participating actively. For this, the instructor will be monitoring them efficiently. To keep the motivation of learners high, the instructor can throw random questions at them. He/she should appreciate the initiatives and avoid disagreements. The instructor will use Urdu as a medium of instruction and sometimes he/she can use non-verbal communication skills while training. The instructor will make sure that his voice is audible to all the learners and that his writing on the white board is clearly visible to all. Last but not the least, the instructor will make sure that time limitation for this step is kept in view.

Instructional Material and learning activities: White board and markers are required for this activity. Teachers will use stationery according to their needs. Learners will be engaged in group work activity for this step.

Instructional Strategy (micro level): This is the application stage of problem-solving skills. For this step, the instructor will demonstrate the general steps in applying a linear search and will conduct group consultation in the learning environment. During the group work, the instructor will be providing his/her feedback after careful observation of the working style of the learners.

Rationale and Theoretical Support: As described above, this design is to teach the problem-solving skills to teachers so for this step, the general steps of implementing linear search will be demonstrated as an example to start the application process in a group.

According to Merrill (2009), the demonstration principles are as under.

- Instruction should provide a demonstration of the skill consistent with the type of component skill: kinds-of, how-to, and what-happens.
- Instruction should provide guidance that relates the demonstration to generalities.
- Instruction should engage learners in peer discussion and peer demonstration.
- Instruction should allow learners to observe the demonstration through media that are appropriate to the content.

As this step is one of the important steps of Merrill's principles that is application so it will be kept in view by the learners. According to Merrill (2009), the application of learning includes these steps:

1. Instruction should have the learner apply learning consistent with the type of component skill: kinds-of, how-to, and what-happens.
2. Instruction should provide intrinsic or corrective feedback.

3. Instruction should provide coaching, which should be gradually withdrawn to enhance application.
4. Instruction should engage learners in peer collaboration.

Group work will work as an effective way to apply what the teachers have learnt. They will be encouraged for active learning and through group discussion, their critical thinking, communication, and decision-making skills will improve. For this purpose, careful planning and facilitation from the instructor will be required. His/ Her feedback and efficient observation can make this activity worthwhile. “Explicitly structuring positive goal interdependence in groups and ensuring that students are trained in the social skills required to promote group interaction appears to be critical for successful cooperative learning” (Gillies, 2003).

Feedback of the instructor is the backbone of good instruction, and it supports the learners to grow potentially. Through feedback, the instructor can provide helpful information about prior action or behavior from a learner and communicate with them freely. This will help the learners to use this feedback to adjust and improve their current and future actions or behaviors. “Feedback is most valuable when students have the opportunity to use it to revise their thinking as they are working on a unit or project” (Bransford et al., 2000)

Objective 5: Teachers will evaluate the outcome and will integrate what they learned to their surroundings

Time: 20 minutes

Delivery Strategies (macro and micro): For the last step, the instructor will explain the importance of evaluating the outcome of the solutions that the learners decided to implement. Then he/she will explain how to integrate one's learning to their surroundings or real-life situations. He/she will give an example of evaluating the outcome (For example, the instructor can talk about the general way of evaluating linear search which is divided in two steps. First, the learners can recall and second is precision. To recall, the learners can measure the ability of a search engine to find the relevant material in the index and for precision, they can measure its ability to place that relevant material high in the ranking) and how they can relate the solutions to their practical lives (As a common example, the instructor can ask the learners to pick up a phonebook and open it to the first page of the names). The instructor will sum up the session with summarizing all problem-solving steps and at last taking the questions. For this activity again, he/ she will use multimedia.

