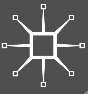

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Teacher Induction and Mentoring

Supporting Beginning Teachers

Edited by
Juanjo Mena · Anthony Clarke

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Novice Teacher Induction in Russia: Management and Mentoring

Roza A. Valeeva, Aydar M. Kalimullin,
Tatiana A. Baklashova, and Liliia A. Latypova

Introduction: The Russian Approach and Aims of Induction Policies and Programs

Support of novice teachers' induction has become a pressing issue, both in Russia and across the globe, and its purpose and goals need to be reconsidered in accordance with current and future contexts. Questions arising from this include the development of teachers' professional identities in the early years of teaching; intersection and connection between the contextual, cultural, and biographical factors affecting their learning to become an effective teacher; how the system of initial teacher education should be reformed in order for the early years in the profession to be a less negative and less traumatic experience. Some answers to these questions can be found in the international researches devoted to novice teachers adopted in Russia in recent years (Achinstein & Athanases,

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2006; Carr et al., 2017; Fantilli & McDougall, 2009; Flores, 2004; Hebert & Worthy, 2001).

The quality of a novice teacher's work, his readiness to develop professional skills, motivation to work, and the desire to stay in the profession or change it highly depend on the success of his adjustment at school. According to statistics available in different countries, from 10% to 50% of teachers leave the profession in the first five years of work (European Union, 2013; Ingersoll et al., 2018; Perryman & Calvert, 2019). According to the results of TALIS-2018 (Teaching and Learning International Survey) the average age of a Russian teacher is 45–46 years, but there is a trend toward a gradual decrease in the proportion of young teachers and an increase, respectively, in the number of teachers from the older age group. Thus, the number of teachers under the age of 25 is only 3.9%, and the share of teachers in the older age group (50 and over) increased to 42%. Women make up almost three quarters (73.7%) among young teachers, men—only a quarter (26.3%). Slightly more than half of novice teachers have a master's degree or a specialty (56.7%), almost a third—a bachelor's degree (30.4%). For 62.2% of young teachers, pedagogy was the first major they chose for their career. Future teachers were motivated by the opportunity to make their contribution to the development of society (87.8%) and to influence the development of children and youth (87.6%). On average, the teaching experience of the surveyed young teachers is about 2.5 years (TALIS, 2019).

For all the differences in educational systems, the main reasons for dismissal among novice teachers in all countries center around the following: lack of professional experience; loads of work; lack of respect from society; continuous changes; student behavior; external supervision of the educational process; low salaries; cultural and professional isolation; lack of career opportunities (Polyakova et al., 2017; Chernyavskaya, 2018; Shaekhov et al., 2019; Hsu et al., 2015; Smithers & Robinson, 2003; Struyven & Vanthournout, 2014; Yinon & Orland-Barak, 2017).

The problem of a novice teacher's induction to the profession and the professional formation of future teachers is relevant due to the social significance of the professionalism factor in the Russian education modernization process (Chernikova, 2014). Training a teacher for complex multifunctional activities is a holistic, long, and continuous process

focused on the formation of personal qualities, professional abilities, knowledge, and skills that are adequate to both his personal needs and qualification requirements. A significant role in solving this strategic task is played by the mentoring system that can intensify the process of professional development of a young teacher and the formation of his motivation for self-improvement, self-development, and self-realization. There are various options for mentoring in many countries. The most widespread formal programs for accompanying teachers during the period of entry into the profession are in the UK, Belgium, France, and the Netherlands. In other countries, these programs are informal and are not widespread (The Teaching Profession in Europe, 2015).

