

From teacher to senior teacher educator: exploring the teaching-research nexus in Israeli Academic Colleges of Education

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From teacher to senior teacher educator: exploring the teaching-research nexus in Israeli Academic Colleges of Education

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ABSTRACT

The concept of Teaching-Research Nexus (TRN) is one of the main characteristics of the academic orientation. The current study attempts to examine how this perception is implemented in Israeli Academic Colleges of Education (ACEs) and how it is expressed in the work of senior teacher educators who have previously served as teachers in schools. An analysis of nine semi-structured interviews pointed to teacher students' and teacher educators' agency as being prominent patterns in the TRN implementation, and which are expressed in three ways: (a) agency of research insights to the educational field; (b) agency of reflective practising (an ability of the individual to create a relationship between his or her social and emotional world in the professional context); and (c) agency of cross-cultural research. The discussion delineates the similarities and differences between the perception of TRN among teacher educators in ACEs and academics in other institutions of higher education.

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Q4 Introduction

The teaching-research nexus is a significant component of pedagogy in higher education institutions. It demonstrates how teachers implement research knowledge to enhance the quality of teaching and develop research skills among teacher trainees (Farcas, Bernardes, and Matos 2017; Lopes et al. 2014). Its applicability is becoming increasingly important to teacher educators in view of the fact that integrating their teaching skills with research knowledge resonates immediately with pre-service teachers. Consistently, this impacts the latter's experience of school-based training (Flores 2018) and, as they continue, on their ability to serve as agents of theory and to influence educational and social contexts (Hökkä, Eteläpelto, and Rasku-Puttonen 2012). However, the ability to link research and teaching fluctuates over time and is expected to be revealed as hybrid and variable (Author 2017; Mägi and Beerkens 2016). An explanation for this is given by researchers (Geschwind and Broström 2015; Author 2020; White 2014) who claim that it tends to be shaped by the intellectual and cultural identity of educators, in line with their professional environment, viz. their willingness to make meaningful connections between teaching and research, which is subject to their adaptation to the culture of the institution in which they are employed.

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In Israel, as in many other countries, there are significant gaps between academic cultures in different institutions. An example of this can be seen in the field of teacher education: a dichotomy between academic colleges of education (ACEs) and university schools of education (USEs), which is defined by Hofman and Niederland (2012) as 'academization versus humanization', can serve as evidence for that. Additional researchers discuss diverse identities and role perceptions held by teacher educators from different institutions (Cohen et al. 2017; Shagrir 2015; Zuzovsky 2017). While USE staff work diligently to promote international research and recognition in their field of expertise, ACE teachers devote their full efforts to advancing student teachers by providing the best pre-service education for them. Hence, the remaining question is how research applications in teaching among different institutions will reflect this gap.

The purpose of this study is to examine: (a) the patterns of implementing TRN in Israeli ACEs from the point of view of senior teacher educators, who naturally have a broad perspective on the teaching and research culture of their respective ACEs; and (b) the impact of their background as former school teachers on such patterns.

Career transition: from teacher to teacher educator

According to empirical evidence from experiences of the transition from teacher to teacher educator (Goodwin et al. 2014; Holme, Robb, and Berry 2016; Loughran 2014; Williams and Ritter 2010), shaping a new identity and acquiring appropriate work patterns appear to present a significant challenge. Teacher educators, who had been used to teaching and assuming pedagogic roles in schools, must now adapt to changes in their daily routine, which proves to be an ambivalent experience for them (Czerniawski et al. 2016; Murray and Male 2005). On the one hand, they are very enthusiastic about changing the nature of their work or adding empowering professional layers to their role (Griffiths, Thompson, and Hryniewicz 2014; Harrison and McKeon 2008). On the other hand, such adaptation may be difficult in light of the requirement to meet the standards of academic policy and include research as an inseparable part of teaching and pedagogic training (Czerniawski et al. 2016; Kosnik et al. 2011). Consequently, this affects the considerations of potential teacher educators regarding career transition. At this stage, the individual considers the move to a teacher education institution as an opportunity for self-renewal (Goodwin and Kosnik 2013), and for gaining the appropriate skills to engage in research and share academic knowledge (Cochran-Smith et al. 2020; Olsen and Buchanan 2017), while also cultivating the identity of teacher-as-researcher (Harrison and McKeon 2008; White 2014). Due to the paucity of studies examining this topic, the successful case of transition to a career from teacher to teacher educator should be examined. Therefore, this study traces the perspective of professors employed at ACEs who have experienced such transition, and who are identified as outstanding figures in the field of research with academic recognition in Israel and around the world.

