

The Lack of and Need for Academic Depth and Rigor in Teacher Education, with Special Reference to South Africa

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ABSTRACT Increasing apprehension worldwide about the rigor and depth in teacher education programs gave rise to this paper. The objective of this paper was to identify factors that detract from depth and rigor in teacher education programs, particularly in South Africa. An interpretive-constructivist approach was employed to build a conceptual-theoretical framework. The research found seven sets of factors detracting from academic rigor in teacher education. These include the student-staff ratios in faculties/schools of education, poor student intake, trends in teacher education curricula and program design, development and implementation, the pragmatic slant and poor funding of education-related research, the relative short history of education as an academic discipline at universities, the poorly structured state of specialization fields of education, including the incoherent state of the field(s) of education-related knowledge, as well as the non-accumulative nature of education-related research. It is recommended that teacher training colleges are reinstated and that university faculties of education concentrate on the core mission of strengthening education scholarship.

INTRODUCTION

Recent research suggests that the education of teachers is pivotal for determining the overall quality of an education system, including the achievement level of students (Rusznayk et al. 2016). Using the 2003-2004 PISA (International Program of Student Assessment) database, the COAKTIV research project has demonstrated that the knowledge base of teachers is a very strong determinant of students' learning outcomes, even stronger than the factor of teacher experience (Kunter et al. 2011). Scholars have expressed concern about the level of depth and rigor in teacher education programs in many parts of the world, including South Africa (Taylor 2016: 10-13). This paper is a contribution to the discussion about teacher education from the perspective of comparative education, education systems and theory of education. For this reason, the views expressed below about the depth and rigor of teacher education will be of a more inclusive and perspectival nature rather than about the intricacies of teacher education as

such. This research focuses on the sociopolitical context of teacher education as well as on field-specific factors in the area of education worldwide and in South Africa in particular. This is done in the hope that an understanding of the context will help teacher educators strategize appropriately for teacher education, to gain even greater depth and rigor in their work in these conditions.

As comparative educationists and theorists of education, and hence as students of education systems, the researchers are aware of a complex of contextual sociopolitical education system factors, as well as education field-specific factors (relating to the features of education as a field of scholarly inquiry) that currently have a detrimental effect on teacher education worldwide and particularly in South Africa. The purpose with the research underlying this paper was to identify these contextual factors and to relate them to the depth and rigor of teacher education. The researchers created this nexus to enlighten teacher educators about the factors that have been impacting their work, so that they will be in a position to strategize appropriately to meet the challenges arising from the identified sociopolitical factors. Cognizance of these factors and strategizing to meet the challenges, which they pose, will assist efforts to improve the depth and rigor of teacher education. The thesis of this article is that only once factors that seem to detract from the depth and

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rigor of teacher education programs in South Africa and elsewhere are understood, the problem of insufficient depth and rigor in this field of expertise can be adequately addressed.

The discussion commences with an outline of the research methodology, followed by a conceptual-theoretical clarification of the concepts of academic depth and rigor. Factors, which have resulted in a lack of depth and rigor in teacher education programs worldwide, and in South Africa in particular, are then discussed. Finally, recommendations are offered.

Problem Statement

Since the mid-1950s, the world has experienced an unprecedented education expansion. Primary school enrolments worldwide have, for example, surged from 177.1 million in 1950 to 695.2 million in 2010. The global aggregate gross secondary school enrolment ratio has increased from thirteen percent in 1950 to seventy percent in 2010, and the global aggregate gross tertiary enrolment ratio has increased from five percent in 1950 to nineteen percent in 2000, and again by more than half in the short space of one decade, to reach thirty percent in 2010 (UNESCO 1971, 2014). In the process, education has become the biggest single item on the public budget in most countries in the world. The reason for this massive global expansion of education and concentrated allocation of public resources is that in the modern world, education is still regarded as the panacea for all societal goals and ills (Yeo 2013: 130; Tan 2014: 511-445; Peet and Hartwick 2015: 119-160). Whether society/government wants to effect economic growth, eradicate unemployment, create social capital, foster a democratic culture, stamp out drug abuse or reduce the number of traffic accidents, education is seen as the most obvious and effective instrument to accomplish the objective. The value of education has furthermore assumed new proportions with the dawn of the “knowledge economy”, that is, national economies where the production and consumption of new knowledge have become the driving forces of national economies (see Pang 2013: 21-22).