Meanwhile, two-thirds of the Russian young teachers did not go through the formal program of introduction to the profession (65.2%), and half of the respondents had an informal introduction (TALIS, 2019). Despite the high appraisal of the institute of mentoring by the Russian teachers and school principals and their expressed request for the development of such an institute, it is not yet systematic. Only 28% of schools, according to directors, use an official, formal program for the introduction of a young teacher into the profession. On average for the countries participating in the TALIS study, this figure is 56%. Two-thirds of all Russian teachers say they did not take any induction programs neither when they first got employed as teachers nor in the school they were working during the survey. At the same time the study presents a positive trend—the spread of mentoring in the school environment is growing: if in 2013 34.7% of young teachers had a mentor, then in 2018 this figure amounted to 43.5%, while 3.1% of young teachers are already mentors themselves (TALIS, 2019).

One of the main tasks of schools is the professional adaptation of a young teacher to the educational environment. School mentoring is to address this problem. (Kruglova, 2007). The adaptation period generally lasts at least one year and presupposes the support of mentors, academic group supervisors, or other colleagues. Common in programs to assist teachers in the adaptation period in all countries are the following: preventing young specialists from leaving school, consolidating their interest in professional activities, and facilitating entry into profession. For this reason, support is provided in three areas: personal, social, and

professional (The Teaching Profession in Europe, 2015). As part of personal support, a young teacher is given assistance to get confidence and to overcome issues that inevitably take place. Approval from mentors and peers increases self-esteem and contributes to the success of daily tasks and problem-solving. It is important to create comfortable conditions for a teacher: for example, reducing the workload while maintaining full pay in the early years or excluding formal and informal assessment of their professional competence. As for the social help, the adaptation of young teachers involves assistance in entering the school and teaching staff, professional associations, so that they feel part of professional communities and do not experience embarrassment or fear in communicating with colleagues, students, their parents, school trustees, and inspectors. The professional support is aimed at developing their professionalism, the growth of which is associated with the professional level of the entire teaching staff and the quality of the school's educational activities (Chernyavskaya & Danilova, 2019; Dammerer et al., 2019).

Historical Background: The Traditional Concept of Mentoring in the Russian Science and Practice of the Twentieth Century

The phenomenon of mentoring appeared in the Soviet Union back in the 1920s in the sphere of transferring work experience. For several decades, the experience of mentoring was called patronage, and was first applied in organizing an individual approach in industry, and then in education. The development of patronage was facilitated by the decree of the State Council of Trade Unions "On the patronage of cadre workers over the young" (1931), and in the next decade it became a mass phenomenon in training workers. A special role was assigned to patronage during the Second World War: when the industry staff was massively replenished with women and adolescents, the need for their training directly at the workplace became especially acute. After the war, the concepts of mentoring and patronage were increasingly identified. In 1968 the Council of Trade Unions adopted the "Model Regulations on the Training and

Professional Development of Workers Directly in Industry"; various provisions on mentoring (requirements for mentors, conditions, practicing mentoring, etc.) were officially approved (Batyshev, 1985; Galaguzova & Golovnev, 2018).

In the 1970s–1980s, it was generally recognized that mentors are the best workers who enjoy authority among colleagues, are masters of their craft, possess moral qualities, and are worthy of educating the Soviet youth. There was also a practice of organizing courses in universities to improve their pedagogical qualification. The idea of individual support was understood as a form of communist education and training of young people. As a result, there was an initiative to assign students as mentors for professional practice in the factories. Mentoring meant the supervising of young factory or collective farm personnel by experienced specialists. It turned into a form of pedagogical experience when a novice teacher practically mastered the methods of activity under the direct supervision of an experienced teacher-master. Mentoring became widespread in schools in relation to novice teachers. With the advent of perestroika, the institution of mentoring lost its former importance, and with the collapse of the USSR, its development also stopped. It has lost its relevance, being mistakenly understood as one of the symbols of socialist ideology. The scientific and methodological study of this phenomenon has stopped. Today the Ministry of Education of the Russian Federation plans to revive mentoring in schools. The national teacher growth system involves building a vertical career for teachers, one of the areas of which will be the position of a leading teacher with the main function of mentoring.