The concept of teaching-research nexus

Teaching-Research Nexus (TRN) is defined as one of the main characteristics of academic orientation. It includes a number of definitions, relating to patterns of developing teaching methods based on academic research (la Velle 2019), using academic resources for personal

Q10 learning and professional development (Cochran-Smith et al. 2020; Griffiths 2014), conducting research into pedagogy and teaching methods (Czerniawski, Guberman, and MacPhail 2017), generation of new knowledge from research (la Velle and Flores 2018); and identifying opportunities for research collaboration (Douglas 2013).

Theoretically, it is possible to stick to the model of Healey (2005) simulating interaction between curriculum design and the TRN using a coordinate system (Figure 1). The horizontal axis represents the proposed research components for integration in teaching: from the stage of exposing students to the research problem and methodological processes, to incorporating insights created by research. The vertical axis refers to the sequence of students' involvement in the research activity during their learning. According to the model, in some cases students can serve as an audience and internalise the insights obtained through research, while in other cases they are employed actively in theoretical and empirical research, and serve as its participants. Accordingly, Healey (2005) makes a distinction between four sub-definitions of the TRN: research-led/research oriented curriculum (viz. students are exposed to the research content/research processes and methods respectively); research-tutored/research based curriculum (students are recruited to produce the research in practice, on the theoretical or empirical level).

According to the sources (e.g. Cao et al. 2018; Williams and Ritter 2010), the ability of academics simultaneously to combine these areas constitutes the key to success, not only in terms of professionalism, but also vis-à-vis the emotional aspect of raising one's professional self-image and satisfaction. Others (Flores 2018) note that this is the function of the individual's willingness to contribute from her or his experience to the knowledge mobilisation in the

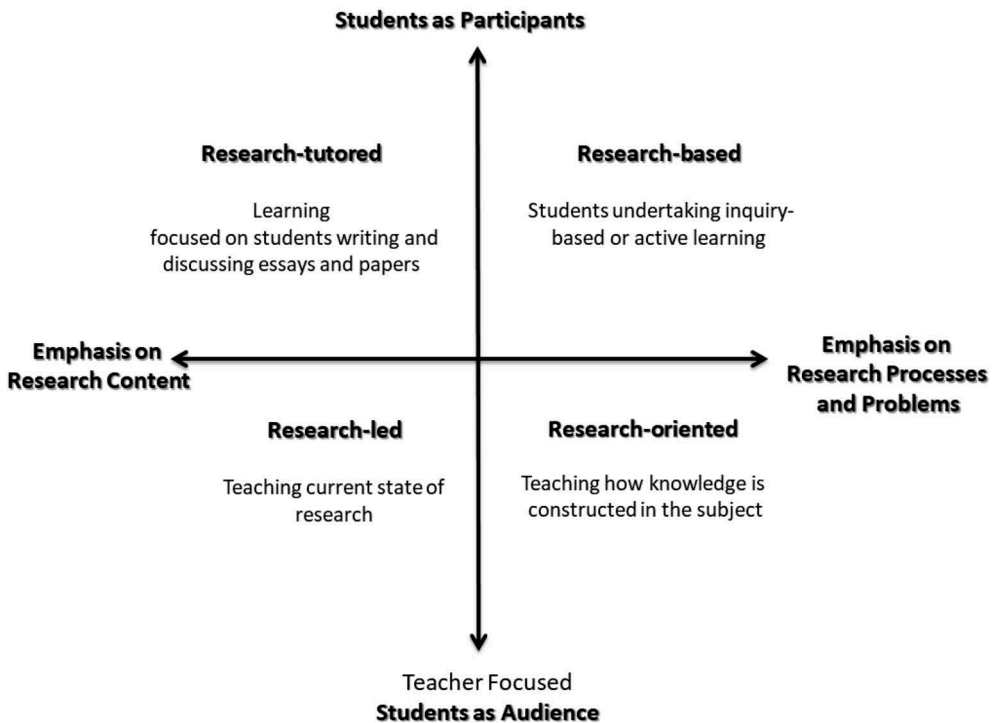


Figure 1. Curriculum design and the research-teaching nexus (Healey 2005).