A pivotal part of any education system is its teachers. An apt metaphor often used in this regard is that “a stream cannot rise higher than its source”, that is, the student (stream) cannot supersede the level of the source of its educa-

tion (the teacher). If the quality of education delivered in an education system is a function of the quality of its teacher corps, the quality of teachers, in turn, is determined by their education. In this regard, it is important that the theoretical body of knowledge of education, as developed by scholars, percolates through to lecturers and via them also to academic modules and programs, and eventually, to education students. In what follows, the researchers therefore argue that special measures will have to be taken to ensure that South Africa produces teachers of excellence, able to operate at the very highest levels of competence, and at the same time that special measures be taken to ensure that education as a theoretical (thus, scientific, scholarly) subject can be practiced (researched and published) at high levels of achievement.

Objectives

The objective of this paper is to identify factors detracting from depth and rigor in teacher education programs, particularly in South Africa.

RESEARCH METHODOLOGY

The researchers refrained from using a predominantly pragmatic approach which relies on “what works best” in other countries, as identified by scholars in recent publications (see Pampaka et al. 2016), or on a mere literature review, without interrogation of sources (see Green et al. 2016; Hansen 2016). Instead, an interpretive-constructivist approach (Merriam 2009; Onwuegbuzie et al. 2009; Cohen et al. 2011) was selected for compiling the conceptual-theoretical framework below, and for the subsequent argument regarding a nexus between the seven sets of macro-educational factors and the issue of teacher education. An analysis of the key words of the investigation led to the drafting of a theoretical framework in terms of which the notion of depth and rigor in teacher education programs could be approached interpretively, and with which an opinion about the factors that seem to detract from such depth and rigor, could be identified (Ritchie and Lewis 2003). In view of recent developments in the field of epistemology (see Van der Walt 2014 *passim*), the researchers are hesitant to suggest that these factors are *determinants* of academic depth and rigor. In the discussion below, it is therefore not claimed (deter-

ministically and/or rationalistically) that these factors have a direct or lineal effect on the academic depth and rigor of teacher education. This is not to deny, however, that they might have a certain impact thereon or influence therein.

Academic Depth and Rigor: Conceptual and Theoretical Clarification

The authors understand the word “depth” in the title of this article to refer to the quality of something, in this case teacher education programs. According to standard dictionaries (Sinclair 1999; Soanes and Stevenson 2008), the word “depth” can refer to a quality (of being deep), intensity (of emotion), profundity (of moral character), complexity or abstruseness (of thought), and even the most intense or severe part (for example, of winter). By applying all these meanings figuratively to teacher education, the authors arrived at the circumscription of “depth” as being the quality, intensity, profundity and complexity of teacher education. This circumscription ties in with the view of Hmelo-Silver et al. (2007) of depth and rigor as scientific inquiry that places a heavy emphasis on posing questions, gathering and analyzing data and constructing evidence-based arguments.

According to standard dictionaries (Sinclair 1999; Soanes and Stevenson 2008), the semantic value of “rigor” can range from denoting harsh but just treatment or action to strictness, harshness or severity of character, and to strictness in judgment or conduct. It can also refer to approving care and exactness. In academic circles, the term “academic rigor” seems to have become closely related to the term “academic depth”, which in line with the above arguments, refers to quality of research and theoretical thinking. “Rigor” refers to “academic deep-drawing” (the latter a word originally used for the draught of a ship). “Rigor” in terms of teacher education would then refer to teacher educators’ hard, constant and persistent struggling with the aims, purposes, content and methodology of teacher education.

