

Honjiswa Conana

Date of birth: 22 November 1968

Nationality: South African

Educational qualifications:

2016: PhD (Physics Education), University of the Western Cape

My PhD thesis was entitled *Using Semantic profiling to characterize pedagogical practices and student learning: A case study of two introductory physics courses*. My Doctoral research comprised an in-depth study of students' experiences of a curriculum that is explicitly designed to develop physics students' academic literacy and their access to the disciplinary discourse of physics.

2009: M Ed (Curriculum studies: Science Education), University of Stellenbosch

My Masters research thesis focused on science process skills and investigations at the high school level. The study examined learners' understanding of science process skills (for example observation, measurement and data collection), and the way that learners drew on these and reasoned while communicating their findings in investigation tasks.

2005: B Ed Honours (Education development: Curriculum studies), University of Stellenbosch

Major courses: Didactics (Subject didactics – Physical Sciences: Physics & Chemistry), Education management, Educational psychology, Environmental education, Philosophy of education and Curriculum studies

1997: Further Diploma in Education (FDE)/Advanced Certificate in Education (ACE), University of Stellenbosch

Major courses (1996, 1997 & 2003): Physics (Secondary Education), Chemistry (Secondary Education), Mathematics (For Physical Sciences), Educational perspectives and Subject didactics (Physical Sciences)

Employment history and Positions held

2016 to present: Teaching and Learning Specialist: Faculty of Natural Sciences, University of the Western Cape

2010 – 2016: Academic Literacy Practitioner: Department of Physics, University of the Western Cape

2008 – 2009: Assistant Researcher and Resource Developer: Improving Biology Teaching Project at the Division of Postgraduate Studies, University of the Western Cape

2007 – 2008: Lecturer / Facilitator: ORT Tech Institute, (an NGO providing teacher training)

Teacher trainer for Technology, Natural Sciences and Physical Sciences

Lecture for ACE Technology Cape Peninsula University of Technology – Module: Electricity and Electronics

2005 – 2007: Lecturer / Teacher: Head start College (an NGO College)

Physical Science Grade 12, Engineering Science N4 and Life skills

1998 – 2005: Teacher: I D Mkize High School, Western Cape Education Department

Physical Science (Grade 10-12), Natural Sciences (Grade 8-9) and Mathematics (Grade 8-10)

Awards achieved

- Silver award in Khanyagula Science Expo for Teachers (1st prize) 2004
- Nominated as a Science Teacher of the Year 2004
- Nominated by the local district office to attend courses in HIV/AIDS, Astronomy and Natural Sciences at the University of Wisconsin-Madison in the United States of America during the Summer Sessions 2004
- Awarded a Doctoral Fellowship by Sasol Inzalo Foundation to undertake PhD in Physics Education at the University of the Western Cape 2011

Research Outputs

Conference presentations and proceedings

Herbert, M.S., Volkwyn, T.S., Maclons, R., Conana, C.H. & Marshall, D. (2010). *The Foundation Physics course within the Extended Curriculum Programme in the Science Faculty at the University of the Western Cape*. In “Mind the Gap” ASSAf STEM Forum: Higher Education Science and Engineering Responding to the School-University Gap. Conference proceedings co-hosted by Centre for Research in Engineering Education (CREE), UCT, Cape Town, South Africa.

Marshall, D., Conana, H., Maclons, R., Herbert, M. and Volkwyn, T. (2011). *Learning as accessing a disciplinary discourse: integrating academic literacy into introductory physics through collaborative*

partnership: The implementation of a research based physics course in an extended curriculum programme". Paper presented at the "Dynamic content and language collaboration in higher education: theory, research, and reflections conference" at Cape Peninsula University of Technology, South Africa in January 2011.

Herbert, M.S., Volkwyn, T.S., Maclons, R. and Conana, C.H. (2011). *Physics in the extended curriculum programme*. Poster presented at the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) conference, November 30 - December 02 2011 in Port Elizabeth, South Africa.

Conana, H., Case, J., Holtman, L. & Marshall, D. (2012). *A curriculum designed to develop cumulative learning in introductory physics*. Paper presented at the 7th International Basil Bernstein Conference, June 28-30 2012, in Aix-en-Provence, France.