institution. Furthermore, it is said that an informed connection between teaching and research can be a significant pillar in the practice of teacher educators (la Velle and Flores 2018). According to Orland-Barak (2017), the outputs of such a connection are evident in the empowerment of teacher agency, namely the ability to motivate student teachers to bring about change in professional consciousness by sharing research efforts, processes and products. This kind of teacher agency may motivate student teachers to apply research lessons to their teaching practice and generate new ideas (Dockerty 2019; Hökkä, Eteläpelto, and Rasku-Puttonen 2012; la Velle and Flores 2018).

Nonetheless, many Israeli ACEs still define themselves as challenged in this regard, and the factors that inhibit them include the lack of socialisation for research (Cochran-Smith et al. 2020), the intra-organisational culture that does not fully support research (Hofman and Niederland 2012), and the lack of internationalisation (Yemini et al. 2017). In metaphorical terms, the predominant spirit of these institutions is of a small resource-poor town compared to a large city with the facilities to produce up-to-date academic knowledge.

The issue of preferred TRN patterns for teacher educators is marginal in the literature. However, there is evidence that in practice special emphasis is placed on action research and self-studies, the main aim of which is to shed light on innovative teaching methods and improve pedagogic abilities in the field and the local context (Author 2020; Willegems et al. 2017; Yuan and Burns 2017). Yet, the academic research accepted by the international community is perceived ambivalently in the ACEs and arouses political and cultural tensions (Cohen, Yemini, and Sadeh 2014).

Study context

Twenty three ACEs operating in Israel are defined as second-tier academic institutions, and therefore are considered a second choice for those interested in enriching their academic skills and theoretical knowledge in the field of education. However, for those seeking professional training with practical emphasis on teaching, it probably perceived by default as first priority institutions (Yemini 2017). Throughout the four-year course of studies, students combine specific domain fields of knowledge, educational sciences with practical school based training which takes place once a week. At the end of this period, the graduates are awarded the B.Ed degree and a teaching certificate (Council for Higher Education 2016).

In terms of budgeting, most ACEs are financed by the Ministry of Education, as opposed to other academic institutions which are subject to budgetary allocations from the Council for Higher Education. On a practical level, ACE teacher educators are rewarded for their teaching positions only, and conduct research in their free time as part of the promotion requirements. This is in complete contrast to teachers from institutions of higher education, such as USE teacher educators, for whom research is an integral component of their service and remuneration (Yemini et al. 2017).

In the context of research activity, it should be said that while collaborations between USE academic staff and students are perceived and operated as a thriving industry, in ACEs it remains a vague issue. Often, it remains subject to rigid ethical committees' guidelines, which expect ACE teacher educators to prioritise utmost concern for student teachers' welfare and full investment in their professional development (Zuzovsky 2017).

The gap between norms of research ethics in ACEs and USEs can be illustrated by a few examples. First, while USEs often practise a model of 'research labs' in which scholars are

involved in research in subjects consistent with those of their 'head of labs', in ACEs such culture does not exist. Moreover, in ACE research seminars (i.e. workshops for conducting empirical studies) it is customary to allow each student the freedom to choose the subject for the research, in accordance with his or her own personal vision, while the supervisor serves as a methodological expert. Needless to say, the data collected by students are not permitted for faculty research and their use is interpreted as unethical behaviour at an ACE. The additional limitation stems from the fact that ACEs, unlike USEs, have no research tracks for M.A. and PhD degrees (except in specific cases), which could significantly leverage high quality co-research projects. In addition, the ACE teacher educators are not permitted to co-supervise doctoral scholars' programmes in other institutions due to the guidelines of the Council for Higher Education (Hofman and Niederland 2012). In view of these and other limitations, it can be assumed that the TRN patterns applied in this professional group will differ from those presented in the theoretical model. This raises two research questions: (a) how are the TRN patterns reflected in the work of ACE based senior teacher educators; and (b) how do they see the contribution of TRN in light of their professional backgrounds.

