EDUCATIONAL TECHNOLOGY AND ICT

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Lecture-06

Module-6: Personalized System of Instruction (PSI)

Hello dear learners, welcome to the course Educational Technology and ICT. I am Dr. Saritha Anand from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal. Today, we will talk about the topic Personalized System of Instruction, or PSI. Earlier, we covered the topic on mass media and multimedia.

Now, we will start the Personalized System of Instruction. We call it PSI. The Personalized System of Instruction, or PSI, traces its roots back to Professor Fred S. Keller and his associates in 1963. It was initially applied to a psychology program at the University of Columbus. PSI is also known as the Keller Plan, named after Professor Keller.

It was inspired by B.F. Skinner's programmed instruction method. Building upon this foundation, Keller and his team expanded the concept to cater to higher education students, creating a more comprehensive and flexible learning approach. So, PSI is an educational approach that prioritizes individual students' needs and progress. In contrast to traditional classroom settings with fixed schedules and uniform pacing, PSI empowers learners to advance at their own pace, mastering each unit before moving forward. This self-paced learning fosters a sense of autonomy and motivation as students are not held back by slower peers or rushed through material they have not fully grasped.

So, the basis of PSI is the concept of mastery learning. Students are required to demonstrate proficiency in each unit through frequent assessments such as quizzes and tests. If they don't meet the mastery criteria, they receive additional instructional materials and support until they achieve the desired level of understanding. This ensures that no student falls behind or moves on without a solid foundation. To facilitate this individualized learning experience, PSI often employs a proctor.

Proctors, who are typically advanced students or teaching assistants, are available to answer questions, clarify concepts, and administer assessments. They play a crucial role in providing timely feedback and guidance to students, ensuring they stay on track and motivated. Here, the main objectives of PSI, the Personalized System of Instruction, are to foster positive personal and social connections between teachers and students. Here, teachers play the role of proctors to provide individualized attention to each student through one-on-one interaction and face-to-face communication.

To improve students' achievement of mastery of subject matter at their own pace. To offer timely and regular feedback to reinforce learning. To utilize a variety of instructional methods, including multimedia, to enhance learning experiences. To shift the teacher's role from traditional lecturer to a facilitator and guide, supporting students' learning journey. To utilize feedback to refine curricular and instructional strategies.

Now, the meaning and definition of the PSI. Personalized System of Instruction is a learning approach that centers around the individual learner. It prioritizes the unique needs, interests, and abilities of each student. That's why we call it the Personalized System of Learning. The instructional content and pace are tailored to suit individual differences.

This learner-centric approach empowers students to take control of their learning journey, making them active participants in the educational process. To gain a deeper understanding of PSI, it is helpful to explore the perspectives of renowned scholars in this field, as given below-

Like Keller (1968) said "It is a system of individualized instruction in which students work at their own pace with the help of proctors to master a sequence of instructional units." Kulik and Kulik, with their colleague Cohen (1979) said, "It's a teaching method in which students work independently on instructional materials", and are tested on their mastery of the material.

Sharman (1974) said, "A flexible instructional system that allows students to learn at their own pace with frequent assessment and immediate feedback." This is the PSI. All these definitions will enable us to derive the following conclusion regarding the nature and characteristics of the personalized system of instruction. What are these?

The personalized system of instruction is a system of instruction in which teaching can be carried out on a personal basis by serving an individual learner according to their own needs and interests. The individual learner can work independently and maintain their own

pace. The subject matter can be developed into well-sequenced learning units, and each unit is provided with the necessary instructions and material facilities for going through these units one by one under the supervision and guidance of well-trained, capable proctors- the student supervisors.

Here, an individual learner is required to acquire mastery over the subject matter. Their performance is never compared with the performance of their fellow students. There is no concept of peer comparison. They can test their performance by appearing in unit tests, and in case they pass this test, they may take the next successive units without waiting for other fellow students to complete their respective units.

Actually, whole PSI, Personalized System of Instruction is inspired by the teaching machine and this teaching machine is now called PSI. Since learning is responsibility of the learners in PSI, this type of instruction requires necessary maturity on the part of learners and so it is best suited to the college courses rather than school courses. It means learners should be little bit matured. The Personalized System of Instruction can be carried out within the normal classroom facilities.