There are several ways of measuring depth and rigor in this figurative sense. An obvious measurement would be to calculate what is rendered with the financial and other forms of input that are received (Wolhuter 2014). Depth or quality can also be measured in terms of the processes that take place. It entails an examination of all the structures that are involved, the curricula that are followed, the environment in which

training takes place, the teaching effort of the lecturers and the input of the learners or students. The much-cited model of Schulman (1986, 1987) could be used for this purpose. The third way to measure depth or quality is akin to input quality discussed above. The question here is what output could reasonably be expected from the input that has been made. A fourth way of measuring depth or quality is to assess the quality or standard of the product that is produced (see Aslam 2007).

Several fundamental questions could be asked in terms of the academic depth and rigor of teacher education:

- How can academic depth be understood in relation to the three forms of specialist knowledge that a future teacher should possess: subject content knowledge (SCK), pedagogic content knowledge (PCK) and curricular knowledge (Schulman 1986)?
- What kinds of measures need to be put into place to assure the quality of PCK, SCK and curricular knowledge?
- What kinds of academic conversations are needed, and with which stakeholders, in relation to the proper benchmarking of quality PCK, SCK and curricular knowledge?
- How are stakeholders identified, selected and included in quality assurance mechanisms?
- How is Continuous Professional Development (DOE 2010) ensured?
- To what extent can use be made of Communities of Practice (Wenger 2006)?
- How should innovation and scaffolding be applied in teacher education?

Questions such as these can be multiplied in the reflection on the depth and rigor of teacher education. However, as mentioned in the introduction above of this article, the authors’ intention with this discussion is, instead, to examine and describe the sociopolitical and education field-specific context in which teacher education takes place and how it seems to detrimentally affect the depth and rigor of teacher education and its overall quality, particularly in South Africa. Seven such macro-educational sets of factors from an education systems studies perspective were identified (see next section). Only when the effect of these factors on the depth and rigor of teacher education is understood, can it be possible to reliably and justifiably engage with, explore, explain and comprehend solutions to the problem of a lack of quality in teacher education (Rusznyak 2012).

Identifying Factors that Seem to Work against Academic Depth and Rigor in Teacher Education Programs

Accusations leveled by academics attached to other fields with regard to the inferior standing of knowledge in various fields of education, and among education students and academics in the field of education, in particular, are not limited to the grapevine or corridors of academe, but can be found in scholarly literature as well, right up to the pages of one of the most esteemed journals in the field. In an article published in *Educational Researcher*, Larrabee (1998) dealt with this unpleasant phenomenon, which academics in fields of education have to face from time to time. South African academics in various fields of education have also not been spared these negative judgments by their colleagues in other fields (for example, see Kanne-meyer 1990; G3 Business Solutions 2005).

The poor standing of scientific fields of specialization in education can be related to the seven sets of factors resulting from an education systems and theory of education perspective, as noted:

- The student-staff ratios in faculties/schools of education and the issue of student intake
- Trends in teacher education programs in recent decades.
- The pragmatic slant in education-related research.
- Poor funding of education research.
- The fact that education has a short history of an institutionalized presence at universities.
- The poorly differentiated and unstructured state of many specialization fields of education.
- The incoherent state of the field(s) of education-related knowledge, as well as the non-accumulative nature of much of education-related research.

These factors will be discussed below.

Student to Staff Ratios in Faculties/Schools of Education and Student Access to Education Programs

The number of students per academic staff member in faculties/schools of education tends to be higher than for other fields. While comparable figures are hard to obtain (UNESCO, for example, no longer publishes the field breakdown of academics in each country as it has

done in the past), the authors could obtain figures for five countries, including South Africa. The comparison between the student-academic staff ratios in faculties/schools of education versus aggregate student-academic staff ratios in each country is presented in Table 1.

Table 1: Student-academic staff ratios in faculties/schools of education versus aggregate student-academic staff ratios in five countries

Country	Aggregate student-academic staff ratios at universities	Student-academic staff ratios in faculties/schools of education
Argentina	15.10	30.56
Germany	8.09	29.91
Japan	10.22	37.40
Mexico	9.12	18.43
South Africa	33.05	39.30

Calculated from the following sources: figure of aggregate student-academic staff ratio in South Africa: Wolhuter et al. 2010; data on number of academics in faculties/schools of education: CAP tables, 2013; aggregate size of academic profession and student body in each country, number of students in education: UNESCO 2015.