Organizational (macro) and Management Strategies (macro and micro): For the last step of this module, the learners will first evaluate the ideal solution they chose. Second, they will evaluate the unviable solutions and will avoid them. They will evaluate the solutions to get the desired results. Third, they will assess the risks associated with the chosen solutions. Fourth, they will move towards the ultimate decision. Fifth, they will integrate their learning to their surroundings. Lastly, they will summarize all the problem-solving steps they learned through this session and will be engaged in a question answer session at the end. As far as the management strategies are concerned, the instructor will stay connected with the teachers throughout the group work by giving them feedback at various steps. The instructor will also make sure that no participant is disengaged and that everyone is participating actively. For this, the instructor will be monitoring them efficiently. To keep the motivation of learners high, the instructor can throw random questions at them. He/she should appreciate the initiatives and avoid disagreements. The instructor will use Urdu as a medium of instruction and sometimes he/she can use non-verbal communication skills while training. The instructor will make sure that his voice is audible to all the learners and that the slides he is showing are clearly visible to all. Last but not the least, the instructor will make sure that time limitation for this step is kept in view.

Instructional Material and learning activities: Multimedia and stationery are required for this activity. The learners will continue working in groups and they will integrate their learning into their surroundings.

Instructional Strategy (micro level): Integration is the last instructional strategy of this session. The learners will relate their learning to their surrounding environment and practical situations. Q/A is the last step.

Rationale and Theoretical Support: The integration method will help teachers get a united view of reality and will improve their competence to attain real-life skills. They will become able to link the learning content between and among the subject areas. According to Merrill, (2009) the integration principle

1. should integrate new knowledge into learners' cognitive structures by having them reflect on, discuss, or defend new knowledge or skills.
2. should engage learners in peer critique.
3. should have learners create, invent, or explore personal ways to use their new knowledge or skill.
4. should have learners publicly demonstrate their new knowledge or skill.

The major benefit of using multimedia techniques in learning is that it activates the brain's ability to make connections between verbal and visual representations. This will increase a deeper understanding of the learners and they will be able to transfer their learning to other situations. “Multimedia is multi-sensory that stimulates multiple senses of the audience at a time. Its interactive nature enables teachers to control the content and flow of information” (Shah & Khan, 2015).

Group work will work as an effective way to apply what the teachers have learnt. They will be encouraged for active learning and through group discussion, their critical thinking, communication, and decision-making skills will improve. For this purpose, careful planning and facilitation from the instructor will be required. His/ Her feedback and efficient

observation can make this activity worthwhile. “Explicitly structuring positive goal interdependence in groups and ensuring that students are trained in the social skills required to promote group interaction appears to be critical for successful cooperative learning” (Gillies, 2003).

Feedback of the instructor is the backbone of good instruction, and it supports the learners to grow potentially. Through feedback, the instructor can provide helpful information about prior action or behavior from a learner and communicate with them freely. This will help the learners to use this feedback to adjust and improve their current and future actions or behaviors. “Feedback is most valuable when students have the opportunity to use it to revise their thinking as they are working on a unit or project” (Bransford et al., 2000)

When learners ask questions from their instructor or peers and answer his/her or their peers’ questions, it will provide the learners a break from passive attention, and they will focus on the instructor’s or peers’ speaking. It will raise their level of attention and performance, and this will last for a while afterwards. The instructor should keep in mind that questions should be open ended so that he/she may be able to produce desired changes in the learners’ behavior. “It is important that teachers' questions should not be viewed as an end in themselves. They are a means to an end—producing desired changes in student behavior” (Gall, 1970).

Evaluation Plan

“The term *evaluating* refers to the process of using measurement or assessment to make judgements about something. The terms *measuring* and *assessing* are used interchangeably to

denote the systematic collection of data about programs or people” (Morrison et. al., 2010). Evaluation helps in examining both the instructional mechanisms and the outcomes of instruction to conclude whether instruction meets the outcomes or not. To evaluate an instructional design, it should be ensured that instructional goals are aligned with the requirements of the instructional program. Lesson plans, instructional materials, media, and assessments must align with the learning needs. Evaluation helps to know whether the learners have gained the intended knowledge and skills through this design and lastly, will they be able to transfer that learning into different settings when required. This way, the instructional designer can shape a design effectively, and assess what and to what extent the learner is learning. Lastly, this type of instructional design authenticates the learning over time to support the choices made regarding the design as well as how the program holds up over time.