The essence and role of mentoring in the professional adaptation of a novice teacher are defined in the works of A.S. Batyshev (1985), Yu.V. Krichevsky (1988), M.I. Makhmutov (1981), N.V. Nemova (1998), I.G. Stolyar (1984). Savinova and Kudryavtseva (2015) highlight the research results on the semantic trends in the interpretation of the concept of "mentoring."

The expansion of the practice of mentoring in recent years has led to its consolidation in the legal field as an independent institution of lifelong education in Russia, which reflects the global trend defined in the EU Lifelong Learning Memorandum in 2000. By Decree of the Government of the Russian Federation No. 1011 dated December 14,

2009, mentoring was enshrined in at the federal level as a form of work with graduates of vocational education institutions (trainees) with the aim of their professional adaptation and gaining professional experience.

Theoretical Background: The Studies of the Russian Scholars Devoted to the Difficulties in Mentoring and Teaching Activities of Novice Teachers

The process of novice teachers' adaptation involves overcoming many pedagogical, methodological, organizational, educational, and other challenges that accompany their teaching practice. The overwhelming majority are not ready for fruitful work due to lack of work experience, communication, knowledge of the profile of the educational institution, the school collective, the parental community, and other reasons of adaptational and professional nature.

The first comprehensive Russian study of novice teachers' work challenges was done by Kuzmina (1967). The scholar revealed the essence, classification, structure of these challenges on the basis of some characteristics, content, and dynamics, established professional aspects that cause readaptation and maladaptation.

Elmanova (1973) studied the process of forming pupils' gnostic skills and examined the challenges and psychological obstacles novice teachers encounter in the process of observing pupils and analyzing the level of their knowledge. Babansky (1990), Demintsev (1977) researched the didactic challenges of teachers, identified their causes, and determined the ways to overcome them.

Polyakova (1983) investigated the main challenges in the pedagogical activity of novice teachers and made an attempt to identify the main psychological and educational obstacle that mostly influences the quality of teaching and educational processes. She substantiated the corresponding methodological approaches, the procedures of undergraduate and postgraduate novice teachers' professional adaptation to overcome obstacles, including didactic ones. The difficulties presented here are mainly of

a didactic character, since they are associated with solving various problems in the learning process. In particular, novice teachers do not have sufficient knowledge of their subject, of how to prepare, plan, organize, and conduct their lessons.

The problems faced by young teachers, their professional deficiencies, and requests are also evidenced by the results of an international study TALIS (Teaching and Learning International Survey) (TALIS, 2019). Novice teachers lack proficiency in professional communication and suffer from a limited access to professional development opportunities. Meanwhile, they are not ready to solve practical teaching problems and have insufficient knowledge of modern teaching techniques.

According to the studies of Moroz (1983), the process of interdisciplinary connections formation by novice teachers is accompanied by overcoming psychological and educational challenges. This aspect is thoroughly presented in the thesis of Elagina (1997). Her research shows that novice teachers are less likely to use this approach in teaching practice than their senior colleagues.

An urgent need for changes in the technological training of teachers is noted in the studies of Polenova (1990). She revealed that novice teachers are almost unable to adequately apply knowledge acquired at the university.

Bulatova (1999) states that a real obstacle for the formation of future teachers is the fact that the level of training often does not correspond to the creative nature of teaching profession. Due to that novice teachers perceive their role as a "transmitter" of knowledge and underestimate the importance of a broader, "artistic" element of teaching. For the most effective formation and professional adaptation of novice teachers, it is recommended to use a combination of traditional approaches in teaching and methods of "theatrical pedagogy." This combination is to stimulate the development of young specialists' creative abilities, to correct the communication system, and to help overcome difficulties caused by unfavorable conditions of creativity (Belova & Efimova, 2016).