Methodology

The study included nine senior teacher educators from five ACEs throughout Israel. Of these, there were five females and four males (age range 47–65 years; seniority in teacher education: 16–30 years; and prior experience in school teaching: 1–8 years) All participants, except one, hold the rank of associate professor and administrative academic positions in their workplace.

For the purpose of investigating the relationship between career transition and TRN more closely, veteran faculty members were selected with at least 16 years of experience in ACE, and experience in school teaching in their early career stages. The criteria based sampling method (Ritchie et al. 2013) is intended to ensure that beyond the experience of teaching in a school, the sample group will include people with a broad background in educational research (for instance, applied and theoretical studies, local and international research), along with extensive seniority in teacher education. This focus was due to the fact that obtaining the rank of professor requires meeting all of the same criteria (Douglas 2013). The selection of the potential participants was conducted via informants or via the ACEs' websites. Following initial contact with a potential interviewee via email, and an explanation of the purpose of the interview and research, a meeting was scheduled at the interviewee's office.

The study was carried out using a qualitative-narrative approach of 60-minute semi-structured interviews which were conducted by the author. During the interviews each interviewee shared with the author his or her career experiences since working as teacher educator. This approach allows examining the connections between the subjects' experiences in different points of life, as s/he interprets them (Marshall and Rossman 2012). In this study, such an approach assisted in the exploration of mutual influences between different areas of professional activity (teaching and research) as a result of the interviewees' past experience. Thus, as part of the interview, the interviewees shared testimonies on their research activity in Israel and abroad, the impact that their experience as former school teachers had on their research, and its impact on students' learning.

The data were collected in accordance with the guidelines for ethics in educational research (AERA 2004). Special emphasis was placed on issues of transparency vis-à-vis the interviewees regarding the purpose of the research, the future use of the data collected, and maintaining the anonymity and confidentiality of the participants. Subsequently, the interviewees gave explicit written consent to participate in the study and record the interview. Following that, written transcripts of the interviews (ranging between 6,000–8,000 words), were used by the author for future analysis and construction of the findings. 195

Q13 The data were analysed by identifying prominent themes that recurred among the interviewees and selecting supporting examples (Patton 2002). In this case, the interviews revealed some notable patterns, such as the wish to change the educational field through research-oriented teaching, recruiting knowledge and research insights for the benefit of students as future teachers, and encouraging them to put these insights and capabilities into practice. These constitute a pillar of the concept of agency in teacher education (Orland-Barak 2017), which emerges as the most prominent pattern identified in the current study. In the subsequent phase of the data analysis, different types of evidence were defined: those that target student teachers as an audience or as participants in these processes, with emphasis on research content or methodological aspects (Figure 2). Finally, these narrative data were divided into categories with names that matched the recognised patterns. 200 205

Verification of the appropriateness of the interviewees' testimonies to the categories and the process of selecting the appropriate terminology was conducted in collaboration with two experts in qualitative research. These processes helped strengthen the reliability of the findings and the validity of the conclusions. 210

