

Leading curriculum renewal in a faculty of education: a story from within

ANA NAIDOO

University of Pretoria

This article investigates the process of curriculum renewal in a faculty of education. I report on my own experiences as the initiator of the change to the Bachelor of Education curriculum. When colleges of education were incorporated into higher education institutions, some faculties of education were relocated to these campuses. This move brought to the fore the debate of whether it is better for a faculty of education itself to offer all the content in an education degree, or to outsource subject specialisations apart from Education to discipline-specific departments in other faculties.

The existing curricula and the recommendations of an internal audit were interrogated as a first step towards change. The idea was to strengthen the subject specialisation knowledge of the students through the involvement of the discipline-specific or specialist faculties and simultaneously include a social justice framework for the delivery of the programmes.

Design research methodology was used to analyse the process of curriculum renewal in the Faculty of Education. In order to analyse the existing curriculum, a process of document review was used. The final curriculum was negotiated with staff members and its compliance with the Higher Education Qualifications Framework is provided.

Keywords: Bachelor of Education, design research, curriculum renewal, social justice

Introduction

Change is uncomfortable for most people, and so it is not surprising that curriculum change in a higher education institution generates feelings of resistance. Using resistance constructively (Waddel & Sohal, 1998; Maurer, 1996) however, can open the doors for communication and thereby improve the chances of the adoption of change. Accordingly, in this project, the lecturers involved in implementing the curriculum had to be kept informed and involved at every stage. There was thus a natural sway towards design research (Bereiter, 2006). This article is an account of the process of curriculum renewal in a faculty of education at a higher education institution (HEI). I opted for a participative leadership style in an attempt to overcome the resistance I sensed during my first few meetings with the academic staff. In the article, I report on my experiences and perceptions as the initiator of changes to the Bachelor of Education (BEd) curriculum. I hope that these experiences will be of benefit to others in their attempts to introduce similar changes.

Background

Education faculties and departments in HEIs in South Africa have been severely affected by changes in the higher education landscape (DoE, 2001), specifically the incorporation of colleges of education into HEIs as well as the merging of some institutions (MoE, 2002). The incorporation process resulted, among other things, in HEIs acquiring additional campuses that previously belonged to the former colleges. Some faculties of education were then relocated to these campuses, which meant that these faculties, for example those at the University of KwaZulu-Natal and the University of Pretoria, were physically removed from their original campuses. Such faculties of education then chose to offer their own subject specialisations, such as History or Mathematics, with the result that the students were exposed only to ex-teachers or other lecturers who had been trained through teaching programmes. This move brought to the fore the debate of whether it is better for a faculty of education itself to offer all the content in an education

degree or to outsource subject specialisations, apart from Education, to discipline-specific departments in other faculties.

During the national review of education programmes, the BEd programme in my institution received full accreditation; nevertheless, it was decided to include all seven BEd programmes in an internal institutional audit process in the Faculty of Education. This is in line with Avalos, Tellez and Navaro's (2010) recommendation that programmes should be examined periodically for coherence and that an accreditation process should not be relied on as the only factor for improvement. The programmes investigated were the Bachelor of Education degrees in the Early Childhood Development and Foundation Phase (BEd: ECD &FP), the Intermediate Phase (BEd:IP), the Senior Phase (BEd:SP) and four BEd degrees in Further Education and Training (BEd:FET).

Following the internal audit, recommendations were made in terms of the BEd programmes. Among them was the recommendation to strengthen the subject specialisation of the BEd students through the involvement of the discipline-specific or specialist faculties. In order to validate this recommendation further, a meeting was held with local principals to whose schools our students had been assigned for the teaching practice component of their training. The principals stated that when the students arrived at the schools, especially at the beginning of their second year, they were not capable of managing a class because of their subject knowledge deficiency. The principals consequently believed that their schools did not benefit from having the students for teaching practice too early in the curriculum.