Purpose of Evaluation Plan

The purpose of this evaluation is to assess both the effectiveness of the instructional plan and to know how the learners have developed their knowledge and skills. Both parts of the assessment have crucial importance. Learners are the beneficiaries of this instructional design, and the effectiveness of this design can be assessed if learners are able to acquire the skills and knowledge taught through this design. Thus, this assessment will take place both at a broad level (assessment of the effectiveness of the instructional plan) and the specific level (assessment of skills and knowledge acquired by the learners through this instructional plan). It is very important to keep the goals of an instruction in mind (that are set based on the needs analysis, context analysis and learners’ analysis) to evaluate a plan successfully.

Learning Goals and Objectives

“For all three evaluation approaches, what is evaluated is determined directly by instructional objectives. If one objective, for example, is to teach trainees how to file an accident report correctly, then assessing how well they do this task becomes an essential part of an evaluation, regardless of whether the primary interest is to improve the instruction (formative) or judge its effectiveness after completion (summative) or over time (confirmative)” (Morrison et al, 2010).

The module I chose for instructional designing with the help of the SME is about training the new hires about the problem-solving skills for classroom management. The overarching goal for this specific instructional plan is that teachers will develop their problem-solving skills in the classroom. The objectives of the specific instructional plan are as under. The purpose behind each objective is not to test the syllabus knowledge of the teachers. The goal is to develop their knowledge and skill to solve a problem. Keeping in view the overarching goal, each objective is planned. The objectives are as under.

1. Teachers will identify and define a problem (The learners will classify the search types and identify a search problem. For example, in programming there can be four common problems. They are decision problems, search problems, counting problems, and optimization problems. Teachers will learn the steps to identify and define a problem)
2. Teachers will generate possible solutions (Teachers will learn the importance of peer/group work in generating possible solutions for a problem)
3. Teachers will plan alternatives to solve the problem and will decide on a solution (Through different peer activities like role switching, teachers will generate alternative solutions for a problem. For choosing alternatives for a linear search problem, the

learners will divide the task into 5 main steps. First, they will postpone evaluating alternatives initially. Second, the instructor will make sure that both the individuals in peers are involved in generating the alternatives. Third, the learners will specify the alternatives (short and long-term alternatives). Fourth, they will brainstorm on each other's ideas. Fifth, they will seek alternatives that may solve the problem. Then they will switch roles from a learner to an instructor and will write their chosen alternatives on the white board.)

4. Teachers will implement the solution (Teachers will implement a solution by sharing each other's ideas that they got in the peer work activity. For group work, the teachers will plan and prepare to implement the solution. They will implement and monitor the action. Lastly, they will review and analyze the progress of the action)
5. Teachers will evaluate the outcome and will integrate what they learned to their surroundings (For the last step of this module, the learners will first evaluate the ideal solution they chose. Second, they will evaluate the unviable solutions and will avoid them. They will evaluate the solutions to get the desired results. Third, they will assess the risks associated with the chosen solutions. Fourth, they will move towards the ultimate decision. Fifth, they will integrate their learning to their surroundings. Lastly, they will summarize all the problem-solving steps they learned through this session)

This evaluation plan is designed keeping in view the above goal and objectives.

Evaluation gives a logical method to assess a plan, training, intervention, or inventiveness to understand how well it achieves its goals. Through evaluation the designers can determine what is going on well and which areas can be improved. The current plan will consist of two types of evaluation which are formative and summative. Formative evaluation will be used to assess the

performance of learners regarding their understanding of developing problem-solving skills and summative evaluation will be used to assess the effectiveness of overall instructional plan.