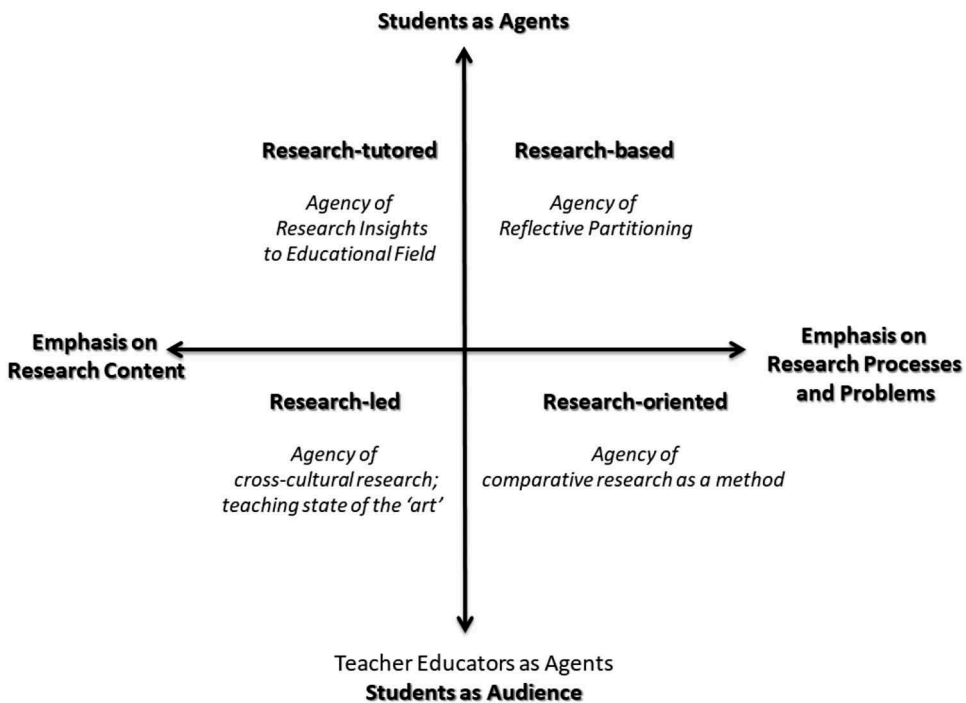


Figure 2. Agency of research through teaching (illustration of findings).

Findings and discussion

Testimonies of the interviewees indicated a striking pattern of the TRN, which was expressed by the **agency of research through teaching** in two ways. At the initial level, the interviewees saw their student teachers as agents for implementing research insights in schools (as described below in the **Agency of Research Insights to the Educational Field** section), and in implementing a self-research approach as scaffolding for improving pedagogic abilities (**Agency of Reflective Practitioning**). At the same time, teacher educators also saw themselves as agents for making insights gained through cross-cultural research available to student teachers, with the aim of enriching their knowledge (described in the **Agency of Cross-Cultural Research** and **Agency of Comparative Research as Method** sections).

These findings led to the adaptation of Healey's model (2005), which presents students' interaction with the TRN by the continuum between passive involvement (as an audience) and active involvement (as participants) (Figure 1). Besides that, the adapted model re-positioned the TRN in line with the Israeli ACE's culture, which tends to view its teachers and students as agents of insights and ideology (Figure 2). The term 'agency', which originally indicated a willingness to create change (Bajaj 2018; Hökkä, Eteläpelto, and Rasku-Puttonen 2012), features, in this study, at various levels of application of research approaches in the field of education and pedagogy. Since much of the student teachers' pre-service education takes place in schools, the findings show that it is quite natural for interviewees to see them as agents of knowledge acquired in the field of education, and to expect them to leverage research insights to the level of creating new models.

Another gap between the two models lies in the term 'teacher-focused'; since, in this study the interviewees testified that they see themselves as agents of knowledge derived from their experience in cross-cultural research rather than as 'centres of knowledge'. Since students' exposure to cross-cultural research is not a routine phenomenon in the ACE culture, teacher educators saw it as an opportunity to enrich student teachers' experience and bring them to an advanced level of thinking on education and pedagogy, through the most up-to-date international topics.

Agency of research insights to the educational field

The learner's agency is defined as the ability of the individual to bring about change as a result of acquiring knowledge, skills, a professional network and a critical sense (Bajaj 2018). The findings of this section relate to the knowledge and skills in the field of research transferred to the students, whereas a professional network refers to the field of education in which they are integrated as part of their training. The interviewees shared the motif of applying research insights, the main one being the opportunity to empower young children by making the relevant educational theory accessible to schools. The process of developing this concept was described by six interviewees, one of them is Professor O (male, 65), a musical education expert:

When I started teaching children, I was always interested that they not only knew how to play, but also how to convey this skill to their friends. Later, when I entered the academia, I continued to explore the field of "learning by teaching", because the children themselves understand best where there is a misunderstanding of the music, where it comes from and how to teach it correctly. When I work with students I show them how to teach young

students “responsibility for teaching” using role reversal. At this age there is a perfect balance between cognition and intuition; children’s ability to use the imagination is much better and can be used for didactic purposes.