The analysis of the primary sources demonstrates that novice teachers' adaptation and maladaptation have become even more complex because of the worsening social and economic situation in the country and the aggravation of a whole range of problems. In particular, for such a

polyethnic country like Russia, the solution for general national policy and national macro-educational systems issues has not yet been found. The latter is proved by the dynamics of forced migration growth. Konovalova (2011) highlights a number of challenges novice teachers face in the period of their professional adaptation in a multinational region. In particular, the scholar shows that adaptation to a new social environment, to a different way of life is complicated by the cultural and national peculiarities of the region a teacher encounters in the process of communicating with pupils, parents, and colleagues. In this regard, at the stage of becoming a young specialist, there is an urgent need for rapid social and professional adaptation of novice teachers within the school community.

Nazarova (2003) studied the dynamics of the adaptational processes of novice gymnasium teachers in the context of general secondary education modernization. In her study, she proved that the adaptational processes of trainee teachers are optimized thanks to passing dominant intelligence test during their vocational selection; design and implementation of a special set of measures to overcome maladaptation and optimize the functional states of novice teachers; their effective inclusion in the innovative activity of the gymnasium; and the use of new didactic technologies in the educational process aimed at developing the creative potential of pupils.

The implementation of projects related to the induction of young teachers to the professional environment is carried out in Russia in accordance with the national priorities of formal and nonformal pedagogical education legally enshrined in the Law of the Russian Federation "On education in the Russian Federation" (2012),[1] the Labor Code of the Russian Federation,[2] the Federal state educational standard of higher education,[3] the Teachers' professional standard, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of 18.10.2013 No. 544p.[4] Moreover, it is legislated in the "Unified

[1] https://xn%2D%2D80abucjiibhv9a.xn%2D%2Dp1ai/%D0%B4%D0%BE%D0%BA%D1%83%D0%BC%D0%B5%D0%BD%D1%82%D1%8B/2974.

[2] http://kodeks.systecs.ru/tk_rf/.

[3] http://fgosvo.ru/.

[4] http://www.edustandart.ru/wp-content/uploads/2017/04/rofessionalnyj_standart_pedagoga_2013.pdf.

qualifications reference guide book" for getting the positions of managers, specialists, and nonmanual workers, approved by the Ministry of Health and Social Development of the Russian Federation of 26.08.2010 No. 761p.[5]

The purpose of these projects is to ensure the professional growth of novice teachers who are able to carry out the quality of general education while the dominant role in its implementation is played by the school itself, its teaching and managerial staff. The purpose of the program is to form a system of novice teachers' motivation and stimulation as an effective tool for managing innovative processes (Valeeva et al., 2018).

The design of these programs is carried out according to the teachers' professional standard (2013),[6] which states that the teacher of the twenty-first century is a harmoniously developed person aspiring to spiritual, professional, general cultural, and physical perfection, able to select the most effective means and technologies of training, able to organize reflexive activity possessing a high degree of professional competence. To meet these requirements, it is necessary to modernize the school methodological system, which manages the professional competence quality of novice teachers at the executive and tactical levels (Nikiforova, 2012). This chapter reveals the development of innovative organizational models of advanced training and mentoring for novice teachers at the regional and municipal levels in Russia.

Design and Evaluation of Induction and Mentoring Programs

The implementation of programs on novice teachers' support in Russian educational institutions is carried out within five areas, contributing to the development of teachers' ability to participate in the innovation activities of general education (Kharavinina, 2011):

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[5] http://legalacts.ru/doc/prikaz-minzdravsotsrazvitija-rf-ot-26082010-n-761n/.

[6] http://www.edustandart.ru/wp-content/uploads/2017/04/rofessionalnyj_standart_pedagoga_2013.pdf.

- Increasing the motivation of novice teachers;
- Building up the methodological potential of young teachers;
- Advanced training of novice teachers;
- Individual support of novice teachers;
- Corporate culture development and social partnership development.