Formative Evaluation

The function of formative evaluation is to inform the instructor or planning team how well the instructional program is serving the objectives as it progresses. Formative evaluation is most valuable when conducted during development and try outs (Morrison et. al, 2010). Some formative evaluations were already developed in the initial phases of this project based on the needs, context, and learners' analyses. Through the survey questions asked from different students of IT, interview questions asked from existing teachers about their problems, meetings with the administrative team members and several interviews with the SME were different forms of formative evaluation. Those evaluations provided a baseline and helped us understand what exactly the problems were, whether the problems had a solution through instructional designing or not and if they required a training intervention, how should it be designed. After the instructional plan is implemented, the attitude and knowledge of the learners regarding problem-solving skills in the classroom will be assessed through a questionnaire consisting of open-ended questions. This questionnaire will be used as an important instrument/tool to evaluate the attitude and progress of the learners. Probably the most common means of assessing attitudes is through questionnaires or surveys (Morrison et. al, 2010). Open-ended questions are used because through them the learners can freely talk about their experience and learning without any limited choices.

Summative Evaluation

Summative evaluation is directed toward measuring the degree to which the major outcomes are attained by the end of the course (Morrison et. al, 2010). Once this instructional

plan is implemented, a post survey will be conducted as an instrument of summative evaluation to assess the effectiveness and utility of this instructional plan. This instructional plan was designed to facilitate newly hired teachers so that they may develop an attitude for problem solving skills to manage their classrooms. The survey questions will be closed-ended. Learners will choose the answers from multiple choices given by the designer. Through the survey, the effectiveness of this instructional plan will be evaluated. Closed-ended questions are chosen because they will save the time of the learners as they are easier and quicker to answer. Learners can answer better when they have several options to choose from. There will be no irrelevant answers and they will help in gaining assessable and calculable data. A few questions will be open-ended

Pilot Teaching Report

Pilot testing evaluates instructional materials with end users in the authentic learning environment before the final execution of the instruction and gives experiential assistance regarding the effectiveness of the anticipated instruction. Thus, following decisions can be made from a cognizant position. The pilot test of a course takes place before the official course implementation. It provides the training experts and the customers a last chance to review the course before its final presentation. Pilot studies are a crucial element of a good study design. Conducting a pilot study does not guarantee success in the main study, but it does increase the likelihood. Pilot studies fulfill a range of important functions and can provide valuable insights for other researchers (Teijlingen et. al, 2001).

This pilot teaching report is about checking the efficacy of the instructional design that we created to train new hires. The pilot teaching opportunity helped me to know about the strengths and weaknesses of the design. I also got an opportunity to observe my audience and

from their reactions and feedback, I got a chance to look at my instructional design from others' perspectives also. The audience's responses made me think of different ideas to design the same instruction in a different way and for several different learners. Last but not the least, through the pilot teaching I can write about what works, what doesn't work, what needs to be changed, and any other reflections.

The audience that I faced were two of my class fellows. I had to teach them what my design was all about. As an introduction, I briefly talked about all three modules that I designed for Task Analysis and then I told them that I decided to focus on the development of problem-solving skills for better classroom management. Before starting to focus on the problem-solving module, I shared with them the prerequisites that were an important step to implement this instructional plan. I shared my screen with them and presented the importance of each prerequisite in front of them. I told them how power supply, internet, computers, projectors, connecting cables, stationery, white boards, well equipped learning environment, availability of trainers, time management, proper funding to implement the design, supervision, management, and motivation and enthusiasm of the learners were important prerequisites for this instructional design.