In each of the five national systems of higher education presented in this article, there are more students per academic staff member in faculties/schools of education than for higher education as a whole. On both counts, that is, in terms of aggregate student-staff ratio and also in terms of the student-staff ratio for faculties/schools of education, South Africa is the worst off of these five countries.

It is not only high student-staff ratios in faculties/schools of education that affect the maintenance of academic depth and rigor difficult. This problem is compounded by the easy access to teacher education programs, and consequently, the inflow of students who could not qualify for entrance into the (traditionally) more prestigious fields of study such as business, engineering, law or medicine. International literature is replete with examples of scholars of teacher education who identify the fact that teacher education programs are “programs of last resort” for prospective students who failed to secure admission to more coveted fields of study (see Ramphal 2009; Wolhuter 2011). South Africa is no exception. In the 2015 academic year,

106,000 student teachers were studying education at South African universities. While this represents an increase of four percent over 2014, and at first sight, signals an interest in teacher education, it should be borne in mind that education programs have the lowest admission requirements of all fields at South African universities. Education programs therefore attract the weakest of all potential students (Marais 2015).

Trends in Teacher Education Programs in Recent Decades

In line with the neo-liberal economic revolution and its underlying principles, such as performativity, performance measurement, efficiency, measuring the value of everything in terms of its direct, visible, concrete results, a change has been taking place in teacher education programs in the past four decades, from a thorough grounding in the subfields of education to training of student teachers according to a checklist of techniques, which they will need as a teacher, much akin to the training of artisans and technicians (see Altbach 1991; Zeichner 2010).

In the case of South Africa, this trend might have started a decade later than in Western Europe and North America, but as part of the post-1994 restructuring of education it came down more forcefully. At the direction of the Ministry of Basic Education, teacher education programs were redesigned to train teachers to become learning facilitators, interpreters and designers of learning programs and materials, to become leaders, administrators and managers, to fulfil community, civil and pastoral roles, to be learners and lifelong researchers, to be assessors, and to be learning area/subject/phase specialists (Brunton and Associates 2003). Teacher education programs have consequently been redesigned to educate student teachers for these roles specifically. These roles have little international currency, but there is as yet no store of scholarly knowledge to draw on for scientific support.

Two additional factors surrounding teacher education programs in South Africa act as forces steering these programs away from academic depth and rigor in recent decades. The first was the incorporation of teacher education colleges into university faculties of education around 2000. In most cases, the college staff members who became university academics had no cul-

ture of research or scholarly activity, because the briefs of the colleges were only to educate or “train” teachers. Secondly, and related to the previous factor, in most instances of incorporation and redesigning of teacher education programs in line with the new roles that spelled out the outcomes of teacher education, faculties of education took over the total education of teachers. Previously, student teachers received their professional education (that is, education in the fields of education) at faculties of education, but they received their academic education (thus, the subjects which they intended to teach at school) at departments at universities outside of education faculties, where subject specialists with a thorough scholarly grounding in these subjects were located. History teachers, for example, got their history education at departments of history, typically from lecturers who held doctorates in history. In the new setup, history teachers, for example, now also receive their history education in faculties of education, and typically from a lecturer who only mastered history (or any other school subject, as the case may be) as a major subject at undergraduate (bachelor’s) level.

The Pragmatic Slant in Education Research

Academic staff attached to faculties/schools of education tends to be oriented towards the training and education of teachers, rather than towards engagement in research. They are, therefore, not wholeheartedly active in scholarship at the frontiers of knowledge and contributing to the building of a theoretical education edifice. This means that these faculties/schools of education are by no means hotbeds of academic depth and rigor (Qi and Levin 2013). As far as research that does take place is concerned, it would seem that it is mainly directed at addressing issues or problems in practice (in the lecturers’ own lecture rooms, in schools and in classrooms) (Whitty 2006). This trend is so salient that Ermenc (2013) observed that in continental Europe there has been a school of thought in the education research community since the 1960s, which argued that education should be conceptualized as an applied research area that develops proposals for the operation of schools and for the improvement of educational practice, instead of constituting a field of scholar-

ship with its own theories and methodological and theoretical core.

