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Teaching science; Misconceptions of students

Research shows that students learn science concepts only to a limited degree persisting their preinstructional conceptions instead of building scientific concepts. Hence, different approaches were adopted in science teaching. A major change was from the content approach to the process approach, including more and more activities in curricular material to help students in their learning. This study examined misconceptions of students in learning situations of two units of the year-9 science syllabus were observed by the researcher. Detailed field notes ere made on hoe the teacher presented subject-matter emphasizing students' questions and responses of the teacher. The students were questioned while engaging in the activities and after. With their permission these conversations and classroom discourse were recorded. Before

starting each unit, a pretest was administered to understand the students' preconceptions. Naïve conceptions and misconceptions of students were studied by analyzing the posttest result and interviewing them. The teachers involved were also interviewed.

By analyzing the data collected from various sources, it was found that preconceptions of students were not connected in teaching to learn new concepts and misconceptions were persisted failing to promote scientific understanding which was mainly due to the lack of confidence of teachers in the subject-matter and poor planning of lessons. It is necessary to update the knowledge and skills of teachers to employ a variety of strategies in classrooms to let the students apply what they know to construct knowledge enabling them to develop meaningful understanding of scientific concepts.