After the introduction and briefing the audience with the prerequisites, I wanted to check the background knowledge of my audience. When I started talking to them, I instantly got to know that both were very well familiar with the importance of problem-solving skills for a good learning environment. To test their previous knowledge, I asked about their experiences to solve problems in a learning environment. Both gave me very good examples which were practical and could prove beneficial for the learners. One of those members belongs to Pakistan, so she got a clearer idea of why this intervention was required in the Pakistani educational set up. For the

other members, many things were new regarding difficulties in the education department in Pakistan. I picturized the entire scenario for her. I told her how needs, learners, and context analysis gave me a clear idea to design this training intervention. I familiarized her with the hiring of teachers, lack of training, insufficient funds to conduct training, new teachers' inabilities to satisfy the students of IT and what were the major factors behind those inabilities. After getting their viewpoints on problem-solving skills, I presented the stages that I would suggest for solving any problem. These stages are identification and definition of a problem, generating solutions for a problem, thinking of alternative solutions, deciding a solution, implementing that solution, and finally evaluating the outcomes.

I presented my views on the incorporation of teaching strategies like scaffolding, productive feedback, motivation, encouragement, appreciation, empathy, autonomy, patience, cooperation, and communication to develop a better problem-solving environment in a classroom. I also mentioned how the use of advanced technological tools, internet, and games in teaching can help learners solve different problems easily. Last but not the least, I emphasized on the value of learning activities like peer/group work, role switching, jigsaw, and concept mapping etc to help students solve different problems in a classroom. My audience also came up with many brilliant ideas regarding different learning activities.

This was a virtual meeting that was conducted on 29th November 2021. I presented my material at almost 7:40 pm and the teaching ended at 8:00 pm. I did not get an hour because one of my peers had taken extra time. I delivered the important points within those 20 minutes. Our cameras were on the whole time. I shared my screen with them and showed them my project. The pre-instruction material was already posted on Google Drive (the link was created by our course instructor in the very beginning of the semester) where all the peers could have a look at it

and get themselves prepared for pilot testing. I demonstrated everything step by step but quite briefly. This pilot teaching was more like an interaction or discussion rather than formal teaching. My peers had great experiences from their respected fields. Their feedback proved very productive for me. One of them suggested some good ideas about incorporating more activities in the design. She said that she liked the project and would like to know about the outcomes. The other member gave me a suggestion to use this design not only for IT teachers. She suggested using this design for all subject teachers. We discussed it, and I told her if I wanted to do it, I would have to change the needs, context, and learners' analysis. It would be a very broad range then, which might not be under our control, and we might not be able to implement this intervention keeping in view the short time and limited resources. I asked my audience about any more confusion or suggestions about the module.

Summary

My teaching experience was good. I felt more like a part of a peer work rather than a teacher as I had to present before my class fellows. They were super supportive, and I got productive responses from them. They were good listeners and proved to be a respectful audience. They appreciated my work and gave me effective suggestions also. Through their suggestions, I added some more learning activities in my plan. I also got suggestions about adding open-ended surveys and self-reflection checklists in my design. This suggestion proved very fruitful as I added a questionnaire of open-ended questions and a survey consisting of closed ended questions in my evaluation plan. The interaction I had with them was very interesting. Both shared their own experiences about problem-solving in their respective fields that provided a different angle to our discussion. They also expressed themselves freely when they felt lost, and I tried to make things clear. They listened to me with patience and curiosity.

My overall experience of this pilot teaching was very good. I think it helped me grow as an instructional designer.

SME Report

After completing the first 6 parts of the instructional design, I wanted to seek the advice of an expert before the implementation of the design. These parts included prospectus, needs, learners' & context analysis, task analysis, overall instructional plan, specific instructional plan, and evaluation plan. The SME that I chose already helped me in different parts of my instructional design, especially in needs analysis, context analysis and learners' analysis. After completing all 6 parts, I wanted to present all the data to the SME for a critical evaluation and an expert's opinion. SME's feedback could be a best source to give final touches to my design. I presented all the parts before her by emailing her. Before doing that, I had already requested her time and had informed her that I needed her advice and feedback on all parts of my project. She always cooperated and as she already worked with me throughout this journey, it was no more difficult to access her. She gave her easy consent to review my project and provided her feedback also.