Input from the students on the teaching of the Education modules in the various programmes suggested a duplication of content over the three years. The input from the school principals and our students confirmed the need to revisit the curriculum.

The problem

An examination of the *Framework for repositioning the Faculty of Education: Audit report* (2008), hereafter referred to as the Audit report, revealed the main research problem as: ***How to strengthen the BEd curricula so novice teachers' subject knowledge is deepened, allowing them to continue further studies in the discipline of specialisation if they wished to do so.***

A secondary concern was that the programmes lacked coherence and that some of the modules carried too few credits. My assumption was that a teacher- education degree would include pedagogical content knowledge (PCK). An examination of the existing curriculum, with both the content and methodology of a subject being taught in some instances by the same lecturer, did not reveal a deficiency in PCK. How PCK is integrated into the curriculum as a whole will be considered later.

Literature review

The literature (Sheehan 1986; Kelly 1989) speaks of curriculum development as being product driven as opposed to process driven. A teacher education curriculum that has a strong discipline (content) base has to accommodate both product and process. However, it is not the purpose of this article to participate in such a debate. Rather, in terms of the need to deepen students' subject content knowledge, Muller's (2009) views will constitute the starting point of the article. Muller sees curriculum in terms of the differences in disciplines as well as coherence. He concurs with Biglan's (1973:204) division of academic areas into (a) a single paradigm (making it hard or soft), (b) practical application (in terms of pure or applied), and, finally, whether it falls under life systems or not. In this three-way differentiation, an Education degree is classified as a life system in the applied area. The choice of specialisation will determine whether the degree will be soft or hard. A BEd: FET in Natural Science, for example, is likely to be a hard, applied qualification whereas a BEd: IP is more likely to be a soft, applied qualification. Muller (2009) further distinguishes curricula on the grounds of conceptual and contextual coherence. Depending on the occupation under consideration, the mix of conceptual and contextual coherence will differ. A teaching qualification should ideally value the abstract nature of the content (conceptual) as well as the practice (contextual). Muller's (2009) and Biglan's (1973) work was considered in determining the spread of credits in the programmes.

Butin (2007:177) speaks of the need for “greater equity and equality across historically marginalized populations”. Having been educated during the apartheid period, I am conscious of the uncritical way in which teachers were encouraged to operate. My own historical background of being educated in the seventies in South Africa influenced the underpinnings of the proposed curriculum. Kruss (2008) maintains that the competing models for teacher education are based on the curriculum designers’ historical backgrounds and ideological positions. Because teachers in South Africa are likely to teach learners from diverse backgrounds, emphasis should be placed on social justice education (referred to by others as justice education). Service learning is a means of achieving equity education (Butin, 2007, Blundo, 2010). While Ash and Clayton (2004:137) focus on the ‘centrality of reflection’ in service learning as a way of enhancing the reflective process in the curriculum, North (2006) shows that students - in this case student teachers - have to unlearn their oppressive assumptions before they can focus on any form of justice education. In their study, Baldwin, Buchanan & Rudisill (2007:316) used service- learning to encourage critical reflection and dialogue for self-interrogation and questioning. They noted that student teachers assumed that their life experiences were similar or identical to those of their students. Hondagneu-Sotelo and Raskoff (1994) see service- learning as having the added advantage of sparking transformation in students’ perspectives due to changes in their surroundings.

Of the four styles that Miller (2011:35) uses to categorise curriculum design, the style focusing on social justice is aligned with a critical theorist approach. In order to see the implemented curriculum from a perspective that might be different from their own, the lecturers were provided with reading matter on critical theory, critical reflection and social justice (Adorno, 1998; Horkheimer and Adorno, 1972; Butin, 2007; Banks, 2004) so that they could extend their ‘theory of experience’ (Dewey, 1997:25-31). I regarded this as appropriate as the theoretical framework for the BEd programmes would then be underpinned by critical reflection and social justice education.

