CHAPTER II

HISTORICAL DEVELOPMENT OF PERSONALIZED SYSTEM OF INSTRUCTIONS
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Personalized system of instructions grew out of collaboration between two Brazilians namely Prof. Azzi and Prof. Borri and two north Americans namely Prof. Fred Keller and Prof. J. Gilmour Sherman in early 1950's. They developed a programme in psychology. Since then, in America, about 1000 Professors have developed about 6000 personalized system of instructions programmes and in many other countries also many more personalized system of instructions programmes have been prepared and many more are in process, in different subject areas to suit different levels of educations.

It spread from psychology to physics, engineering, social sciences and humanities. Almost all disciplines have started using personalized system of instructions for teaching at every level. The implications of personalized system of instructions beyond the single course, into sequence of courses or entire college has been taken place at many universities of
the world. The University of Texas at Austin, Monterrey Institute of Technology in Mexico and College IV in Michigan utilize self-paced, mastery-oriented instructions on a large scale. Personalized system of instructions offer new choice to normal students and make education available to many who have been excluded by the constraints of traditional education.

In personalized system of instructions, the system has been institutionalized. Carnegie Corporation of New York, the Sloan Foundation (University of Texas in Austin), Governments of Brazil, Mexico, and Venezuela, and UNESCO have supported personalized system of instructions projects. The journal of personalized instructions has been published since 1976. Many researchers like Dave Born (1968) and George Semb (1982) worked on personalized system of instructions. Benjamin Bloom (1973) has written beautifully and eloquently about teaching for mastery. Mager has written about behavioral objectives. Several people are constructing personalized system of instruction programs in Mental Health Institutes, Vocational Training, Adult Education, Continuing Education, in Community Houses, and many other settings outside formal educational institutions. Personalized system of instructions have closed the gap between the theory and practice of individualized instructions. If it is anything, it is a plan, a scheme, a system for imparting instructions to self, a system for implementation of ideas that others like Bloom and Mager, have enunciated.
Personalized system of instructions is not a monopoly of teachers of psychology or education but any expert in physics, chemistry, mathematics, sociology, anthropology, history and literature may apply these instructions in any country or at any level.

In personalized system of instructions, we avoid the crippling consequences of punitive systems and still maintain a standard of excellence. This is the theory of personalized system of instructions.

Personalized system of instructions consist of learning experiences specially designed for individual student on the basis of diagnostic procedures employed to determine individual interests and needs, once established these learning experiences are largely self-directed, self-administered and self-scheduled according to interest and convenience of the learner. Personalized system of instructions are also called Individualized Instructions as it is a method to teach self or to instruct self.

In individualized instructions, carefully prepared assignments consisting of sections from standard text-books, articles and specially prepared supplements are given to the student, along-with the study questions and other instructions as to what to read, in what order and for what information. When the student thinks he has mastered the material, he comes to the
class to take a quizz. The mistakes, if any, are immediately corrected by a proctor. The learner moves to the next topic only when, he has mastered the concept or topic otherwise he studies the same content presented in a different way. This technique of imparting instructions to the students is called Personalized System of Instructions (P.S.I.) or Individualized Instructions (I.I.).

In Personalized System of Instructions, we sometimes use group method, sometimes individualized method or a mix of them, for example demonstration, television lessons, air broadcasts, computerized programmes and home assignments. Thus individualized instructions are also called a package programme or learning package.

Personalized System of Instructions have the following characteristics:

- Cent per cent mastery learning principle is involved in it.
- The learner is free to move according to his/her pace. Deadlines are not imposed.
- Proctors are needed to deal individually with large number of students working with the system.
- The packages hold logically.
- The packages hold behaviourally.
- Errors are not penalized.
- There is no formal examination. The grades are totally determined by accomplishment.
- The model of learning is not one of information transmittal.
- The proctor provides consequences appropriate to the student performance.
- Evaluation is criterion based.

Basically, personalized system of instructions mean adopting material and techniques to individual differences found among learners. In order to develop effective programme of individualized instructions, one must be aware of individual differences. The programmer must accommodate both common and individual needs. Learning packages can be effectively applied only when the programmer knows about the following types of individual differences in relation to learning:

- Pace or speed to learn the content material is different for different individuals.
- Personality variables like extraversion-intraversion, neuroticism etc.
- Difficulty level of the content material.
- Difficulty level of language used in the programme.
- Individual and social needs.

There are many types of individualized instructions. Edling (1958) identifies four types of individualized instructions mentioned as below:
Individually Prescribed Programmed Instructions:

In these programmes, the behavioural objectives are clearly specified. Well-defined system of materials and methods of instructions have been developed based on careful diagnosis of individual pupils and their learning needs. This system is also known as Individually Prescribed Instructions (I.P.I.).