The manpower can be well arranged by the training the capable students who have acquired mastery over the subject matter like we put the monitors in the class. Similarly, we can take the capable students to supervise and guide their fellow students to acquire mastery through their own independent efforts. In this way, personalized system of instruction can be defined as a system of instruction capable of providing individualized Instructions on personal basis to the individual learners for acquiring mastery over the subject matter according to their own pace by an individual teacher with the help of a few capable student learners called proctors. And this para is taken from Mangal and Mangal.

Now we will talk about key elements of PSI: PSI or the Keller plan is an instructional method which we have already discussed. It focuses on the individualizing learning experiences for each student. This approach emphasizes self-paced learning, mastery learning, and frequent assessment, along with other key elements given below. The first one is the personal element. This is the main factor of the PSI. It provides highly personalized instruction. Offering one-on-one attention to each learner.

This approach fosters a strong personal connection in their personal capacities, face-to-face or one-on-one. between teachers, proctors, and the students, unlike traditional classroom settings where personal attention and focus cannot be managed effectively. The next one

is self-paced learning: student's progress through the course material at their own pace rather than following a fixed schedule.

This allows them to spend more time on challenging topics and less time on areas they already understand. The third one is mastery learning. Mastery learning requires students to demonstrate mastery of each unit before moving on to the next unit. This is typically achieved through frequent quizzes and tests. If a student fails to achieve mastery, they receive instruction and support until they can demonstrate understanding.

It means the reading material given in one frame will be tested and if they get passed, they will get another frame to study. The fourth one is emphasis on writing work. PSI relies heavily on the written materials. Students are provided with the written instructions, study guides and various learning materials like textbooks, workbooks and online resources. This written emphasis allows for self-paced learning and independent study. Additionally, written assessments such as quizzes, exams are used to evaluate students' mastery of the material or the content. Next one is unit-based instruction. The course material is divided into smaller manageable units. This allows the students to focus on one concept at a time and to receive the targeted feedback on their progress. The next one is the proctors.

The proctors are trained to provide students with assistance and clarifications as needed. They are available to answer questions, explain concepts and administer quizzes and tests. The seventh point is frequent assessment. This is the major feature of this PSI where students are assessed frequently throughout the course, both formally and informally. This provides them with immediate feedback on their learning and allows them to identify areas where they are need to additional support.

It means they know where they are performing well and where they are poor in performance, and they can manage it in further study. The last point is limiting oral communication. It means lectures. PSI de-emphasizes traditional lecture-based instruction where students passively receive information. Next point.

Limiting oral communication or lectures. PSI de-emphasizes traditional lecture-based instruction where students passively receive information, instead focusing on learning strategies such as self-paced study, problem-solving, and hands-on activities. This shift allows students to take control of their learning and engage with the material in a more meaningful way. It limits the use of lectures and verbal communication to a supporting role. Instead of relying solely on the teacher's lectures, PSI encourages the use of multimedia resources to provide diverse opportunities, promoting learners to utilize

various audio-visual resources such as pictures, models, graphics, audio recordings, videos, teaching machines, and computers to enhance their learning experiences and facilitate communication with peers and instructors. This allows students to actively engage with the material and explore different learning styles. The next point is appropriate reinforcement.

We all know that reinforcement at an appropriate time is very important. PSI emphasizes timely and frequent reinforcement. Students have the autonomy to work through learning units at their own pace and take unit tests whenever they feel prepared. The immediate feedback provided by these assessments serves as a powerful reinforcement tool, motivating students and guiding their learning. Yes, they are on the right path. Unlike traditional methods, where reinforcement is often delayed or inconsistent, PSI ensures that the student receives regular feedback, promoting a continuous learning cycle.

This flexible, personalized approach to reinforcement significantly enhances student engagement and learning outcomes. Positive reinforcement is used to motivate students and encourage their progress, like verbal praise, rewards, and recognition for achieving milestones. The role of the teacher in PSI undergoes a significant transformation. Instead of being a mere dispenser of information, the teacher becomes a facilitator and guide. The traditional lecture-based approach is replaced by individual instruction, where the teacher provides personalized support and feedback to each student.

This requires the teacher to create a supportive learning environment, develop appropriate learning materials, and monitor student progress. By taking these expanded responsibilities, the teacher plays a crucial role in ensuring student success in a PSI environment. Now, we will talk about the steps of the personalized system of instruction. Whenever we follow PSI, we have to follow some steps.

The first one is a needs assessment. Identify individual students' needs, learning styles, and prior knowledge. Modify instructional materials and strategies to meet these specific needs. The second one is a personalized learning plan. Create a customized learning plan for each student, outlining specific goals, deadlines, and resources.