Methodology

Design research methodology (Bereiter, 2006; Collins, Joseph & Bielaczyc, 2004) was used to drive the process of curriculum renewal. Design research requires close collaboration between the designers and the practitioners in order to “make something new happen” (Bereiter, 2006:17). My participative style meant meeting regularly with the staff members who would be responsible for implementing the curriculum. First, the faculty members had to acknowledge the shortcomings in the curriculum. The suggested solution of getting other faculties to offer the subject specialisations was discussed at a joint meeting of academic and administrative staff where some staff members voiced their concerns about the current student admission requirements. Some also argued that not all BEd students would necessarily want to engage with discipline/subject specialisation into the Honours level. The students themselves were not interviewed to determine if they would prefer to continue their studies in the discipline of specialisation. Although the central source of information was the Audit report (2008), as part of the design research process I revisited the research problem. The research focus was fine-tuned with the emphasis placed only on strengthening content knowledge and not on the student pursuing further studies.

Vezzoli and Penin (2006) talk about design in emerging contexts aimed at sustainability (DECOS), which involves linking research issues to experimental didactics. At this early stage of implementation this process cannot be seen to have reached finality. In order to take the DECOS method into curriculum renewal, the implementation process in terms of actual teaching will have to be monitored, and suggestions from lecturers will be used to refine the curriculum further. Design research generally results in a product (Reeves, Herrington & Oliver, 2005), and, in this case, it would be the proposed curriculum. In accordance with the DECOS method, repeated revision took place before general acceptance of the curriculum was reached among the staff members.

After the first meeting with the staff members – where their concern about the present calibre of student was noted – the admission requirement regarding the cut-off point score was raised. It was thought that the new point score would attract students who would be capable of coping with the higher requirements of the other faculties. Further meetings were held with smaller groups of staff members in

each department within our faculty to obtain their input. Since the subjects taken from discipline faculties did not always align with those taught at schools, specific content had to be provided by the departments in our faculty. Subjects such as Physical Science, Life Orientation and Mathematics Literacy would be catered for. In design research, the collaborative efforts of the different departments were used to construct the curriculum without losing sight of its theoretical underpinning.

A process of document review was undertaken to analyse the existing curriculum. The process began with the identification of the purpose of the qualification as set out in institutional documents when the programmes were originally registered. Other documents consulted included the Audit report, the yearbook, selected study guides and the timetable.

Analysis

The above-mentioned official institutional documents were analysed with a view to determining the level of coherence and the depth of content knowledge (Muller 2009).

Documents

The *Audit report* (2008:66) emphasised the need for cohesion and coherence in the BEd degree. The significant number of low-credit modules was also a concern. The main recommendation in the report was the need to achieve stronger subject specialisation knowledge.

In the *yearbook*, the descriptions indicated duplication of content, which had to be verified by the lecturers since there was insufficient detail regarding the perception of duplication. The Education modules received more attention as they would remain the domain of the faculty. The concept '*perspectives in education*' appeared in two separate modules in the second year, and there also appeared to be content duplication in the second and third modules in the first year. OBE, roles of the teacher and assessment were repeated topics. Eleven other core modules carried between three and nine credits that were offered over the full year or a semester. Many methodology module descriptions were vague and indicated the content as "as prescribed/required by the National Curriculum Documents". The lecturers teaching the methodology modules had no idea what the lecturers teaching the Education modules were focusing on. Evidence of either conceptual or contextual coherence was lacking (Muller 2009). While credits increased progressively in the modules in the other faculties, for instance from 24 to 40 to 60 in the Humanities, the subject specialisation modules in the Faculty of Education carried only 20 credits in both the first and the second year and 24 credits in the third year.

The *study guides* indicated that the content taught was not aligned with what appeared in the yearbook. Samuel (2010:10), in his analysis of module outlines in an education faculty, also found what he called 'distances' between the module outlines and what appeared in the institution's handbook/calendar. Our study guides provided little guidance to students to enable them to plan and carry out their work independently.