Through another example of an educational approach, he interprets the connection 260
between the school and research as follows:

Connecting to the “school space” that I created here allows me to think of my area of expertise as an educational element or a research discipline, but also as a tool for education. We implemented [an educational approach] in order to improve the ability of the group (in school) to work for the shared benefit. We saw how it helps and how the children get together and unite as a group. A significant change has been created and this is the best reinforcement for studies there could be. 265

Professor Y. and Dr H. also shared their teaching methods of academic courses, and the importance of encouraging students to apply research in the field.

Professor Y. (male, 65): I think that research projects bring students to much more thought, much more development, and I make sure that student evaluation will be according to that. In my courses, for example, I ask the student: “Take a child, work with a child, and see what happens with a child. Apply theories we’ve learned in lessons and write about it”. 270

Dr H. (female, 47): In post-doctoral research I have studied cultures of thinking; it took place at [. . .], which is the best place in the world to study the subject because they are very connected to the field of education. Today, in my courses, I teach all those approaches, and in the students’ final project they are asked to design a lesson plan based on pedagogy for thinking. I did not really know if it is applied in the field afterwards, until one of my students told me: “I saw someone’s lesson, and he teaches exactly that approach. Now I finally understand what he did, it’s amazing”. I immediately asked for his phone number to watch it, take film of it and bring it to my classes. 275
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These testimonies pointed to two directions: the importance of encouraging student teachers to translate learned theories and academic research into schools, and the importance of learning from them about its applicability from the field. This exposes the hybrid identity of the interviewees: people who teach the field by research, and learn from the field through student-agents about research insights. The hybridity connects to the claim by la Velle (2019, 369) regarding the importance of the teaching-research nexus in initial teacher education (ITE) where ‘practice is informed by theory and theory is informed by practice’. In particular, participants in this study noted the importance of perceiving student teachers as agents of change in schools, and applied research in education as a tool to produce this change. These statements are in line with the conclusions that emerged from recent studies published in JET that suggest a practical approach to the nexus between theory and practice (la Velle 2019). The studies’ conclusions (for instance, Dockerty 2019; Gallchóir, O’Flaherty, and Hinchion 2019) indicated that the school-based TRN, although challenging, without doubt creates greater agency among student teachers compared to those exposed to the theory in a ‘safe place’ (such as a college classroom) in the early stages of teacher education. 285
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Contrary to claims in the literature that the transition from teacher to teacher educator involves the shaping of a new identity (Williams and Ritter 2010) and sometimes even a certain suppression of the previous professional identity (Wood and Borg 2010), here was evidence of a connection between the two identities in order to emphasise the advantage of the link 300
between school teaching and academic research. The interviewees provided evidence for the

use of educational research to inform teaching, empower young students and contribute to the school environment. The participants indicated that they perceive student teachers as agents of change in schools, and that they view applied research in education as a tool for generating this change. 305

Agency of reflective practicioning

The term 'reflective practicioning' is defined as the ability of the individual to create a relationship between his or her social and emotional world in the professional context (Arkell 2012). According to Tonna, Bjerkholt, and Holland (2017), in the area of teacher education such a process is carried out by exploration of teachers' professional knowledge. 310 This affects their active involvement in personal learning and increases a sense of agency. In this study, the term is applied to shed light on one of the TRN strengths, which is cultivating student teachers as reflective practitioners, exposing them to research tools to develop pedagogic abilities and reporting on this process. In other words, the student teachers are acting as agents to implement self-studies for the purpose of reflective practicioning. 315

Five interviewees described how the approach of self-study was formulated during their career paths, and how it is reflected in the courses taught at ACE. One of them was Professor N. (66), a female interviewee, an expert in educational administration and a former history teacher. She spoke about the agency of reflective practicioning as a necessary action to educate future teachers to investigate themselves through self-study, in order to perfect their pedagogical abilities: 320