South Africa has not escaped these trends. The absorption of large numbers¹ of lecturers from teacher education colleges with, as mentioned, little or no research culture or history one and a half decades ago, further encouraged academics at faculties/schools of education to view themselves as educators and mentors of prospective teachers, with their loyalty towards the teaching profession rather than to the scholarly community. In South Africa, practice-oriented research currently has dominance over theoretical research, and is no doubt underscored by the post-1994 restructuring of the education system. Such research is preferred by funding agencies in South Africa, as elsewhere in the world (see Muller 2013).

Poor Funding of Education Research

Compared to other fields, funding levels for research in education are low. A recent Organization for Economic Cooperation and Development (OECD) Report states that research in the health sciences are allocated about 15 times more funding across OECD member states than research in education, despite the fact that in fiscal terms the health sector is not even twice as large as education (OECD 2012).

Although figures regarding the total funding allocated for research in education in South Africa could not be obtained, the explanation mentioned above ties in with a number of diagnoses made in recent years about the state of education research in South Africa. The main finding of the most extensive survey of research done in education in South Africa (by the National Research Foundation) pointed out the dominance of small-scale research in South Africa (Deacon et al. 2009). The survey found that ninety-four percent of education research studies in South Africa were small scale, precluding in principle academic depth and rigor. An analysis of reviewers' reports of submissions to the *South African Journal of Education* found that the single biggest reason for the rejection of manuscripts was the failure of authors to place their research within a properly developed theoretical framework (Van der Westhuizen et al. 2011), which also attests to a lack of academic depth and rigor. The Academy of Sciences of South Africa (ASSAf) published a report on the state

of the production of scholarly books in South Africa, indicating the neglect of this mode of scholarly activity in South Africa (ASSAf 2009). Scholarly books are particularly suitable as a research outlet for the publication of scholarly work since they tend to give extensive, in-depth and rigorous coverage of a theme. For all these large-scale research, establishing a strong theoretical framework as a basis of a research project, and the production of scholarly books, substantial funding is a prerequisite.

The Short History of an Institutional Presence of Education at Universities

Compared to branches of learning such as business, (the) classics, engineering, law, medicine, philosophy or theology, education has a very short history of an institutional presence at universities. The first chair of education was established only in 1779 at the University of Halle in Germany (Boyd and King 1975). Even in a country such as England, with a history of universities spanning over almost a millennium, the institutional presence of education dates back only one and a half centuries (University of Manchester in 1852) (Furlong 2013).

South Africa has a short history of universities as such. The rudiments of the first South African university stretch back to the middle of the nineteenth century, while with the exception of one university, all other universities came into being in the twentieth or twenty-first centuries. The presence of education at universities dates from even later. The first cohort of postgraduate students in education (these were students of the honors or B.Ed. course in education at the time) at the University of Pretoria graduated only in 1957, whereas the university and its predecessors date from 1908.

The Poorly Differentiated and Unstructured State of Many Fields of Education

Many fields of education are so poorly differentiated from their parental fields (such as sociology of education from sociology, educational psychology from psychology, history of education from history, and philosophy of education from philosophy) that it is difficult to make a case that they constitute fully-fledged disciplines or fields able to stand on their own, as they have little if any autochthonous theory. A

field such as comparative education has been described as suffering from a host of identity crises. Wolhuter (2015) lists ten of these. Eminent scholars in the field have described comparative education as an amorphous field (see Bereday 1957; Halls 1990; Wilson 1994) or an “eclectic/diverse field with adjustable borders and contours which are difficult to demarcate” (Epstein and Carroll 2005).