The *timetable* revealed that fourth-year students had lectures in the first quarter and that they spent the next two quarters at schools. They returned to campus in the last quarter but did not have any lectures that were timetabled formally. Presentations had to be made during this quarter, but it was difficult to determine how many notional learning hours were meant to be spent by students on the whole Teaching Practice module. The second- and third-year students had lectures scheduled for the first quarter or semester that comprised either 7 or 14 weeks of lectures respectively, but the curriculum required these students to engage in teaching practice for three weeks at the beginning of the year. However, this period overlapped with the beginning of the university year and thus reduced the scheduled lecture time. This scenario was obviously not ideal and required the re-conceptualisation of the Teaching Practice module.

Existing curriculum

The purpose of each of the seven programmes in the existing curriculum is essentially to provide students with the knowledge, skills and attitudes they need to assume leadership roles in particular fields. The implicit aim of the programmes is to meet the roles specified in the *Norms and Standards for Educators* (DoE, 2000). Table 1 shows the links between the roles and the existing, related modules.

Table 1: Correspondence between the roles of a teacher and the modules offered

Role	Module
Learning mediator/Teacher	Education
Interpreter and designer of learning programmes and materials	Methodology
Leader, administrator and manager	Education
Scholar, researcher and lifelong learner	Research
Community, citizenship and pastoral role	Language across the curriculum
Assessor	Assessment
Learning area/subject specialist	Subject specialisation

Lecturers at many South African institutions of higher learning mistakenly believed that the curriculum required them to develop all seven roles of the teacher simultaneously, and, consequently, their students were continually referred to these roles. This was one of the reasons they perceived duplication in the curriculum. An analysis of the existing curriculum shows that the modules could be clustered into groups to determine their relevance. The programmes contained generic fundamental and core modules with the subject specialisations and methodologies for the IP, SP and FET being covered in the elective modules.

The bulk of the credits of the core modules related to Education, Teaching Practice and Research. The first target for change was the Education modules since they should be the fulcrum of any BEd qualification.

While the credits for Education as a major subject were commensurate with other majors in the institution, the contact hours over the three years were disproportionate. A workshop on the content of the Education modules revealed that each year was disaggregated into quarters. Twelve parts were taught by various groups of lecturers who did not know what the other 11 groups were doing. Similarly, Samuel (2010:10) found that module course outlines “[did] not hint at any form of integration across the different modules”. In most cases, the lecturers acknowledged that what appeared in the yearbook did not necessarily match what was taught in the classroom. It was only at this workshop that the lecturers became aware of the content overlap in the Education modules. Stand-alone modules such as School Organisation, Assessment and Professional Ethics could also be part of the Education syllabus.

The first Education module taught in the first year covered the pre-1994 education system. This, together with my personal ‘theory of experience’ (Dewey, 1997), drew me towards a social justice paradigm, which, in turn, encapsulated Freire’s (2006a) pedagogy of the oppressed and was a natural progression to *Education for critical consciousness* (Freire, 2006b).

The focus of the re-circulation process then moved to “*What kind of teachers are we producing?*” After the students had completed three years of the subject specialisation electives, they would have been expected to have ‘majored’ in a particular subject, for example Geography or English. These students were not accepted into the discipline departments in other faculties to proceed to Honours level. The general feeling in the university was that the subject specialisation in the BEd curriculum was not acceptable for admission into an Honours programme in the specialisation disciplines. The perception was that the content taught in a faculty of education lacked the depth required in terms of the ‘single paradigm’ notion espoused by Biglan (1973). This perception was confirmed by the credits attached to the modules. While other majors carried 124 credits or more, our subject specialisation electives carried only 64 credits. The difference between the Intermediate, Senior and FET Phase qualifications was that the IP students chose two teaching subjects while the SP students chose three of which one was a science subject. FET Phase

students also had to choose three electives. The level of specialisation thus emphasised breadth rather than depth. In addition, all programmes except the FP programme required the students to take a subject called Professional Studies and two methodologies.