The SME that I chose to review my instructional design is Mrs. Nadia Qazi. She is an Assistant Professor. She is MPhil in Software Engineering and teaches Networking in the IT department of Govt. Post Graduate College of Women, Gujranwala, Pakistan. She has more than 20 years of teaching experience in the field of IT. She is a talented and hardworking teacher. She is also the HOD of the IT department. She has a lot of responsibilities on her shoulders. She knows each minor and major detail of her department. I chose her as SME because she could inform me about the real problems of her department and could give me helpful suggestions regarding the several steps of the project.

Previously we had a lot of virtual meetings. This time she gave me her time on Thursday, 9th December 2021. The meeting started at 01:00 am US time and ended at almost 02:00 am. This meeting took place via Zoom. First, she asked me about how my project was going on. Then she told me that she went through all parts of my instructional design. She appreciated me about the organization of different parts and told me that she spent quality time to go through all the parts.

We started talking about the prospectus. She told me that there was a weakness in my prospectus and needs analysis. She said that the goals described in the prospectus and needs analysis were a little different than the goals discussed in the task analysis. She asked me to align the goals in all the parts. Overall, she appreciated my effort in both the prospectus and the needs analysis. She advised me to align the goals and objectives by following the task analysis. I explained that prospectus and needs analysis were the initial parts of the project. They contained some initial errors but as I moved towards the task analysis, I got more clarity about the goals, and I told her that I would align them now when I compile all the parts together. We talked about the prospectus and needs analysis for almost 15 minutes.

When we moved to the task analysis, she was happy with my performance and told me that she really liked that part and the division of the modules. She also said that the objectives were well defined, and examples provided for each objective were very helpful to understand the purpose of the instruction. She discussed each heading in the task analysis with great interest and at some points asked me why I thought of this option. For example, she asked me about incorporating Minecraft in teaching programming or networking. She was curious about how the teachers would be able to use such a game that they themselves do not know about in Pakistan. I told her that it is just an example of using different games in solving a problem. Teachers can

introduce several other games or activities to help their students. She already knew that I had used the Information Processing Model for the analysis of the design because I had sought her opinion about information processing analysis when I had to start writing the task analysis. She also commented on the validity of prerequisites as a good attempt and admired the way I had used references to cite from different sources. She said that the citations increased the authenticity of the project. This part of the discussion took almost 25 minutes.

When we moved towards the next three parts of the Instructional design, she seemed quite satisfied. She especially admired me for my Specific Instructional plan that is part 5 of this project. She said that she wished to see a plan like this for the other two modules also. It was a very nice compliment from her side. Overall, she seemed satisfied but when we moved towards the evaluation part, she gave me a suggestion about the open-ended questions. She said that the questions that I had included in Appendix A required much time and once the training is over, teachers can become very restless, and they would want to leave immediately after a long session. She advised me to use closed ended questions like Appendix B for this part also. I responded to her that I added these questions because I wanted to give her free space to express whatever they felt about their learning and motivation. After getting this response, she said, "Let's see how it works. I wish you good luck". I asked her that if she wanted me to change this questionnaire, I could do that, but she seemed fine with that later. The rest of the meeting was about the last parts of the plan.

The Alpha and Omega of the above discussion is that the SME liked my performance overall. She appreciated me during the entire journey and always used to say that she wished to see the practical application of this design as soon as possible. Since the semester started, she has been a source of great information related to IT department's problems. She guided me about the

course contents of different subjects. She helped me understand different topics with various examples. I needed to know about different topics to incorporate them in my project as examples. She was always there to help me whenever I sought her help because she seemed excited about this project. For herself, it was a new thing. She never heard of instructional designing as an official term before, but she was an efficient part of the management in conducting different training programs at our college. If I had to change something about my design, I would have changed the questionnaire that she did not approve of, but she advised me to keep that. She also added that in instructional designing, it was her first experience to work as SME. So, she cannot be absolute about advising me correctly. I believe that she is a credible teacher, and I respected her opinions. She was a tremendous source to guide me at every step.

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