Presented Papers | 40

Why use structured controversy pedagogy (in LAMS)?

Eva Dobozy School of Education Curtin University

This paper explores the nature, purpose and practice of structured controversy pedagogy (SCP). It begins by examining the philosophical underpinnings of SCP and explains its relationship with transformational learning. A four-step model is introduced, followed by two LAMS-based case examples, illustrating contemporary, technology-based applications of this pedagogical model. This paper argues that SCP may provide a possibility to engage students and lecturers in teaching and learning practices that move beyond transmission education. It is a response to Dalziel's (2010) call for more specific examples of eTeaching Strategies.

Keywords: Structured controversy pedagogy, Learning Design, eTeaching, LAMS

Introduction

The path of thinking is not from the Known to the Unknown, but from the Unknown in the Known to the Unknown in itself. (Fernando Pessoa, 1968, cited in Vintimilla, 2012, p. 15)

Teaching with controversy is not new. It means introducing students to academic conflict, problems and dilemmas of practice. This approach to teaching and learning values autonomous and reflective thinking and promises not simply subject-specific knowledge and skills development, but more importantly its intentions are the enhancement of identity or personality development (Johnson & Johnson, 1988) and the expansion of critical and creative thinking skills (Yilmaz & Seiffert, 2011). Rather than providing students with 'facts' through traditional transmission education, this pedagogical approach seeks to draw out personal reactions to enhance meaning making and the rigorous testing of ideas in the development of deep understandings of a given concept or phenomena. Despite the value attributed to this approach to teaching and learning, Johnson and Johnson (1988) explain that "teachers often suppress students' academic disagreements and consequently miss out on valuable opportunities to capture their own audience and enhance learning (p. 58). Hence, a central aim of structured controversy pedagogy (SCP) is to get students cognitively and emotionally involved in the learning activity through the expression and defense of their ideas and actions. Learners are encouraged to take a stand on an issue, to deconstruct it, argue for or against it, and through the act of deliberation and debate enhance critical capacities and learn more about the subject at hand. Active participation in learning activities enable deep learning experiences that have been referred to as transformational in nature (Dobozy, 2012).

The paper is deliberately descriptive in nature, providing two rich examples of eTeaching strategies in an attempt to show how constructivist learning theory is put into practice by one lecturer. It is hoped that this practical example will inspire others to not simply adopt or adapt the approach outlined in the paper, but more importantly, to engage in professional dialogue about their experiences and their views about the value and challenges of modernising teaching and learning practices in general and the benefits and/or disadvantages of LAMS-based SCP in particular (Dalziel, 2010). The paper is structured as follows: First, the philosophical underpinnings of SCP are briefly outlined. Second, the idea of transformational learning is explained in some detail, linking the learning of subject-matter knowledge and skills with what is commonly referred to as 21st century knowledge and skills. Third, two LAMS-based case examples are provided, illustrating contemporary technology-based applications of this pedagogical model in teacher education. Finally, some conclusion are draw highlighting that SCP may be a possibility to engage students and lecturers in teaching and learning practices that move beyond transmission education.

Philosophical underpinnings

The philosophical underpinnings of SCP lay within an interpretive paradigm. It assumes that social reality is the result of subjective interpretation and personal meaning making. "To be locked in a particular paradigm is to view the world in a particular way", explain Burell & Morgan, 1974, p. 24). Or as Pansiri (2005) notes:

Paradigms have been defined as 'world-views' that signal distinctive ontological (view of reality), epistemological (view of knowledge and relationships between knower and to-be known), methodological (view of mode of inquiry), and anxiological (view of what is valuable) positions" (p. 196)

Consequently, SCP's theoretical framework, operating within an interpretive paradigm, can be characterised by a set of common principles and processes. According to Smith, Flowers and Larkin (2012) these are: a commitment to personal meaning making in particular contexts and moving through deliberate reflexive engagement from a particular, individualistic view to a new and possibly shared understanding (79-89). In other words, the requirements of design are that the phenomena investigated are clearly visible within the case constructed. Students will need opportunities to systematically apply their ideas, but also sufficient flexibility to be imaginative, playful and develop a combination of reflective, critical, creative and conceptual thinking.