Network partners in the induction of young teachers to the professional pedagogical environment that are relevant to each area of the program (management and staff of general education institutions, higher education institutions, the Ministry of Education and Science) are developing projects to ensure its successful implementation and achievement of the objectives (Kharavinina, 2011). The projects are interconnected and coordinated by partners to gain benefits and manage successfully.

Increasing the Motivation of Novice Teachers

Within the first area of novice teachers support programs implementation in educational institutions, the projects "Modern classroom," "Business and psychological security" are implemented, contributing to the young teachers' motivation improvement through the development and use of intraschool (institutional) standard equipment of modern classrooms, creating conditions for the prevention of young teachers' emotional burnout.

Equipment of the modern classroom provides many opportunities ranging from simple demonstrations of subjects, phenomena, and the organization of virtual tours, search for information to the use of interactive opportunities of electronic educational resources, as well as the organization of networking and distance learning. The "Modern classroom" project aims at creating optimal conditions for work to improve the efficiency of the educational process. The final event is participation in the professional competition among classrooms organized by the education authorities.

The project "Business and psychological security" aims to overcome the syndrome of professional burnout, reduce anxiety and tension in interpersonal relations, the mental self-regulation ability of teachers,

which contributes to a positive change in individual psychological characteristics. Implementation of the project involves: theoretical and methodological analysis of the emotional burnout syndrome in foreign and Russian literature, planning activities based on the needs of schools; the diagnosis of the predisposition to stress degree, measuring the degree of emotional burnout; the development of preventive measures against emotional burnout among teachers; organization and conduct of training sessions, sports, and art therapy (Polyakova et al., 2017; Nugumanova & Shaikhutdinova, 2018).

Building Up the Methodological Potential of Young Teachers

Within this area such projects as "The management of introduction of the Federal State Educational Standard" and "Toward the Professional Standard" promote the increase of young teachers' methodological potential.

The implementation of "The management of introduction of the Federal state educational standard" project involves: evaluation of professional and creative development as well as professional difficulties of a young teacher, actualization of creative educational orientation, transformation of the updated knowledge into an effective personal paradigm for professional and creative development based on the formation of an individual educational path, management of difficulties by means of teachers' round tables, training seminars, tutor support, understanding of new standards, development of creative potential of the teacher on the basis of the management, advisory assistance from administration, analysis of creative activity with the adjustments of the "Self-concept." The realization of this project also covers the control of planned changes in the educational system, monitoring training and progress quality, sharing the positive experience at seminars and in scientific publications.

The "Toward the professional standard" project involves the preparation of young teachers to implement the professional standard of the teacher in order to improve the quality characteristics with the help of the following: understanding the basic provisions of the standard by every

teacher (individual familiarization with professional standards with signed acknowledgement, consideration of the professional standard content, discussion of ways to implement the professional standard), bringing the regulatory framework of the educational institution into compliance with the professional standard, the preparation of individual routes to meet new requirements, implementation of the planned project activities, organization of the internal audit of professional competence compliance of teachers with the professional standard, problem analysis, dissemination of positive experience (Nugumanova & Shaikhutdinova, 2018).

Advanced Training of Novice Teachers

Within this area such projects as "Professional development" and "Points of growth" are implemented in the educational organizations. They contribute to improving the skills of young teachers, their encouragement and support, to enhance the prestige of educational institutions through the growth of teacher's professional skills.

The "Professional development" project targets professional competence and sustainable self-reflection skills formation which facilitates the structural integrity of the pedagogical activity. This aim determines the following project stages: the course analysis, questionnaires, organization and conduct of personalized training courses, training seminars at school, project work presentation.

The teaching staff of the educational institution requires innovations and search for new resources. The "zone of growth" is crucial for every teacher, especially for a beginner. The project "Points of growth" is designed to help young teachers undergo the application procedure and job relevance certification, to increase the motivation level for self-education, self-realization, and creativity in the professional activity. It is implemented through a work plan with teaching staff, training of personnel for certification procedures, and project activities. The aim of the project is to create organizational and substantive conditions for achieving a higher level of qualification of young teachers as professionals. Implementation of the project involves the analysis of a young teacher's potential, drawing up a long-term plan to improve their skills, the

implementation of planned activities, a certification for improvement of their qualification, and the final analysis (Belova & Efimova, 2016; Nugumanova & Shaikhutdinova, 2018).