Self-Directed Individualized Instructions:

The school sets the objectives and gives the learner degrees of latitude in determining how he will achieve these objectives. These school have learning laboratories or resource centres. Individual student is left largely to his own resources in selecting the material he will use and in seeking assistance when he desires it. The faculty members in these schools place high value on individual learning styles and on individual differences in approaching solutions to learning.

Personalized Individualized Instructions:

The prescribed and self-directed types of individualized instructions were found more suitable in language, arts and mathematics. A third type called Personalized Individualized Instructions were found suitable in Science and Social Studies. In these types of Instructions, the student chooses his/her own objectives from a sizeable list of possible objectives. In other words, he selects the objectives that appeal to his interest. Once these are selected then he follows with the prescribed programme with the specified materials.
Independent Study:

In this type of programme, the student himself picks up his objectives as well as methods of study. Independent study technique is used for above average student. The student independently design their own programmes of study. The exceptional students are released either part-time or full-time to study anything they wish even if it is not offered in the curriculum.

Individualized instructions differ from traditional instructions on three counts mentioned as below:

**Difference in Specification of Objectives:**

In individualized instructions the objectives are specified and written in behavioural terms. In some schools, the objectives have been systematically developed with phases or levels of difficulties, whereas in traditional instructions, the objectives are written in general terms and are not behaviourally stated.

**Difference in Emphasis on Individual Development:**

In Individualized Instructions, maximum emphasis is laid on individual development. In these schools, the emphasis is on developing self-confidence and a positive self image that leads to more effective learning. In course of this deledge effort to improve the self-image of under-achievers, various unconventional activities, and including monopoly and other games are used. This system is based on the theory that a child
has certain physical, emotional and psychological needs which
must be satisfied before he can do full justice to the learning.
In traditional instructions, the individual development of the
child is not bothered for. Underachievers, shy-natured and
unsocial children are always neglected.

Difference in Emphasis on Methods of Learning:

In personalized instructions, the emphasis is laid on
better methods of learning. The positive attitude formation is
main point here. The underlying object of this type of instruc-
tions is to have "Children learn to learn and to enjoy learning".
Ungraded individualized instruction programmes are developed
which emphasise creating positive attitude towards learning.
The freedom of choice in selecting course and level makes learn-
ing enjoyable.

In traditional methods of teaching, an emphasis is not
laid on better methods of learning. There is generally no choice
in selecting course and level of study.

Personalized System of Instructions have the following functions:

- Gaining and maintaining attention of the learner.
- Insuring recall of previous knowledge.
- To provide feedback.
- To establish conditions for information processing
  and transfer of learning.
- To evaluate the learning outcome.
Individualized Instructions are different from individual instructions. Individual instructions employ that student is moving entirely independently, with little or no interaction with his fellow students. Such instructions cannot in itself provide a total education although it may do an excellent job of teaching certain skills. Other equally important skills require group interaction.

In the individualized instructions, the mode, content and sequence of instructions are tailored to the individual need at any moment in time. It does not necessarily mean that he studies by himself although he may in particular circumstances. Thus in a single lesson, a student might spend a part of his time in self-study, for example, with a programmed text, a part of his time watching a film in a large auditorium and a part in a group discussion, yet the entire lesson may be highly individualized.

A good individualized instructional programme should have the following essential features:

- A large pool of teaching material designed to produce specific type of behaviour.

- A monitoring and evaluation system to provide formative evaluation of individual performance.

- A decision and control mechanism for matching the instructions to the individual need.

- An efficient and dedicated team of proctors.
Resistance to Personalized System of Instructions:

As it is always true, with the introduction of innovation, a large number of hurdles are raised to stop its progress or its use. The same is the case with personalized system of instructions. Many objections were raised. Some of them were baseless too. Most important objection was that with the introduction of individualized programme teachers would be thrown out of job as mass-media and machines would replace them. It is a wrong notion. Komoski's (1961) remark that "Any teacher who can be replaced by machine deserves to be replaced", is perhaps the last words in this regards.

Second objection was that the teaching machine and mass-media were informal devices which lead us to totalitarian society. It is a baseless objection.

Third objection was that individualized instructions do not teach efficiently. This objection is with sound base as it is being supported by many research findings where traditional methods are superior to personalized system of instructions or as efficient as personalized system of instructions.

Fourth objection is that individualized instructional programming is a costly affair when compared in respect of expenditures involved and gain in terms of efficient learning. Software is very costly. The supporters of personalized system of instructions have claimed that software in P.S.I. will be oversold. Many other great claims have been made by the
propagators of the system. Perhaps it cannot meet all the claims that are made for it. So personalized system of instructions should be adopted with some care and caution.