Not only has SCP the potential to provide a means for students to become critical thinkers and actively engaged with each other in an ethical and respectful way, it further "helps to minimi[s]e the suspicion of possible indoctrination and partisan influences" when engaging with controversial topics and issues (Leung & Yuen, 2009, p. 19). It may even unleash the realisation of a different reality and hence to transformation of thought and being, because even when a student says 'this is right/wrong' or 'true/untrue', the perceived reality "remains open to a reinscription because it is always haunted or bothered by its own impossibility" (Vintimilla, 2012, p. 94). Stone (2011) explains that "meanings overlap, sometimes to the point that, when we feel our meaning is understood by others, there is an evanescent sense of spiritual communion. ... [t]he idea that meaning is relational, or, more precisely, dialogical. The idea is encapsulated in the concept of dialogical thinking (p.32).

Transformational learning

Similar to David and Robert Johnson (1988), Henry Giroux (1994) and Paulo Freire (1970) are also two of the more prominent education scholars. All of them have pointed to the need of education at all levels to create opportunities for transformative experiences. For example, Giroux (1994) notes: "educators will not be able to ignore the hard questions", which ultimately "will play a major role in defining the meaning and purpose of [meaningful learning]" (p. 280). Today, there seems much agreement among contemporary education researchers that learning-centric educational experiences are essential for the preparation of workers in a globalised and highly networked world (Levy et al., 2010; Nygaard, Hojlt & Hermansen, 2008; Reynolds, 2006). The focus on soft-skills development, such as critical and creative thinking, communication, collaboration and networking fits well with ideas and ideals of a structured controversy pedagogy.

Like Johnson and Johnson (1988) two decades ago, Dobozy (2007) and Todd and Säfström (2008) explain that education should take conflict seriously. They point out that contemporary pedagogical models of how to promote respectful learning in an active classroom often center on "creating a conflict-free atmosphere ... [i]ndeed, conflict is often perceived as not simply being counter-productive to dialogue and conversation, but as being indicative of communicative breakdown itself" (Todd & Säfström, 2008, p. 1). Agreeing with this view, this paper argues that academic disagreement should not be avoided. Rather, it should be embraced and used for the dual purpose of teaching students about a particular subject matter. It is equally important to also develop their 21^{st} century skills.

Through the act of deconstruction and critical thinking, previously unquestioned assumptions and possible internal contradictions are unearthed (Biesta, 2009). The guiding concept for the advocacy of this form of active and transformative education through the utilisation of SCP is *exposure*. Focusing on a range of 21st century skills, in particular higher order thinking skills, Hannam and Echeverria (2009) make the point that enquiry pedagogies set the stage for the interaction between four key elements, namely critical thinking, creative thinking, collaborative thinking and caring thinking and four categories of skills, listed as good reasoning skills, investigatory skills, conceptual skills and translation skills. The SCP model developed incorporates the abovementioned elements into a clearly identifiable logical structure (see Figure 1).

Presented Papers 42

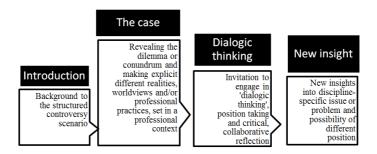


Figure 1: Four step Structured Controversy Pedagogy model

The conceptual model illustrated in Figure 1 was taken as the starting point for the development of two LAMS modules for the Society & Environment learning area in a teacher education program. LAMS is seen as an ideal vehicle for learning-centric design because of its visual appeal for the designer and the user-friendly swimlane structure for learners, providing logical design flows and time structure. Online documents and vodcasts can be seamlessly integrated into the instruction to students, providing an effective and efficient way of engaging them with foundational knowledge and background information. Providing students with various information sources is essential for the enactment of SCP.