While all the lecturers were aware that the undergraduate programme had a component of community engagement, this was not evident in the yearbook. On enquiring, I discovered that as part of the module called ‘Language across the Curriculum’, the students earned six of the 12 credits by being involved in a community engagement project. The purpose of the module was to improve the English communication skills of the students, and, accordingly, they were assessed on an oral presentation done at the end of the year. The literature (Butin, 2007; North, 2007; Baldwin et al., 2007) indicates that if the focus is on equity education and service learning to encourage critical reflection, then this aspect of the curriculum should receive particular attention.

The changes

Transformation

One of the purposes of higher education as stipulated in the White Paper (DoE, 1997:7) is “to contribute to the socialisation of enlightened, responsible and constructively critical citizens”. Teacher education aims to produce such critical citizens who, in turn, will contribute to the process of developing critical thinkers in the school system. After 16 years of post-apartheid teacher training, the ideas of critical theorist Theodore Adorno warrant attention. In 1967, he wrote a now famous passage in his essay, *Raising Children after Auschwitz*: “The very first claim for education is that there will never be a second Auschwitz.”¹

In accordance with this thinking, education in South Africa should be developed on the premise that the apartheid system should never again be allowed to occur. This argument makes a strong case for the inclusion of a history of South African education in a teacher education curriculum. This was the starting point of discussions on what should be included in the Education syllabus. Questions were asked such as “*Who is the focus?*”, “*What kind of teacher do we want to produce?*” and “*What is the theoretical underpinning of the curriculum?*”

The existing modules were dissected and then reconstructed by a team of lecturers who had been responsible for at least one of the 12 modules in Education. I turned the attention of the lecturers to Chapter 3 of the Constitution (Amato, 1994:49-50) to highlight the need to focus on democracy, equality and justice. This was the basis of the development of an integrated curriculum. Following on the White Paper (DoE, 1997) and Chapter 3 of the Constitution of South Africa, the theoretical framework of this curriculum is steeped in justice education.

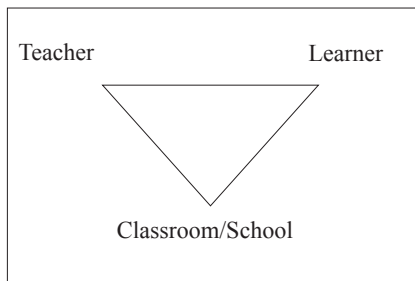


Figure 1: In the context of the school

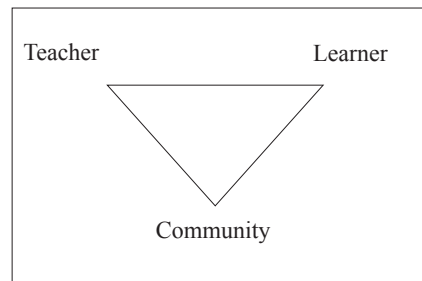


Figure 2: In the context of society

Figure 1 and 2 answer the question “Who/What is the focus?” The above components were the elements that impacted the content of the Education modules. When the community under consideration is one that experienced inequality and unfairness in the past, the need for community engagement becomes even

more essential (Butin, 2007). The purpose of community engagement in the revised BEd curriculum is not only to provide a service to the community but also to enable the students to learn and grow from their experiences.

Strengthening content in line with credits

In order to strengthen the subject specialisation of the curriculum, a management decision was taken to have the other faculties deliver the specialisation/discipline subjects. However, strengthening subject specialisation knowledge comes with its own issues, one of which is: “*How much content do teachers of the different phases need in order to be competent in the classroom?*”

Another dilemma was that not all university subjects equip teachers to engage adequately with school subjects. Examples have been given earlier in the article. To resolve this problem, the proposed curriculum includes an additional choice of school subjects offered by the Faculty of Education. For a student doing a BEd: FET, the requirement is one 24-credit module from one of the school subjects offered by the faculty of education, while the other two phases have more choices.

