

IUPAC2017
São Paulo, Brazil

46th World Chemistry Congress
40^a Reunião Anual da Sociedade Brasileira de Química

JULY 9 TO 14, 2017 - SÃO PAULO - BRAZIL

IUPAC 49th General Assembly

JULY 7 TO 13, 2017 - SÃO PAULO - BRAZIL

SUSTAINABILITY & DIVERSITY THROUGH CHEMISTRY



PROGRAMME

Message from IUPAC - International Union of Pure and Applied Chemistry

On behalf of the International Union of Pure and Applied Chemistry, it is my utmost pleasure to greet all the delegates as well as the honorable guests of the 46th World Chemistry Congress 2017 and the 49th General Assembly. It is a pleasure to see that, in our 98th year, approaching our Centenary in 2019, our members and activities are focused on the future of chemistry. It gives me confidence for the future and that our Union will continue to be an indispensable resource to chemistry worldwide.

IUPAC2017 will be first time the World Chemistry Congress and General Assembly is hosted in the South America. After a memorable WCC and GA in Busan, Korea, we are this year looking forward to gathering together in São Paulo, Brazil.

The main theme of this congress is «**Sustainability and Diversity through Chemistry**». IUPAC's core values reflect our focus on diversity and inclusiveness and our mission reflects our efforts to benefit humankind and the world. The congress program incorporates many of the key components related to sustainability and the role of chemistry in achieving Sustainable Development Goals set by the UN.

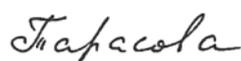
I would also like to congratulate the Brazilian Chemical Society-SBQ on their 40th Anniversary and encourage everyone to participate in the Commemorative Symposium and celebration on July 12th, 2017.

The World Trade Center in Sao Paulo will be the place for the IUPAC 49th General Assembly and all the union's associated meetings in the Divisions and Standing Committees. It is also the place where the 49th Council meeting will be held, hosting delegates from 44 countries.

I am sure you will attend many scientific sessions during the WCC to learn about the state of chemical science and hear Nobel Prize winners and renowned scientists during the Plenary sessions. A number of special symposia and round-tables will be held including the Young Researchers Symposia and Panel discussions dedicated to the role of women in chemical science and technology. As we gather together with familiar colleagues, the WCC is also an opportunity to network with new people, early career scientists and young observers.

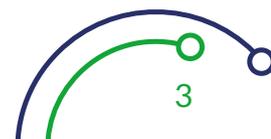
So I encourage you to visit the exhibition and attend the social events. I am looking forward to meet you all and I do hope that all of our Member Nations will be able to participate.

Looking forward to seeing you in São Paulo, Brazil.



Prof. Natalia Tarasova

President, IUPAC



Message from SBQ - Sociedade Brasileira de Química

Dear Colleagues,

On behalf of the Brazilian Chemical Society (SBQ), we would like to welcome you to São Paulo for the 46th IUPAC World Chemistry Congress and 40th Annual Meeting of the Brazilian Chemical Society.

The Brazilian Chemical Society was founded in 1977 and nowadays it is one of the largest and most representative scientific associations in Latin America. The SBQ Annual Meeting, which occurs every year since its founding, has been most traditional event in chemistry in Brazil and among the largest in Latin America. In 2017 we are very proud and enthusiastic to celebrate the 40th anniversary of our society, and as a gift for the Brazilian Chemistry community, we got the privilege to organize the most important global event in Chemistry, the IUPAC World Chemistry Congress, coming by the first time to Latin America, together with the traditional Annual Meeting of the SBQ.

An important characteristic of the SBQ Meetings is the expressive participation of Brazilian young chemists. The opportunity to share experience with young talents from different cultures, as well as to meet seniors and well-established chemists from across the globe, is one of the many facets that makes this event so fascinating. The multi-cultural and cosmopolite city of São Paulo is the perfect scenario for it.

We would like to acknowledge the organizing and scientific committees that bring us this exciting meeting with a high level scientific program. We sincerely hope that you enjoy the meeting and find in it a forum for true and rich scientific exchange and inspiration for your future work.



Aldo J.G. Zarbin

President, SBQ



Rossimirian P. Freitas

General Secretary, SBQ

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An Instructional Design Model for Teaching Science Concepts to Visually Impaired Students

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There are various issues in science teaching to visually-impaired students because of poor science teaching caused by lack of instructional materials, inadequate classroom environment adaptation, lack of pedagogical content knowledge for teaching visually impaired students and differentiated assessment tools. If there is no special precautions are taken in teaching visually impaired students, their social, emotional, academic, daily living skills, cognitive and motor-skills are at greatest risk.

In this study an instructional design model based on ADDIE model developed for teaching science to visually impaired students. The design based research (DBR) was used to fill the gap between theory and applied research practices and to find the basic answer of how to make science accessible to visual impaired students with simple, economical and easily accessible everyday materials. The ADDIE model, which consists of (Analysis, Design, Development, Implementation, and Evaluation) five interrelated phases, was followed to form a valid instructional design.

The phases of ADDIE model were divided into three steps and then the research was carried out in three steps. The first stage (analysis) of the study was carried out as an embedded single-case design in which visually impaired students' individual needs in learning science have been identified in terms of scientific process skills and conceptual understanding. At the second stage (design, development, implementation) the instructional materials and activities were designed in the direction of students' individual needs identified at the first stage. The final stage (evaluation) of the study was carried out also as an embedded single-case design to evaluate the instructional materials and the teaching process in terms of appropriateness, effectiveness and competency.

Eight students including three blind students were sample of the study. The implementation took four weeks. Data were collected through academic achievement test, observation form and semi-structured interview forms to determine success of instructional design. Semi-structured interviews have done with students to determine their conceptual understanding and their opinions about the instructional design model. With observation form the appropriateness and effectiveness of the activities in acquiring skills aimed to be developed. Majority of the activities were found to be successful in acquiring skills. When compared with the analysis that have done at identifying students' individual needs stage, the students were pertinent to the courses. Most of the students stated satisfaction toward the instructional design model and reported that the design significantly contributed to their conceptual learning.

ACKNOWLEDGMENTS

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