

A20150421-2168

## Teaching Science to Visual Impaired Students: What They Need?

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Education of children with special needs have so many challenges. Modified science curriculum development for example stands as a grand challenge. Especially in inclusive education, most teachers are little agitated and feel a little nervous to have such a student in their classroom. Because they do not know what sort of adaptations are needed in terms of student's special needs. We have held a qualitative study that aimed to analyze visual impaired students' needs in learning science concepts. Classroom observations and interviews with students have done to collect data. The basic aim of the observations and interviews were to compile evidence based data to design effective instruction to teach science to visually impaired students. Collected data were subjected to descriptive analysis. Sample of study selected from 8th grade students attending a special school for visually impaired students in Erzurum.

Results were organized into four sub topics. a) Difficulties in perception and concepts formation: vision is important in getting information but visually impaired students have difficulties in forming visual perception about objects and related concepts. So teachers should be aware of how well transmitting information though other sensory modalities e.g. tactile, auditory, olfactory, etc. b) The use of specific effective teaching strategies: it is important to be able to identify your students' needs in terms of cognitive and their vision conditions. Some suggestion about teaching strategies can be listed as follows: prepare all documents, workbooks and tests in large print or Braille if possible, use clear and apparent instruction, avoid use of such words "look", "read" and "watch" etc., and emphasize diagrams, lines and points in tactile. c) The use of special aids and equipment: use of adapted variety of teaching aids and equipment to help them to learn science concepts efficiently. Integrating technology in education has the potential to support important educational goals so as students use new technologies. Therefore assistive technology should be integrated in the world of the visually impaired students. Tactile aids and Equipment like braille books and thermoform duplicators, visual aids and equipment like optical aids and textbooks and instructional materials, Auditory aids and equipment like audio tapes and recorders and talking calculators can be used to assist in reading, writing, and when doing internet research for projects and papers. d) The use of effective assessment techniques: the term assessment refers to the wide variety of methods that educators use to evaluate whether concept have learnt. Providing a scribe and organizing assessment tools for the student to produce an assignment in an alternative format are some of the technique that teachers could use.