At a workshop (Naidoo, 2009) I conducted, the HE mathematics lecturers concluded that a high school teacher required a pass in mathematics equivalent to at least university mathematics at second-year level. This requirement is also in line with the *Draft Policy on the Minimum Requirements for Teacher Education Qualifications* (DHET, 2010) for a BEd: FET. If this requirement is incorporated into the stated research problem, a FET teacher with a degree could have one teaching subject as a major and the other teaching subject at second-year level. This would also enable students to pursue further study in one of the discipline subjects (major) to Honours level. But, *do teachers at the lower school levels require such strong subject specialisation knowledge?*

The Foundation and Intermediate Phase teacher need not major in one discipline subject, and the Senior Phase teacher has the option to major in a discipline subject or a faculty of education subject. The number of credits required from a discipline faculty for each programme will determine the balance between conceptual and contextual coherence. A Foundation Phase teacher takes 64 credits from the discipline faculty, and these increase to the extent that 212 credits are taken from another faculty in order for a FET Phase teacher to qualify.

The BEd:ECD & FP as well as the BEd:IP degrees each comprise 500 credits while the other BEd degrees require slightly more than 500 credits. This is in line with the statutory requirement that a BEd programme should have a minimum of 480 credits (DoE, 2000, DHET, 2010).

Consolidation of the curriculum

The new curriculum for all BEd degrees has Education as the designator (DoE, 2007) in the qualification, and the credits associated with the fourth year of study are linked to this designator. The other major subject, together with the second-year subjects, account for more than 50% of the required 480 credits with the focus on the subject specialisation and methodology of the particular phase. The Education modules, the subject specialisation modules and the methodologies all contribute to the pedagogical content knowledge (Ball, 1990; Hill, Rowan & Ball, 2005) needed by a teacher.

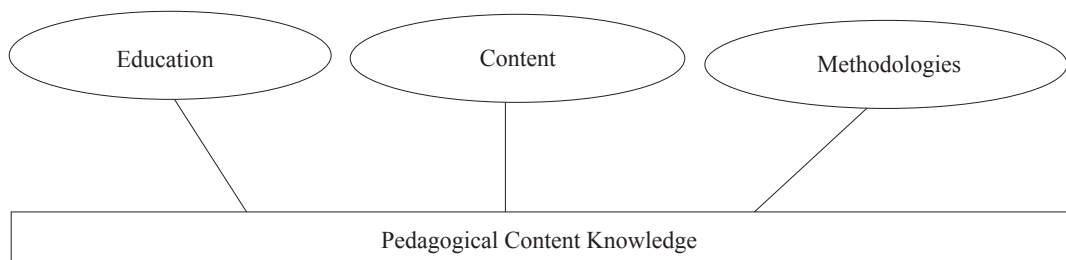


Figure 3

Teachers require pedagogical content knowledge before they are allowed to teach in schools. The students practise teaching through micro-teaching lessons in the first semester of the fourth year, and the evaluations of these lessons are carried out by methodology lecturers and teams of assessors. The last semester is spent at schools carrying out site-based teaching practice – this is when the students also do research projects aimed at improving their practice through action research (Somekh, 2006; McNiff & Whitehead, 2009). At the end of this period, the students should be ready for immersion in the school as fully qualified teachers.

The new curriculum aims to implement the transformation strategy of the White Paper by improving the quality of teaching and learning throughout the system and, in particular by ensuring that curricula are responsive to national and regional contexts (DoE, 1997:13). The BEd fulfils community engagement in the form of ‘academic service learning’ to address the “commitment to the common good by making available expertise and infrastructure for community service programmes” (*ibid*, 1997:14). The idea is to strengthen future teachers’ knowledge of diversity, social justice and themselves (Baldwin *et al*, 2007). The second-year students will therefore be exposed to the theory of community engagement and inclusive education in the Education module. They then familiarise themselves with the methodologies of their specialisation subject in the third year when they also have to do 20 hours of community work in a disadvantaged community. Critical reflection and self-reflection are integrated into the curriculum through their community engagement projects.

