

## **Curriculum Vita**

Name: Pr. Safa Amin Zaid AlKilani,

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Date of Earning PhD 1988, Michigan State University.

The dissertation entitled "TEACHING FOR UNDERSTANDING SCIENTIFIC CONCEPTS AND PRINCIPLES USING METAPROCEDURAL REORGANIZATION: A STUDY OF STUDENTS' UNDERSTANDING ABOUT THE BIOCHEMICAL ACTIVITY OF THE CELL".

The focus of dissertation was upon exploring a method designed to reorganize students' misconceptions about the biochemical activity of the cell. The study explored the affect of changing paradigms in the history of science upon the development of science curriculum, and the effect of such development on the misconceptions students have about the biochemical activity of the cell.

## **I-Degrees**

- 1- High School Diploma, Science Section from Sult Secondary High School , 1970
- 2- Bachelor's degree, major in chemistry, University of 1975.
- 3- A diploma in education, University of Jordan 1976.
- 4- Master's degree in Curriculum & Instruction (Focus in science education), M.S.U, 1984.
- 5- Ph, d in Curriculum & Instruction - focus in Science Education. M.S.U, 1988.
- 5- Assistant Professor in Female College for Training Teachers in Riyadh, 1989-1990.
- 6- Assistant Professor in University of Jordan 1991-1998.
- 7- Associate Professor University of Jordan 1998- 2006.,
- 8- Professor, University, of Jordan, 2006...

## **II -Experiences**

- 1- Teaching chemistry in Sult secondary high school 1975- 1977, 1978-1979.
- 2- Teaching chemistry in Sult teacher training college 1977-1978.
- 3- Principle and teacher at Farouq Elementary Arab School, at East Lansing, United States 1980-1984.
- 4- Teaching Foundation of education courses in Female College for Training Teachers in Riyadh 1989-1990.
- 5- Teaching Science, environmental education, methodology, research and curriculum theory courses for undergraduate and graduate students (beside Supervising many graduate students) at University of Jordan 1990- 2008.
- 6- Dean of Princes Alia College at Balqa Applied University- 2003-2004
- 7- Member of designing the undergraduate and graduated teaching science and curriculum courses at University of Jordan.
- 8- Member of supervising the planning of required courses at Balqa Applied University 2003-2004.

### **III- Research**

#### **1- Research papers published in English**

- 1- "Teaching the Biochemical activity of the cell using Meta Procedural Reorganization" Paper presented at NARST, 1988 (the Topic of dissertation).
- 2- "Students' Paradigms: Spontaneous or Acquired". Paper presented at the annual meeting of the National Association for Research in Science Teaching, San Francisco, Ca., March 30, 1989. The topic was about recycling historical scientists' ideas through science textbooks.
- 3- "Behavioral disturbed and other middle students' explanations about the physical change of matter "Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, Mass., March 30, 1999. The study shows a tendency for behavioral disturbed students to use unconventional analogy in their explanation for the phenomena; however, they have a good conceptual frame work about conservation of matter.
- 4- "Science Education in Jordan: Cultural Perspective". Paper presented at the annual meeting of the National Association for Research in Science Teaching New Orleans, Louisiana March 30, 2000. The paper presented a historical review about the change in science education policy in Jordan in the last century, it also shows that the curriculum still has a difficulty in taking into account the cultural perspective during teaching science.
- 5- "Students using 19<sup>th</sup> century functional approach in their reasoning about biological phenomena" paper presented at International Conference in the Advances on the Internet, Processing System and Interdisciplinary Research, IPSI, Pescara, Italy. 27 July- first August 2005.
- 6- "Promoting transfer of learning across complex scientific domains of knowledge", paper to be presented at LICE, 9<sup>th</sup>- 12<sup>th</sup> November, London, 2009.
- 7- Extended version of the paper presented in LICE 2009, had been published in Literacy Information and Computer Education Journal (LICEJ), Vol 1, Issue 1, 2010, ISSN 2040 2589.

8- “The Role of Prior Teaching Experiences and Pedagogy Content Knowledge in Understanding and Implementation of Scientific Concepts” Paper presented in IICE spring of 2012.