Individual Support of Novice Teachers

Within the fourth area the project "Mentoring and partnership" is being organized in educational institutions. It contributes to the activation of training, consultative targeted support for each novice teacher, and motivation of young teachers to increase their professional skills.

Development of conditions for teachers' adaptation and consolidation in school is relevant for heads of educational institutions when working with young personnel. It is important to identify difficulties and adapt the system through the development of a long-term action plan, joint discussion of problems, methodological weeks, and so on. In the project "Mentoring and partnership" the survey among personnel is very important, and so is the analysis of social capital of educational institutions, planning of teaching tips in the form of business games, team-building training, an organization of interactive and methodological meetings, briefings, discussions, and so on. (Ignatieva & Bazarnova, 2018; Chernyavskaya & Danilova, 2019; Nugumanova & Shaikhutdinova, 2018).

Corporate Culture Development and Social Partnership Development

Within the fifth area the projects "Corporate culture" and "Social partnership" are implemented. They contribute to the creation of the educational space as an environment of the widest possible range for the personality development of a young teacher, acting in accordance with social values and priorities, expectations, and interests.

The coherent system of values and behavioral norms allows educational organizations to set a single development focus for their own employees. Well-implemented corporate culture allows not only to improve the process of internal communication but also to ensure the

staff loyalty, which helps to maintain the team spirit (Mahmudova & Aliphanova, 2013). It contributes to the improvement of the education quality. The project is accompanied by a survey, analysis of the general education social capital, SWOT-analysis, planning of joint activities, discussion of the "Pedagogical code of ethics."

The aim of "Social partnership" is to create an open community of different social institutions, which allows to improve the quality of general educational work and solve the problem of student socialization. The priority is to find common ground, to study the regulatory framework, mutual adaptation, planned activities implementation, joint creative activities, monitoring, and exchange positive experience (Chernyavskaya, 2018).

Empirical Example of the Conducted Pedagogical Experiment on Novice Teacher Induction Projects. Results and Discussion

Addressing the problem of novice teachers' induction—their immersion into the real educational environment of the secondary school—we conducted a pedagogical experiment in which novice teachers from three educational institutions (63 people) participated in the system of novice teacher induction projects (42 of them having a bachelor's and master's degree in pedagogy; 21 of them not having a bachelor's degree in pedagogy, but having a master's degree in pedagogy). The key task of the study was to determine which vectors of young teachers support programs are more acceptable in their professional development. We used the in-depth interview method, which is the survey method of pedagogical research often applied when interviewing specialists working in a particular field. Unstructured in-depth interviews were conducted before the involvement of young teachers in induction projects (August–September, 2017), as well as after it (January 2018). The interviews were recorded by means of a Dictaphone and a notebook. In-depth interviews were aimed at the organization of purposeful and targeted professional and pedagogical communication between the interviewer and the respondent. It should be emphasized that the choice of this method was not accidental—it was

justified by its versatility, as well as its potential for obtaining information about past, present, and future of the respondents, subjective and behavioral information. This method helped organize personal, free, and direct interviews with respondents. In the course of personal, unstructured two-hour conversations (initial and final), the interviewer managed to find out the personal opinion of each respondent on the issue of their induction into profession, the difficulties they experienced, their beliefs as novice teachers. We studied the readiness of novice teachers to be involved in project activities, their emotional background, as well as personal hidden associations, that is, the deep processes of consciousness of the subjects. During the final interviews, it was important to get feedback, a value judgment of the subjects about the projects they were involved in.