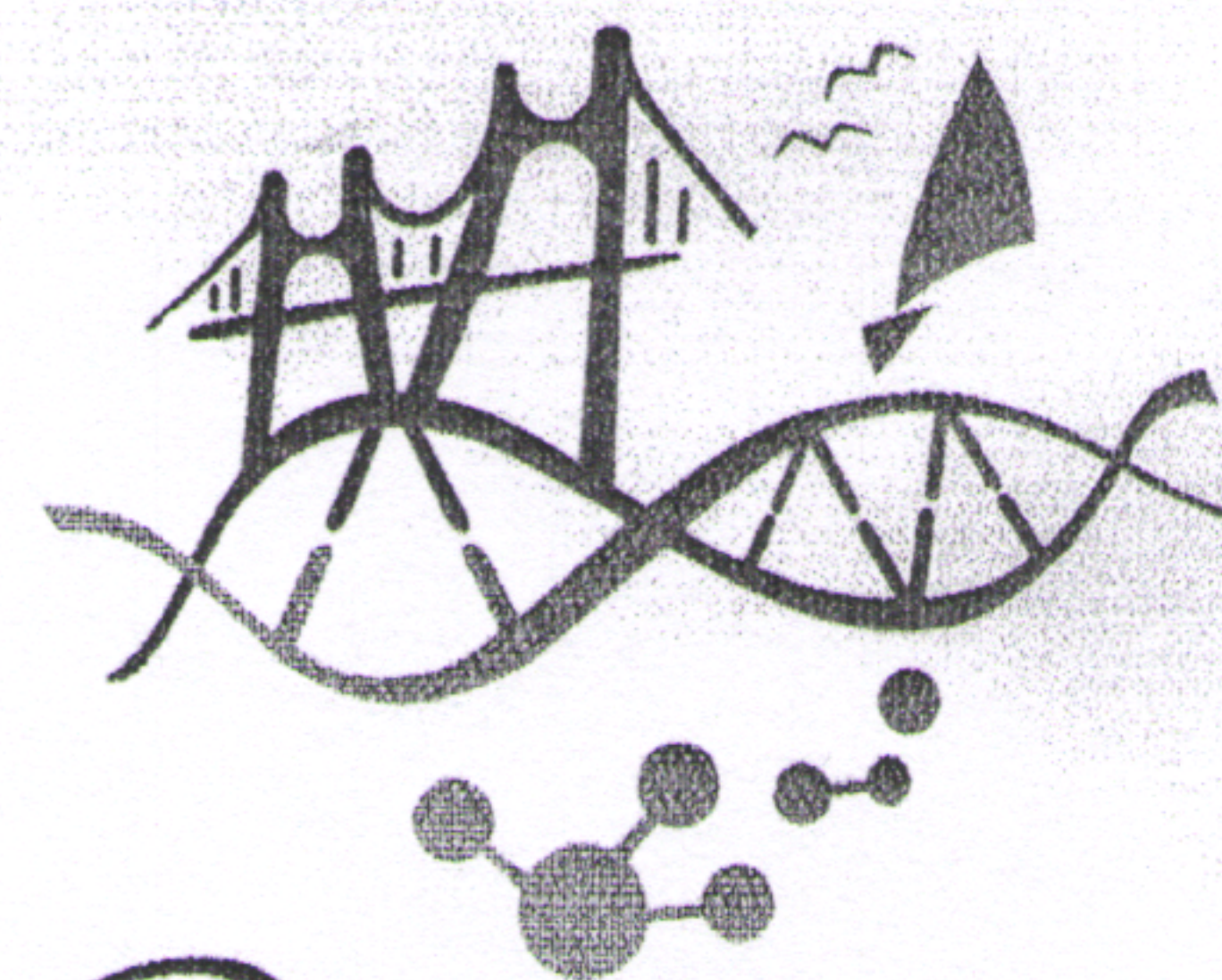
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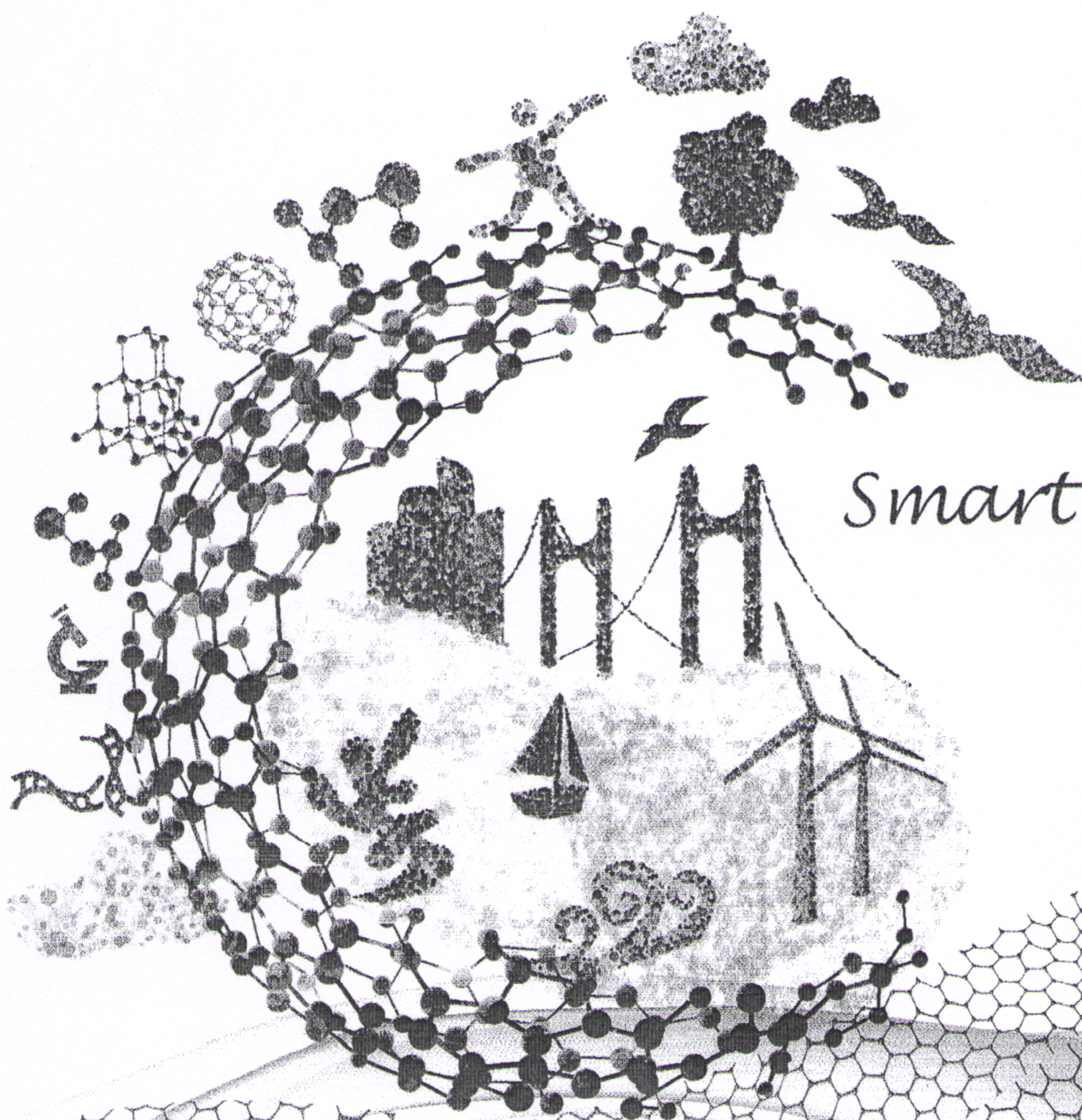
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45th World Chemistry Congress  
August 9-14, 2015 Bexco, Busan, Korea



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