9- Extended version of the paper entitled”” The Impact of Pedagogy Content Knowledge on Pre-service and In-service Students’ Understanding and Solving Chemistry Problems had been published in the Literacy Information and Computer Education Journal (LICEJ), Special Issue, Volume 1, Issue 2, 875 - 878 ISSN: 2040 2589 (Online).

10- “Characteristics of pedagogy content knowledge that affects change in science teachers understanding of chemistry concept”, paper published on line 2012 BCCE, Affective Dimension in Chemistry Education.

11- The effect of PCK on solving selected chemistry problems, IJHSS, Vol2, No6,2012.

12- "The Impact of Social Motivational, Cognitive, and Pedagogic Content Dimensions on Understanding Chemistry Concepts" vol 2, No 2, IJBHT, 2012.

13- The dynamic transition from limited English proficiency into English proficiency in assessing university students' understanding of chemistry concepts, paper published on online, AIIC, 2013. would be published in European Scientific Journal.

14-Fitting various instructional strategies into various domains of scientific knowledge, European Scientific Journal, 2014 republished in Procedia - Social and Behavioral Sciences 143 (2014) 195 – 198. Available online at [www.sciencedirect.com](http://www.sciencedirect.com).

15-Common misconception students have regarding the refraction and reflection of light 7th World Conference on Learning, Teaching and Educational Leadership Convention Canter Budapest – HUNGARY [www.wc-lta.org](http://www.wc-lta.org) (WCLTA 27 – 29 October 2016)

16-Overcoming students misunderstanding scientific abstract ideas in positivist curriculum, through using drawings analogies. ICSRS, 2019, Rome, Sapienza University, **CORIS Department on 25-26 October 2019.**

Extended version of the paper Republished as “Restructuring 19<sup>th</sup> Century Idea in Positivist Curriculum using Drawing Analogies”, in European Journal of Social Science Education and Research, Vol 7, Issue 1, Jan-April 2020.

17- The implying of conceptual change pedagogy by in- service teachers. International Journal of Liberal Arts and social Sciences, Vol, 8, No, 11, 2020.

### **Research papers published in Arabic**

1- “*Students’ Teachers Misconceptions about the Original Components of Living Organisms*”. Dirasat, 21, (4), 1994.

2- “*The effect of Curriculum in forming Students’ Conceptual map*”, Al-Balka Journal for Research and Studies, 4 (1), 1996.

3- “*The alternative conceptions students’ teachers have about the relationship between pressure and temperature at constant volume.* Journal of Mansura Faculty of Education, 31, May 1996

4- *Student’s Teachers Explanation about Detection of the Bodies in the Shadow*”. Abhath Al-Yarmouk, 16, (1), 2000.

5- “*The Alternative Conceptions Students’ Teachers have about Respiration,* Journal of the Faculty of Education, Assiut University, 14, (1) 1998.

6- “*Students’ Preconception in their Explanations for Metaphoric Terms in Science Textbooks*”, Journal of Faculty of Education, Assiut University 21 (2), 2005.

7- “*The Patterns of Students’ Explanations about ecological equilibrium*”, Dirasat (34),1, March 2007.

8- *"Using Arabic Mother Language in Solving Chemical Problems for First Year Students at University of Jordan*, Paper presented at the 14<sup>th</sup> annual meeting for using Arabic Language in Science, Ain- Shams University, Cairo, Egypt, 19<sup>th</sup> -22nd February 2008.

9- *The effect of teaching method on motivated elementary school students on comprehending their reading topics*, paper presented at the Annual Meeting of Arabic research, University of Jordan, 2010.

10- *The Holy Land: the global characteristics of ecology, and the early development of ethics and civilization*, paper presented at Islamic Modernization Conference, University of Jordan, 2010.

11- *The degree of student' teachers understanding for the integration between Sunna and Quran Statements, and the health, biological, and ecological concepts*. European Scientific Journal, Vol2, June 2014

12 *The nature of differences in thinking and attitudes between individuals and its relation to social order*. IIUM Quran Conference, Malaysia, 2015

13- *Conceptual Map about Hadith Sharif in Sahih Buchari*, Paper presented in conference "Skills to Serve Hadith Sharif", Zarka University, May 2017

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