The evaluation of the results of the activity was carried out using reference parameters. During the interviews, young teachers were asked to give their viewpoints regarding the impact of the reference parameters on their professional development (the formation of psychological and pedagogical competence, the development of methodological potential, the development of corporate culture, etc.). At the initial stage, opinions were more assumptive and based either on teachers' previous experience of participating in projects or on their intuition.

The final in-depth interviews were of longer duration; teachers' conclusions were well-reasoned and valid due to their extended experience in each of the reference parameters of the survey. It should be mentioned that respondents expressed their views freely and fully when answering the questions of the interviewers, which is not common in public discussions; there was a rather serious attitude of respondents to the survey due to the personal character of the interview. The interviewers managed to adapt the techniques of conducting in-depth interviews to the conditions of a specific situation, to control the received detailed information about the respondent's opinions, motives, and perceptions, since the researchers focused on one person. They were able to observe and take into account in the assessment the nonverbal reactions of the respondent, adjust the course of the study if necessary. Noting the positive characteristics of this method, we consider it expedient to emphasize its shortcomings, which we had to face during the research: (1) the obligatory need for researchers to master the competencies of a highly qualified interviewer, which is a

rather laborious process; (2) the presence of a certain risk of reducing the quality and depth of information received from the respondent under the influence of the interviewer; (3) the process is time-consuming (126 hours in total); (4) the complexity of the procedures for collecting and processing information.

The results of the study are presented in Tables 1 and 2.

The results of the study reveal the following. Positive dynamics is observed in two groups of respondents on the reference parameter "Growth of the motivational component," where a larger increase in the

Table 1 The reference parameters affecting the professional development of novice teachers—Group 1 (42 novice teachers with bachelor's and master's degrees in Pedagogy)

The reference parameters	Initial interview: number of teachers	Final interview: number of teachers
Growth of the motivational component:		
• project activities on the organization of the working environment of the teacher by equipping the classroom with modern technical facilities;	34	35
• project activities on novice teachers' emotional burnout prevention	38	41
Methodological capacity increase:		
• project activities organized by the school's methodological service to innovate the content and teaching technologies caused by the introduction of the Federal State Educational Standard	35	39
Professional development:		
• project activities on novice teachers' professional training	27	28
Continuing individual support of novice teachers:		
• project activities on the involvement of young teachers in the processes of mentoring and partnership.	26	28
Corporate culture level improvement:		
• project activities on the development of social partnership, the creation of the educational space of school for personal development	31	33

Table 2 Reference parameters affecting the professional development of novice teachers—Group 2 (21 novice teachers not having a bachelor's degree in Pedagogy, but having a master's degree in Pedagogy)

The reference parameters	Initial interview: number of teachers	Final interview: number of teachers
Growth of the motivational component:		
• project activities on the organization of the working environment of the teacher by equipping the classroom with modern technical facilities;	25	26
• project activities on novice teachers' emotional burnout prevention	17	21
Methodological capacity increase:		
• project activities organized by the school's methodological service to innovate the content and teaching technologies caused by the introduction of the Federal State Educational Standard	25	28
Professional development:		
• project activities on novice teachers' professional training	18	15
Continuing individual support of novice teachers:		
• project activities on the involvement of young teachers in the processes of mentoring and partnership	28	33
Corporate culture level improvement:		
• project activities on the development of social partnership, the creation of the educational space of school for personal development	18	20

results of the final interview is noticed in the project activity on novice teachers' emotional burnout prevention. The project "Business and psychological security" implemented by the psychological service of the educational institution made it possible to clearly organize and plan the work of young teachers, to overcome the monotony of work, to reduce the deficit of administrative, social, and professional support. The project "Modern Classroom" designed to promote the growth of motivation in young teachers showed a slightly positive dynamics in two groups of respondents. This is due to a relatively low level of teachers' initiative