The new Society & Environment learning area as taught in Western Australian primary schools in the coming years encompasses history, geography, economic, business and civics and citizenship (Government of Western Australia, 2012). Two distinct subjects within the new Australian Curriculum are Geography and Civics and Citizenship. Although there is recognition of their alignment with the previous state curriculum as outlined in the Western Australian Curriculum Framework (Government of Western Australia, 2012), pre-service teachers will need to become familiar with both state and national policy documents. To assist this process, two LAMS modules have been recently developed to supplement the face-to-face curriculum offerings in one of the teacher education programs at a Western Australian university. Extracts from the Geography module and the Civics and Citizenship module will serve as illustrative examples for the implementation of the four-step SCP model (see Figure 1).

Table 1: Introduction and background information

SCP Module specific extracts Step 1 Introduction Geography Education in the Age of Google - Welcome to the interactive online workshop Background to the Welcome to the interactive online workshop on Geography Education in the Age of Google nature and purpose of Geography teaching. Invitation to view vodcast and Read the introduction and think about the way it has been constructed (metacognition) read Australian View a short voicast and answer guiding questions (big picture - generic issues) Engage with scenario work to help you understand (a) the nature of [what is] geography learning and teaching; (b) the purpose of [why] geography learning and teaching in K-7 classrooms; and (c) some possible features of geography learning and teaching [how it may look differently]. (specific, geography-related issues) Review the national curriculum material to help you understand what likely changes can and should be expected in Geography. (future outlook) Curriculum policy document Before we start with the video, let me briefly explain an issues from educational psychology that is relevant in this context: deliberate practice Deliberate Practice (of problem solving and creative/critical thinking skills) Introduction Civics and Citizenship Education Supplement - Welcome to the interactive online Background to the Civics and Citizenship curriculum. Focus on Welcome to the interactive online workshop on Civics and Citizenship Education in a the Discovering Democracy curriculum globalised world package developed and introduced to Australian classrooms How this workshop is structured: some years ago. Also, there is mention of a more recent policy 1. Read the introductory scenario and think about the way it has been constructed (metacognition) development, namely 2. Engage with the two issues introduced (a) The Discovering Democracy documentation and (b) the Asia Literacy the Asia Literacy documentation (competing curriculum ideas - dilemma for teachers?) initiative. 3. Deconstructing the 'staffroom dialogue' provides you with a particular insight into the changing nature and politics of education (what issues are prioritised? How are teachers affected?) 4. Review the national curriculum material to help you understand what likely changes can and should be expected in Civics and Citizenship Education. (future outlook)

In the case of the Geography module, students are instructed to view a short vodcast about the concept of globalisation and its impact on people's lives and answer a few questions to ensure they have basic knowledge and understanding of key geographical theories and ideas prior to engaging with the LAMS-based SCP module. Similarly, in the case of the Civics and Citizenship module, students are requested to read two different policy initiatives, introducing them to changed curriculum ideas, moving from a focus on nationalism to a focus on the need for internationalisation. After setting the stage for the context-specific scenario, the case is introduced (see Table 2).

Presented Papers | 44

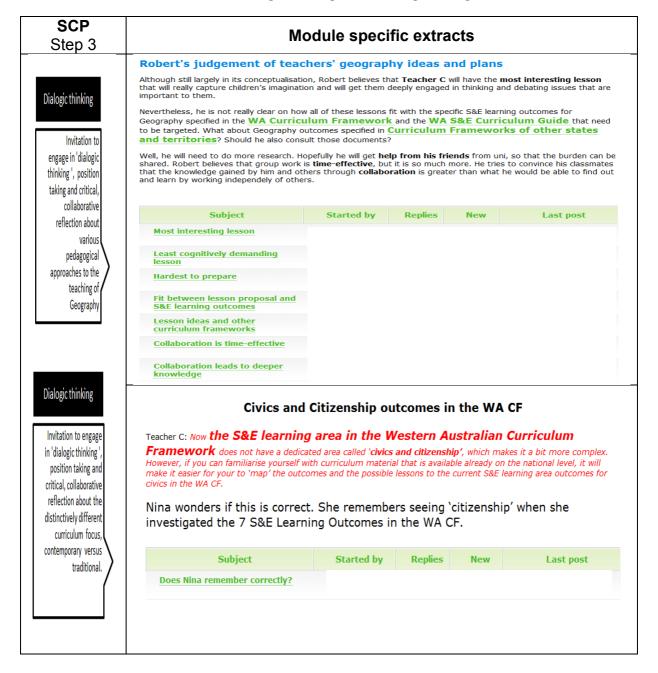
Table 2: The case – introducing the dilemma