The Incoherent State of the Field(s) of Education Knowledge and the Non-accumulative Nature of Much of Education Research

In the context of low levels of funding and of subfields of education, which draw heavily on the theoretical frameworks of related fields (as explained in the previous subsection) it comes as no surprise that education is regarded as a field with “uncertain knowledge, an incoherent field, and most of all, a field characterized by non-accumulative knowledge”² (Furlong 2013: 10-11). Turning to education in South Africa, the predominance of small-scale research, and the lack of adequate theoretical grounding of research, as described above, do not help make education a coherent field with a process of accumulative knowledge added to the existing edifice of knowledge by new research. Put differently, each researcher works on a disparate section of a huge problem complex without the researchers ever reaching a stage where the plethora of research findings becomes integrated in a single large corpus of theoretical knowledge.

DISCUSSION

In his State of the Nation Address in Parliament in February 2015, South African President, Jacob Zuma, announced that the government was planning to reinstate a number of colleges of education for the specific purpose of training teachers in adequate numbers to meet the teacher shortages in the education system (Zuma 2015). Whether these colleges will take over all forms of teacher education from universities or only teacher education for the lower grades, remains to be seen. In view of the discussion above, it will be to the advantage of the depth and rigor of education as a fully-fledged university subject and field of scholarly inquiry if teacher education were removed in its entirety from

universities and entrusted to separate colleges of education. In these colleges, with their more practical, technical and less academic orientation, teacher education might gain greater depth and rigor than is currently the case at universities, where lecturers/teacher educators are struggling with the challenge of divided attention. On the one hand, university lecturers are expected to perform in the scholarly subject of education at levels comparable to all the other scholarly fields, and to display the depth and rigor in scholarly research that one could reasonably expect at institutions of higher learning. On the other hand, they are also expected to be involved in teacher education. Even if only teacher education for the lower classes in school are moved to the separate new colleges of education, it would be advisable for current faculties of education to split into two clearly demarcated sections, a section for teacher education, the work of which will be akin to that of the new colleges of education and a section for education as a scholarly subject, where postgraduate training is done, and where the lecturers can concentrate on research and the publication thereof, without any distractions of involvement in teacher education as well³.

Teacher education should be left to educators with a penchant for training educators with the necessary depth and rigor. They could be expected to concern themselves with the pragmatics of teacher education. They will be expected to cope with the relatively lower quality student material and will do their utmost to allow the best students to continue their studies at faculties of education typically situated at the universities. In the process, they will meet the technical demands for teacher education as stipulated by the authorities, among others the Department of Higher Education, under whose auspices they will be working. They will be preparing future teachers for a very practical occupation.

The mere fact that the envisaged new separate colleges of education will be allowed to concentrate on their core function of preparing young people for the teaching profession will mean that the attention of the lecturers/teacher educators will no longer be divided, since they will not be expected to do research and publish their research. Their work with the students will nevertheless possess the required depth and rigor because they will have access to the research of their counterparts doing such research

in the faculties of education. Virtual libraries and ICTs already provide access to published research, which means that colleges of education can be erected in less developed areas.

The new colleges of education will also reduce the effect of the seven sets of factors discussed above, which so far have been detracting from the depth and rigor of teacher education. The relevant authorities can see to it that trainer-student ratios remain manageable, the best students available can be selected for training (and those who make the grade can later come into consideration for further academic training at faculties of education), teacher educators can concentrate on practical problems and be quite pragmatic about the solutions they come up with, the colleges will have the necessary funding, particularly since many of them will resort directly under the Department of Higher Education, and others will (probably) remain under the auspices of universities. The work of educators at the colleges will not be comparable with that of university scholars because they have their own specialized task, and they also need not be concerned about the short history of education at universities and about poorly demarcated subfields of scholarly inquiry in education since such issues are not directly relevant to teacher education.

NOTES

- 1 In some instances, only about a third of the college staff component was taken over by a university; in other cases, virtually the entire staff contingent of the former college was taken over. Some colleges were simply closed down, while the staff were redeployed by the Department of Education in question.
- 2 As compared to, for instance, physics, chemistry or zoology.
- 3 Some faculties of education are already following this model. In most cases, however, the same lecturers are still expected to involve themselves in both the practice of education as a scholarly subject and in teacher education, thus they are forced to struggle with the problem of divided interests.

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