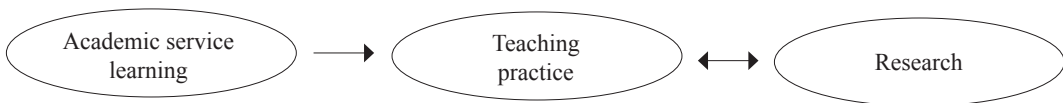


Figure 4

Figure 3 shows the teacher and learner dealing with the pedagogical content knowledge in the classroom, and Figure 2 shows the teacher trying to understand the learners and the community they come from. Moving towards an integrated curriculum Figure 4 shows the links between the practical aspects of a teacher education qualification. Although the implementation appears as a linear process, it is, in fact, more complex. The academic service learning occurs in the third year while teaching practice and the research project take place in the fourth year – the latter two have a two-way arrow to show that they influence one another.

An attempt at cohesion is illustrated in Figure 5. I presented this figure to the lecturers, and I used it in my communication with them. The lecturers were encouraged to engage critically with the concepts.



Figure 5

Conclusion

Any curriculum process in South Africa needs to incorporate issues of equity and transformation. However, foregrounding these issues may result in resistance from some staff members and sometimes even from the students themselves. At every stage of the renewal process, staff members who will be responsible for the implementation process should be informed about the thinking behind the process – they need to ‘own’ the process and be convinced of its legitimacy. My participative leadership role required me to solicit input constantly from faculty members, and this input sustained the design research methodology.

At times, it was necessary to rethink ideas as a result of feedback from the lecturers. Instead of devaluing the past contributions of staff members in the Faculty of Education in favour of the contributions of staff members from other faculties, the curriculum was structured to allow for the consideration of various contributions. The methodologies and the teaching practice aspects of the curriculum will depend on the principle of integration. As the old curricula are phased out and replaced with the new curricula over a four-year period, a supportive environment will have to be provided to sustain the changes that are about to take place.

References

- Avalos B, Tellez F, and Navarro S 2010. Learning about the effectiveness of teacher education: a Chilean study. *Perspectives in Education*, **28**(4):11-21.
- Adorno T 1998. Education after Auschwitz. In *Critical Models: Interventions and Catchwords*. New York: Columbia University Press. 191.
- Amato R 1994. *Understanding the new constitution*. Parow: CTP Book Printers.
- Ash SL and Clayton PH 2004. The articulated learning: an approach to guided reflection and assessment. *Innovative Higher Education*, **29**(2):137-154.
- Baldwin SC, Buchanan AM, and Rudisill ME 2007. What teacher candidates learned about diversity, social justice and themselves from service learning experiences. *Journal of Teacher Education*, **58**(4):315-327.
- Ball DL 1990. The mathematical understandings that prospective teachers bring to teacher education. *JSTOR: The Elementary School Journal*, **90**(4):449- 466
- Banks JA 2004. Teaching for social justice, diversity, and citizenship in a global world. *The Educational Forum*, **68**(4):296-305.
- Beauchamp G A 2001. Curriculum theory: Meaning, development and use. *Theory into Practice*, **21**(1): 23 -25.
- Bereiter C 2006. Design research: the way forward. *Education Canada*, **46**(1) Winter 2005/2006.
- Biglan A 1973. Relationships between subject matter characteristics and the structure and output of university departments. *Journal of Applied Psychology*, **57** (3): 204-213.
- Blundo R 2010. Social Justice becomes a living experience for students, faculty and community. *Journal of Teaching in Social Work*, **30**(1): 90-100.
- Butin DW 2007. Justice -learning: Service-learning as justice-orientated education. *Equity & Excellence in Education*, **40**(2): 177-183.
- Collins A, Joseph D, and Bielaczyc K 2004. Design research: Theoretical and methodological issues. *Journal of Learning Sciences*, **13**(1):15-42.
- Department of Education 1997. Education White Paper 3: A programme for the transformation of higher education. Pretoria: Government Printers.
- Department of Education 2000. *Norms and Standards for Educators*. February. Pretoria: Department of Education.
- Department of Education 2001. National Plan for higher education. Pretoria: Government Printers.
- Department of Education 2007. *The Higher Education Qualifications Framework*. Pretoria: Government Printers.