SCP Module specific extracts Step 2 'Listening in' - Teacher C's story (Teachers' direct speech is colour coded as follows: Teacher A is blue; Teacher B is green; Teacher C is orange) The case Teacher C: How interesting to listen to your great ideas. I have done something completely different. I have focused on population growth in my lesson preparation and wanted to emphasise a global perspective, link Geography outcomes with Civics and History outcomes, getting students to understand the implications of the rapid changes that we experience here meet to dicuss their lessor ideas, which al My plans are much more in draft form and I was hoping that we can work together to make them a bit more concrete. include elements of ICT. However Teacher B: Certainly, I am more than happy to help you with the development of individual lessons and possible processes, but what task have you got in mind? Where would you like the children to start and what Year level are you teaching this year? opperate out of different teaching paradigms, using very distinct I did not come as prepared as I liked, because I was preoccupied with reading the new Geography paper and the consultation power-point notes (http://www.gtaq.com.au/cms/images/ngc%20forum%20april.pdf), both are stating that the paper is NOT a framing paper, but rather a consultation paper that is still developing. pedagogies and ways to engage students with the learning content Teacher A: So what should we call it then, if it's not a 'framing paper'? Teacher C: They say it is a `Background Report' that is developed for consulta purposes. (http://www.ngc.org.au/report/background_report_Final.pdf). It is a 128-document, but quite interesting to ready actually. The case Teacher A: Well, that's easy. Check out the DD curriculum material. The previous government has spent much money Three teachers, one of which is the prac on this initiative. It was over \$31 mio. student's supervisor discuss recent Society & Teacher B: Not so fast! There is now a new prime minister and a new wind blowing: Maybe DD is out and Asia literacy Environment curriculun is in? The Rudd government announced that it has committed over \$62 mio to get Australia 'Asia literate' through developments, pointing specific education initiatives. to the similarities and differences between the All teachers laugh and the prac students, including Nina, are not quite sure if they should laugh too or not, although, History, Geography and Civics and Citizenship judging by their facial expressions, they do not seem quite sure what the teachers are laughing about. curriculum developments of the new Australian Teacher C: I can see that our prac students are not yet used to the many changes in education. (Even more laughter) Curriculum to be As a teacher, you need to get used to an always changing education landscape. It is a bit like the desert, one minute introduced in the nea the hill is over here, the next it is over there. What is important is to recognise that the desert is full of sand. future

The dilemma or conundrum presented to students in the case of the Geography module is as follows: although all three imaginary teachers (Teachers A, B and C) agree on the particular Geography content to be covered over the coming term, their diverse teaching philosophies and paradigms do not allow them to come to an agreement about 'the best way' to get their imaginary primary school students to engage with the learning content. The learners engaging with the LAMS-based SCP module are, similar to Robert (an imaginary pre-service teacher on a practicum placement), 'listening in' on the conversation. In the story, Robert has been invited by his supervising teacher, who is part of the planning group, to explain his preferred way of teaching the Geography content. The learners engaged with the LAMS-based SCP module are invited to advise Robert and help him defend his pedagogical choice, providing support for one teacher's ideas against the others and explain why the particular pedagogy chosen is superior to the others on offer.