The connection I created with the workplace compensates for my not being a school teacher anymore. Through theory and research of different teaching methods, I "re-enter" the school ... I train teachers to develop through the workplace In the courses I teach, I instruct my students to be reflective teachers, to research themselves and their work, and at the same time I also explore myself and my work. New horizons are opened to me all the time! There are countless opportunities for research where I am, which is important and contributes to the world of teacher education. 325

Another testimony, delivered by Professor P., emphasises the importance of self-study as an integral part of the workshop she leads: 330

I gave a workshop on gaming in teaching to my graduate students, and now we're doing cooperative self-research which is based on that subject. I feel I cannot preach without experimenting, it does not seem right to me.

Professor B, a female teacher educator, offers another example:

As an adult who grew up in the field, I know how to place my research in teacher training. For example, I do a lot of work in groups where students create project-based learning and problem-based learning, and then they conduct peer assessment. It provides me with a basis for research, and they take these skills to their workplace. 335

These examples indicate that teacher educators view self-study as a didactic and value-oriented approach, a tool for educating teachers for more desirable thinking and teaching. 340 This is consistent with other studies that recommend the implementation of pedagogical research-led education 'in order to inform the design of one's teaching and one's students' learning' (Valter and Akerlind 2010, 89). Moreover, la Velle and Flores (2018) who examined

approaches to research-based enhancement of teachers' knowledge, also pointed to the importance of developing a reflective practitioner lens with a connection between academic-theorised knowledge and the pedagogical-contextual capability to leverage teacher professionalism. Thus, the renewal of this study is that the promotion of awareness regarding 'reflective practicioning', is perceived not only as an essential component of teacher education, but also as a necessary component of student teacher agency. This interpretation may echo and re-position teachers' perceptions of applied research and self-study as a necessary component of preservice teacher education.

Agency of cross-cultural research

Cross-cultural research in education is designed to reflect the processes among individuals in the educational arena raised in different cultures, alongside interpretations of these processes which often show some conformity with the cultural codes. This type of research sometimes carries the comparative approach and emphasises similarities and differences in values, worldviews, motivations for education and learning. Such teaching-based research often exposes interpersonal diversity in educational contexts and educates for a broader understanding of ordinary phenomena, hence its importance in teacher education (Author 2020; Milligan 2016). Evidence from this study shows that teacher educators perceive themselves as agents who inform students about the state of the 'art', while student teachers serve as an audience who learns and acquires insights from cross-cultural studies. This perception was raised in the testimonies of five respondents. The example emerged from the example of Professor N. (66) who presented the importance of cross-cultural research in its interactions with students:

I want my students to see me as a person with initiatives who can interact with people on international stages, open doors to subjects of interest and engage with other points of view ... It is important. Especially when it comes to education, to which each culture brings different meanings. Your contact with real education in practice, on the one hand, and with educators around the world, on the other hand, can create wonderful things.

An opinion supporting the need for such discourse and the exchange of insights came from Professor L. (62), a female dean of faculty:

For me research opens up possibilities for dialogue with other scholars, with other thinkers, with people who wrote and acted around the world ... Today I see how these findings are a major focus of the discourse of teachers, and of student teachers. I also believe that this discourse may open up their way of thinking about education.

Another practical example of the importance of international discourse as a springboard for ***insights of comparative research as a method*** was provided by male interviewee, Professor R., who implemented a concept from his own international research for discussion in the classroom and even as an approach to a final project in the course.

Since I was in academia, it was important for me to create a discourse about what I do here in Israel. Until recently I was a member of an international team of professionals who each wrote a chapter on social and emotional education in his country. Later, in the classroom, we talked about all kinds of characteristics and then we planned the cooperative work for a final project. It was an important mutual fertilisation, it had tremendous value.

Finally, explicit goals for intercultural discussion and its' benefits in classroom teaching were raised by Dr H., a female interviewee. She emphasised the importance of the agency of cross-cultural research innovations for students.