Assign relevant instructional materials and activities. The third one is self-paced learning. Student's progress through the course materials at their own pace. Flexible scheduling allows students to balance their learning with other commitments. The fourth one is proctor support.

Proctors or advanced students or teaching assistants provide support and guidance to the learners. They answer questions, clarify concepts, and administer assessments. The fifth one is frequent assessment. After teaching the learning content, assessment is also important. Regular assessments, such as quizzes, tests, and projects, are used to monitor students' progress.

Immediate feedback is provided to help students identify areas of improvement. The next one is mastery learning. Students must demonstrate mastery of each unit before moving on to the next. Reteaching and additional support are provided as required or needed. The next one is continuous improvement.

Data from assessments is used to refine the curriculum and instructional strategies. Feedback from students and proctors is incorporated to improve the learning experience. So, after completing the PSI, there are so many advantages. One of the significant benefits of PSI is its potential to increase students' engagement and satisfaction. By allowing students to work at their own pace, PSI accommodates diverse learning styles and speeds.

This flexibility can lead to a more enjoyable and rewarding learning experience, reducing feelings of frustration and anxiety often associated with traditional classroom settings. Moreover, PSI has been shown to improve student achievement by emphasizing mastery and providing ample opportunities for practice and feedback. Students are more likely to retain information and develop a deeper understanding of the subject matter. This can translate into higher grades, improved marks, and enhanced critical thinking skills.

If any content or any concept has advantages definitely these are having some limitations. PSI also has the limitations. It has been successfully implemented in the classroom of developed countries where the necessary resources and conditions are available. While PSI offers numerous benefits, it's important to acknowledge that it may not be suitable for all learners or the subjects. Some students may require more structured and guidance and certain topics may benefit from a more collaborative learning environment.

Also implementing PSI can be time consuming and resource incentive. Also implementing PSI can be time consuming and resource intensive requiring careful planning on organization. Few limitations have been listed here. The first one is many teachers in our country are unfamiliar with PSI and have not received training in this instructional method. Since PSI is no part of teacher education program, teachers lack the necessary knowledge and skills to implement it effectively.

Even teachers who have been trained in PSI may face resistance from their colleagues who are unfamiliar with the approach. The fear of change and the preference for traditional methods can hinder the adoption of PSI in the educational institution. The next one is the effectiveness of PSI in Indian educational institution has not been thoroughly tested or evaluated. Without proper implementation and assessment there is likely to be resistance from both traditional and progressive educators.

Next, implementing PSI in our classroom faces numerous practical challenges due to limited resources and unsuitable learning environments. Some of these challenges include large class size make it challenging to provide individual attention required for effective implementation of PSI. The availability of adequate course materials, resource guides and test material are essential for PSI. However, teachers often have heavy workload making it difficult for them to manage additional responsibilities required for effective implementation of PSI.

The use of multimedia resources like audio tapes, video, film, graphics, libraries and laboratories is crucial for effective implementation of PSI. However, financial constraints often limit access to these resources and hinder the success of PSI. Implementation of PSI requires spacious classrooms, adequate resources and other necessary facilities. However, many schools and colleges in India lack these essential resources making it difficult to adopt PSI on a large scale.

One of major challenging, the fifth one is one of the major challenges in implementing PSI is requirement for a large number of proctors. Finding dedicated students who are willing to invest their time and energy in guiding their peers may be difficult in the current educational context.

Finally, PSI requires a high level of self-discipline and motivation from student side. The freedom to learn their own pace may lead some student to procrastinate or become distracted because procrastination is the basic nature of the student. Without the competitive element of traditional classrooms, students may not feel the urgency to progress and may take longer to master the material.

While there are significant challenges to implementing PSI in our educational system, many of these obstacles can be overcome with careful planning and a strong commitment to innovation. Personalized instruction, which is a core principle of PSI, has the potential to significantly improve learning outcomes. By addressing these challenges and embracing a new approach, we can create a more effective and improved learning environment. So,

in conclusion, we can conclude that PSI, the personalized system of instruction, represents an alternative to the traditional classroom model.

By prioritizing individual needs, fostering self-paced learning, and emphasizing mastery, PSI can empower students to reach their full potential. While it may not be a one-size-fits-all solution, it offers a promising approach to enhancing student engagement, motivation, and achievement. Here are some references for your further study, and you can consult these references.

Thank you.