- Department of Higher Education & Training 2010. *Draft Policy on the minimum requirements for Teacher education qualifications selected from the Higher Education Qualifications Framework*. Published for public comment.
- Dewey J Reprinted 1997. *Experience and Education*. New York: Simon & Schuster.
- Freire P Reprinted 2006a. *Pedagogy of the oppressed*. London: Continuum.
- Freire P Reprinted 2006b. *Education for critical Consciousness*. London: Continuum.
- Hill HC, Rowan B & Ball DL 2005. Effects of teachers' mathematical knowledge for teaching on student achievement in *American Educational Research Journal*, **42**(2):371-406.
- Hondagneu-Sotelo P & Raskoff S 1994. Community Service-Learning: Promises and Problems. *Teaching Sociology*, **22**(3):248-254.
- Horkheimer M and Adorno T 1989. *Dialectic of Enlightenment*. Translated by Cummings J. New York: Continuum.
- Kelly AV 1989. *The curriculum: theory and practice*. London: Paul Chapman Publishing Ltd.
- Kruss G 2008. *Teacher education and institutional change in South Africa*. Cape Town: HSRC Press.
- Maurer R 1996. Using resistance to build support for change. *Journal for Quality & Participation*, June 1996, **19**(3):56-63.
- McNiff J and Whitehead J 2009. *Doing and writing action research*. London: Sage Publications Ltd.
- Miller DL 2011. Curriculum Theory and Practice What's Your Style? *Phi Delta Kappan*. **92** (7): 32-39
- Ministry of Education 2002. *New institutional landscape for higher education in South Africa*. Pretoria: Government Printers.
- Muller J 2009. Forms of knowledge and curriculum coherence. *Journal of Education and Work*, **22**(3):205-226.
- Naidoo A 2009. FET mathematics teacher pre-service programmes (BEd and PGCE). Presented at the SAMS workshop. 9-11 September 2009. Gordon's Bay, South Africa.
- North CE 2006. More than words? Delving into the substantive meaning(s) of "Social Justice" in education. *Review of Educational Research*, **76**(4): 507 -535.
- Reeves TC, Herrington J, and Oliver R 2005. Design Research: a socially responsible approach to instructional technology research in higher education. *Journal of Computing in Higher Education*, **16**(2):97-116.
- Samuel M 2010. Searching for a "pedagogy of hope" teacher education and the social sciences. *Perspectives in Education*, **28**: 5-15
- Sheehan J 1986. Curriculum models: product versus process. *Journal of Advanced Learning*, **11**:671-678.
- Somekh B 2006. *Action research: a methodology for change and development*. Berkshire, England: Open University Press.
- University of Pretoria 2008 Framework for repositioning the Faculty of Education: Audit report. Unpublished. Pretoria: University of Pretoria.
- Vezzoli C and Penin L 2006 Campus:"lab" and "window" for sustainable design research and education in International Journal of Sustainability. *Higher Education*, **7**(1):69-80.
- Waddel D and Sohal AS 1998. Resistance: a constructive tool for change management. *Management Decision*, **36**(8):543-548.

Endnotes

- 1 This was first presented as a radio lecture on 18 April 1966 under the title "Padagogik nach Auschwitz". The first published version appeared in 1967. The English translation appears in Theodore Adorno, "Education after Auschwitz", *Critical Models: Interventions and Catchwords* (New York: Columbia University Press, 1998), page 191.