In the case of the Civics and Citizenship module, the learners engaging with the LAMS-based SCP module find that they are put again into an imaginary school context. This time, the scenario is located in the staffroom during lunch time. And, similar to the Geography module scenario, there are three imaginary teachers, one of which is the supervisor of a 2nd year teacher education student called Nina. The supervising teacher is asking her imaginary student teacher (Nina) to explain what she is working on in the Society & Environment unit at university. The student explains that she will need to prepare for a test and submit some lesson plans for the three interrelated areas: History, Geography and Civics and Citizenship and whereas she seems confident in understanding the nature and purpose of the former two, she is unclear about the latter. The conundrum introduced in this scenario is the distinction between the twin concepts of Civics and Citizenship on the one hand and the utility of two distinct policy initiatives one introduced in 2003 (the Discovering Democracy curriculum package) and one introduced in 2010 (the Asia Literacy initiative). The former has a distinct national focus and the latter values and advocates for an international focus. The learners engaging with the LAMSbased SCP module are in a similar situation as Nina, not quite understanding the curriculum and significance of the recent policy changes and how they may impact the planning and conducting of Civics and Citizenship lessons. Hence, these learners are taken on a journey of discovery, where they need to make choices and defend their decisions in the light of choices and decisions made by their peers (see Table 3).

Table 3: Dialogic thinking and knowledge sharing



Getting to understand the ever-changing policy landscape of Australian schooling can be difficult for practicing teachers and is even more demanding and challenging for pre-service teachers. Nevertheless, it is vital for preservice teachers to learn to 'see' the practical application of policy and engaging on a variety of levels with policy directives. This is one of the main reasons for the focus on lesson planning in the SCP modules. Both modules provide a variety of lesson ideas (discipline-specific content) and ways to engage students with the learning of the content (pedagogical content). Moreover, through the interactive nature of the module, learners are encouraged to provide personal viewpoints and elaborate on their decisions, understanding that there is no right/wrong answer. The underlying purpose of these forum tasks is the sharing of ideas and making explicit how meaning is constructed and applied to specific problems. Being able to support an imaginary student teacher in a practicum situation (Robert and Nina), provides another layer of protection to learners as they are encouraged to help the student teacher in her/his quest to make sense of the variety of ways of teaching and learning Geography and/or Civics and Citizenship. The fourth and final step in the SCP model is the generation and sharing of 'new insights' gained through the engagement with the module, the embedded curriculum material and each other (see Table 4).

Presented Papers | 46

Table 4: New insight and its practical application

SCP Module specific extracts Step 4 Robert's reflection and action New insight Despite feeling greatly inspired by the three teachers' ideas of how to teach Geography, Robert and some of his friends, have constructed a Geography lesson that is quite different from what Robert has heard at the meeting with the three New insights into ways of teachers. teaching Geography differently. A deepe Although Robert's lesson plan is not quite complete, he is wondering how valuable it really is. Robert decides to organise a understanding and meeting with his peers (you), somewhat similar (in spirit) but also quite different (in format) to that of his mentor appreciation of the need teachers, to exchange ideas and listen to what others say. to engage with issues of teaching paradigm and The friends decided that Robert should post their ideas on the forum and invite all of their peers, some with philosophy, not only in quite divergent views, to comment on the lesson idea. Some may even help them get it finished. theory, but also in Nice sentence, but what does it mean? context-specific practice. One of Nina's friend found TWO sentences that she would like to use to explain the value of Civics and Citizenship teaching and learning as exemplified in the WA CF. She found them on page 13 and 32 of the S&E section of the online version of the WA CF. Sentence 1 (p. 13): Through this analysis, they demonstrate behaviours consistent with the values associated with the democratic process, such as acknowledging individual freedom and New insight the rights and responsibilities of participating in a democracy; respect for the law and for legitimate and just authority; respect for different choices, viewpoints and ways of living; and ethical behaviour and equit New insights into the curriculum area Civics and Sentence 2 (p. 32): Citizenship and the possible The Active Citizenship outcome provides students with tangible ways of applying and impact of government change acting upon their learning and thereby provides increased relevance for their personal on school education policy direction. Also the need to pragmatism in the sense that **Subject** Started by Replies New Last post although there is much change, there is also much Initial strategy that stays the same Your own opinion

Finishing the module with specific 'action items' emphasises again the sharing of new insights concerning the theory/praxis nexus, which is providing not so subtle signals that collaboration and communication are central to 21st teacher learning. In the case of the Geography module, Robert, the imaginary student teacher, is encouraged by his friends to post the lesson ideas on a forum and invite feedback. Similarly, Nina, the imaginary student teacher, in the Civics and Citizenship module has posted two specific sections from a Western Australian policy document, inviting learners to engage with the original document, the specific extracts and with each other.