I travel frequently to conferences, only this year I was invited three times. And when I come back, the students are always waiting to hear the latest updates, the state of the art. They really crave this knowledge, which is very important to them. They want to know that the lecturer who is facing them is up-to-date and not just a teacher of Bloom from 1950... For example, my international research is the teachers' agency, and what is its global approach, and we create insights for us. 390

These findings shed light on teacher educators' perceptions of the power of cross-cultural discourse as a means for acquiring the agency to improve teacher education in two ways: 395
(a) externalising innovations in the field of education that are created by their exposure to and involvement in cross-cultural research; and (b) application of comparative research principles as a method to meaningful teacher education.

During the interviews, the interviewees described products they developed with peers from different cultures as a source of inspiration for teacher education. This corresponds 400
with previous sources dealing with internationalisation in higher education in general (Yemini et al. 2017) and in teacher education in particular (Author 2019), and explains the effort that must be made by the academic institution to integrate discourse on diversity and multiculturalism as a springboard for the new generation of learning. It is possible that institutional boundaries and progress along career paths characterised the interviewees, and sharpen the potential of the agency in these issues. 405

Summary and conclusion

The conclusions drawn from this study point to a unique perception of the TRN that differs from that accepted in the literature (Brew 2012; Douglas 2013; Horta, Dautel, and Veloso 2012). Figure 2 shows the process in the data analysis that provided a broad basis for the 410
current research questions, which dealt with the TRN patterns reflected in the work of senior teacher educators who previously taught in schools, and how they interpret the impact of this on student teachers. As the horizontal axis emphasises the research aspect and implementation of research-related issues, content and processes that give power to teaching; the vertical axis raises the importance of pre-service teachers, and the perception 415
of teacher agency, which is empowered through the TRN.

These and other studies place research at the forefront of priorities and examine how TRN may contribute to research outcomes (Hökkä, Eteläpelto, and Rasku-Puttonen 2012); how the role of teaching can play in leading the research (Author 2020; Valter and Akerlind 2010), or 420
how to leverage the contribution of student teacher scholarship to faculty productivity in research (Schapper and Mayson 2010). Thus, while other academics discuss ways to promote research through institutional resources, teacher educators place their teaching at the centre, and view student teachers' practice as the 'end user' of research insights. The interviewees saw research and its integration into teachers' roles as a means of promoting education, teaching and pedagogy in accordance with the principles of the traditional TRN model (Figure 1). 425
However its four pillars, which refer to students as an audience/participants or to aspects of research (content/process), have been redefined as part of the conclusions drawn in this study. The adapted model (Figure 2) refers to student teachers as an audience or insight agents. The

role of the agent shifts from student teacher to teacher educator according to pedagogical and research context characteristic of teacher education. 430

The processes described above are consistent with the model for research-based teachers' knowledge, proposed by la Velle and Flores (2018), which includes five phases. The model begins by generating new knowledge through research (generation stage), acquiring it preferably through action research (acquisition and transfer), and it continues with mediation and transformation of the acquired knowledge to a teaching context. The last two stages constitute reflection-in-action and reflection-on-action, while the latter connects with the initial (generation) stage of the model (la Velle and Flores 2018, Figure 3, p. 533). This process is reflected in the current findings, which emphasise the place of teacher education through research contents, processes and problems (Figure 2, horizontal axis), in two ways. First, exposing student teachers to cross-cultural research in these dimensions creates the effect of acquiring far-reaching pedagogical insights that are transmitted directly to the teaching field. Second, experience in self-study encourages pre-service teachers to think reflectively, both in- and on-action, while acquiring pedagogical knowledge, and mobilising it for pedagogical purposes and school-teaching practice. 435 440

Although the present study is based on a limited group of participants who had each followed unique career paths, it can be concluded that their hybrid identity leads to unusual patterns of TRN. These contribute to the educational field, on the one hand, and to the promotion of applied academic research, on the other. Another conclusion that emerged from this study concerns the great potential for research discourse between teacher educators and student teachers, both at the international and the local levels. This issue is undoubtedly worthy of further research as a part of TRN studies in different teacher education cultures. 445 450

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