Conana, H., Marshall, D., & Case J. (2014). *In a liminal space: learning to 'think like a physicist'*. Paper presented at the Higher Education Close Up 7, July 21-23 2014 in Lancaster, UK.

Conana, H. (2015). *Semantic profiles in undergraduate physics: characterizing pedagogical practices and student learning*. Paper presented at the First International Legitimation Code Theory Colloquium, June 18-19 2015 in Cape Town, South Africa.

Conana, H. (2015). *The educational affordances of an extended physics curriculum structure: Characterizing pedagogical practices and student learning*. Poster presented at the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) conference, November 17-20 2015 in Potchefstroom, South Africa.

Conana, H., Marshall, D., & Case J. (2016). *Care and attentiveness in introductory physics: characterising pedagogical practices in an extended physics course*. Paper presented at the Higher Education Learning & Teaching Association of South Africa and International Consortium for Educational Development (HELTASA/ICED) conference, November 22-25 2016 in Cape Town, South Africa.

Conana, H., Marshall, D., & Case J. (2016). *A multimodal perspective on undergraduate physics teaching*. Paper presented at the Eight International Conference on Multimodality (8ICOM), December 07-09 2016 in Cape Town, South Africa.

Conana, H., Marshall, D., & Case J. (2017). *Exploring the transition to second year: Pedagogical practices and student learning in physics*. Paper presented at the Second International Legitimation Code Theory Conference (LCTC2), July 03-07, 2017 in Sydney, Australia.

Conana, H., Marshall, D., & Case, J. (2017). *Exploring the transition to second year: Characterising pedagogical practices and student learning in physics*. Paper presented at the 2nd International Legitimation Code Theory Conference, July 3–7 2017, in Sydney, Australia.

Conana, H. (2017). *Supporting students in accessing undergraduate science: researching curricular and pedagogical approaches*. Paper presented at the Regional Extended Curriculum (ECP) Symposium, August 30 2017, in Bellville.

Conana, H. (2017). *Enabling epistemological access to undergraduate physics: Implication for curriculum and pedagogy*. Paper presented at the 3rd Annual Academic Development Symposium, September 15-16 2017, in Parow, Cape Town.

Winberg, C., Wolff, K., Bozalek, V., Conana, H., Pallitt, N., & Adendorff, H. (2017). *Interdisciplinary dialogues: translating pedagogy for university teachers developing teaching portfolios in STEM fields*. Paper presented at the Higher Education Learning & Teaching Association of South Africa (HELTASA) conference, November 21-24 2017 in Durban, South Africa.

Peer-reviewed journal publications

Marshall, D., Conana, H., Maclons, R., Herbert, M. and Volkvyn, T. (2011). Learning as Accessing a Disciplinary Discourse: Integrating Academic Literacy into Introductory Physics through Collaborative Partnership, *Across the Disciplines*. Vol. 8 Special Issue: Collaborating for Content and Language Integrated Learning <http://wac.colostate.edu/atd/index.cfm>.

Conana, H., Marshall, D. and Case, J. (2016). Exploring pedagogical possibilities for transformative approaches to academic literacies in undergraduate Physics. *Critical Studies in Teaching and Learning*. 4(2), 28-44.

Book chapters

Herbert, M., Volkwyn, T., Herbert, M., Conana, H and Marshall, D. (2011). Multiple modes of epistemological access in physics. In V. Bozalek, J. Garraway and S. McKenna (Eds). *Case Studies of Epistemological Access in Foundation/Extended Curriculum Programmes in South Africa*. Cape Town: HELTASA.

Conana, H. (2017). *The Physics Extended Curriculum Programme at the University of the Western Cape*. In Cape W, Conana H, Motsabi S, van Zyl A, Samson S, Winstead J, Knipp S. *The First Year Experience in Higher Education in South Africa: A Good Practices Guide*: Johannesburg: 5-17.

Student Supervision Record

Currently supervising two students (Physics Education Research studies) – 1 MSc and 1 PhD.