Discussion and conclusion

All pedagogies are value-laden and come with 'attendant discourse' of theory (Alexander 2008, p. 47). Thus, they are underpinned by educational values, aims, purposes, principles, which align to a particular educational paradigm. The importance attributed to the expression and defence of deeply held beliefs and the need to act upon those ideas and ideals through personal decision-making is, contrary to traditional transmission education methods, underpinned by an interpretive paradigm. Through individual and collective engagement with the carefully crafted scenario and the real-world professional dilemma, learners are, in an interpretive paradigm, encouraged to reflect upon and think deeply about previously unquestioned assumptions. This process makes possible the detection of possible internal contradictions and misconceptions (Biesta, 2009). This paper argued

that rather than 'subduing' students' academic conflicts, applying SCPs in contemporary formal education at all levels, has the potential to enhance learning engagement and outcomes. Focusing on the development of a range of 21st century skills, the LAMS-based SCP model, as one of a range of learning-centric eTeaching strategies, was designed to move beyond traditional transmission education pedagogies. Similar to other LAMS-based eTeaching strategies introduced by Dalziel (2010), the current SCP model is, so this paper argued, able to empower learners to engage in higher order thinking and the collective testing of ideas.

Teacher education and the learning area of Society & Environment were chosen to illustrate the application of a LAMS-based four step SCP model. Its main message to teacher education students as future designers of learning experiences for their school-aged students was that they should embrace rather than avoid conflict in their teaching. SCP is a particular pedagogical approach that moves beyond transmission education to get students to draw on their technical and generic knowledge and skills. In other words, SCP may be useful as a potent tool for developing soft-skills and discipline-specific knowledge and skills (Todd & Säfström, 2008). The four step SCP model explored in this paper commenced with an introduction page constructed on the LAMS noticeboard. The introduction pages were designed to provide background information to both structured controversy scenarios (see Table 1). Step two was designed to engage students with a discipline-specific dilemma or conundrum. Step three encouraged learners to explore different realities and viewpoints, providing an avenue for the transformation of deeply held beliefs and opening up possibilities for the re-inscription of personal and professional selfs, hence to be transformational in nature. The final step of this SCP model was getting learners to act upon their new insights and share their knowledge, repeating the cycle of discovery, testing and defending of ideas and ideals.

A next step is the development of a template model of this SCP construct. The aim is to retain the pedagogical content and removing discipline-specific references. However, for any eTeaching strategy to be adopted by educators, its value needs to be established. Many higher education lecturers and students are still questioning the benefit of learning-centric pedagogies. They do not necessarily share in the belief that there is an urgent need to modernise current teacher-centric and content-driven educational practices. Until there is greater grassroots support for non-traditional teaching and learning practices at the university level, it may be difficult to get lecturers enthusiastic about the prospect of utilising learning-centric teaching templates.

References

- Alexander, R. (2008). Education for All, the quality imperative and the problem of pedagogy. CREATE Research Monograph, no 20. Brighton, UK: University of Sussex.
- Biesta, G. (2009). Witnessing deconstruction in education: Why quasi-transcendentalism matters. *Journal of Philosophy of Education*, 43(3), 391-404.
- Burell, G., & Morgan, G. (1979). Sociological paradigm and organizational analysis. London, UK: Heinemann. Dalziel, J. (2010). Practical eTeaching Strategies: Predict-Observe-Explain, Problem Based Learning and Role Plays. Sydney: LAMS International. See www.practicaleteachingstrategies.com
- Dobozy, E. (2012). The deBono LAMS sequence series: Template designs as knowledge-mobilising strategy for 21st Century Higher Education. *Teaching English with Technology Special Issue on LAMS and Learning Design, 12*(2), 88-102.
- Dobozy, E. (2007). *The learning of democratic values: How four 'out-of-the-ordinary' schools do it.* French Forest, NSW: Pearson.
- Freire, P. (1970). Pedagogy of the oppressed. Harmondsworth, UK: Penguin.
- Giroux, Henry A. (1994). Toward a pedagogy of critical thinking. In: K. Walters (Ed.). *Re-Thinking Reason: New Perspectives in Critical Thinking*. Albany, NY: State University of New York Press.
- Government of Western Australia (2012). Curriculum: Society and Environment. Department of Education. Available at: http://det.wa.edu.au/curriculumsupport/k10syllabus/detcms/navigation/society---environment/
- Hannam, P. & Echeverria, E. (2009). *Philosophy with teenagers: Nurturing a moral imagination for the 21*st *century.* New York, N.Y.: Continuum.
- Johnson, D., & Johnson, R. (1988). Critical thinking through structured controversy. *Educational Leadership*, 45(8), 58-64.
- Leung, Y., & Yuen, T. (2009). Participatory citizenship and student empowerment: Case study of a Hong Kong school. *International Journal of Citizenship Teaching and Learning*, *5*(1), 18-34.
- Levy, P., Little, S., McKinney, P., Nibbs, A., & Wood, J. (2010). The Sheffield companion to inquiry-based learning. Brook Hill, Sheffield, UK. Available at: http://www.shef.ac.uk/content/1/c6/10/88/63/Sheffield_IBL_Companion.pdf.

Nygaard, C., Hojlt, T., & Hermansen, M. (2008). Learning-based curriculum development. *Higher Education*, 55(1), 33-50.

- Reynolds, J. (2006). Learning-centred learning: A mindset shift for educators. *Inquiry*, 11(1), 55-64.
- Pansiri, J. (2005). Pragmatism: A methodological approach to researching strategic alliances in tourism. *Tourism and Hospitality Planning & Development*, 2(3), 191-206.
- Smith, J., Flowers, P., & Larkin, M. (2012). Phenomenological analysis: Theory, method and research. (2nd Ed.). London, UK: Sage.
- Stone, J. (2011) Questioning education: A critique of philosophy for children. Masters thesis. Retrieved from: http://www.jsafire.co.uk/jsafire/blog/10-11/MA-Dissertation-IOE-Sep-2011.pdf
- Todd, S., & Säfström, C. (2008). Democracy, education and conflict: Rethinking respect and the place of the ethical. *Journal of Educational Controversy*, *3*(1). Retrieved 5 September, 2012 from: www.wce.wwu.edu/Resources/CEP/eJournal/v003n001/a012.shtml
- Vintimilla, M. (2012). Aporetic openings in living well with others: The teacher as a thinking subject. PhD Thesis. Available from:

 https://circle.ubc.ca/bitstream/handle/2429/42557/ubc_2012_fall_delgadovintimilla_mariacristina.pdf?
 sequence=5
- Yilmaz, S., & Seiffert, C. (2011). Creativity through design heuristics: A case study of expert product design. *Design Studies*, 32(4), 384-415.

Please cite as: Dobozy, E. (2012). Why use structured controversy pedagogy (in LAMS)? In L. Cameron & J. Dalziel (Eds), *Proceedings of the 7th International LAMS Conference: Surveying the Learning Design Landscape* (pp40-48). 6-7 December 2012, Sydney: LAMS Foundation. http://lamsfoundation.org/lams2012sydney/papers.htm

Copyright © 2012 Eva Dobozy.

The author(s) assign to the LAMS Foundation and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to the LAMS Foundation to publish this document on the LAMS Foundation web site (including any mirror or archival sites that may be developed) and in printed form within the LAMS Conference Proceedings. Any other usage is prohibited without the express permission of the author(s).