caused by the lack of competence in the field of modern technical teaching aids, lack of ability to systematize the media library on the profile of the subject. Besides, the development of digital laboratories for the subjects that initiated the "Modern Classroom" project realization demands from a novice teacher to have a high level of ICT technology knowledge and is time-consuming. The reference parameter "Methodological capacity increase" is characterized by a sharply positive dynamics in the two groups. It comes from the fact that the content of education is innovated in the school because of the transition to the new federal state educational standards for general education. A positive trend was observed in the first group of respondents in the reference parameter "Professional Development." The negative dynamics in this parameter in the second group of respondents is explained by the lack of differentiation of educational content for the students not having a bachelor's degree in pedagogy. Unfortunately, in the modern format of professional development courses it is not always common to take into account the peculiarities of initial professional pedagogical training. This negatively affects the effectiveness of the educational process, reduces the level of compliance of training with the expectations of teachers, slows down the formation of professional identity, self-determination as a professional, which is significant in the issue of professional development of future teachers. The problem of insufficient formation of professional identity among young teachers is quite relevant for Russia (Yarysheva et al., 2018). There are also particular difficulties in the professional self-determination of novice teachers working in various fields of education. Yarysheva (2018) actualizes the need for the development and implementation of psychological programs to support young teachers. Babukhina (2012) emphasizes the importance of special management support for the professional self-determination of young teachers. Russian researchers prove the necessity of adaptation programs introduction for novice teachers (Chernyavskaya & Danilova, 2019), think that only guaranteeing a specially organized induction period can improve novice teachers' adaptation (Pinskaya et al., 2016). The project "Mentoring and partnership," according to the respondents, had a positive impact on their professional development. The potential of mentoring young teachers is extensively studied by Russian scientists. They focus on changing the role of the mentor,

emphasizing the importance for a novice teacher of his support not only professionally, but also personally, as well as prioritizing the implementation of a thorough in-depth analysis of young teachers' activities (Ignatieva & Bazarnova, 2018; Chernyavskaya & Danilova, 2019).

As for the reference parameter "Continuing individual support of novice teachers," there is a positive move in the two groups of respondents. In the group of novice teachers having a bachelor's degree in another major (not in pedagogy), this parameter is given more importance. The reference parameter "Corporate culture level improvement" is connected with the level of social capital formation of the educational institution. Project activities aimed at developing social partnership, as well as the creation of special educational school space for personal development both for students and teachers had a positive influence on the development of novice teachers. The positive dynamics in the two groups of respondents is thanks to the equal participation of everyone in collective interaction

Professional adaptation of novice teachers is associated with high emotional tension, as they are just learning a new field of activity, committing many mistakes, experiencing setbacks. At this time, the young teacher is guided by mostly opposite standards "good – bad," and any unforeseen event in school life causes either a positive or a negative, depressed state.

Pedagogical obstacles the novice teachers meet at school should not be considered only in a negative way. Their overcoming is to some extent necessary and even useful as it has a stimulating nature, contributes to the professional and creative growth of a teacher. This, in turn, allows the novice teacher to reevaluate and optimize teaching activities.

Didactic challenges have shifted from mastering the content of new programs and textbooks in the 1980s to the acquisition of work experience using the latest teaching technologies, which is typical of modern educational concepts and wide school and university practice. It follows that one of the key factors ensuring successful adaptation of future teachers is the relevant, reasonable, and proper content of their university training.

Problems arise due to the fact that a young teacher at the beginning of his professional career has sufficient knowledge, but insufficient skills, since he has not yet formed professionally significant qualities, so a young teacher needs constant methodological help from the teacher-mentor.

Conclusions

The objectives of the programs on the induction to the profession of a young teacher in Russia are the following: to develop a systematic approach to the organization of continuous education and improvement of professional competence of novice teachers in general education; to motivate novice teachers to enhance innovative technologies application and foster participation in contests; to increase the level of social capital; to improve the system of scientific and methodological work and its organization; the activation of creative potential of young specialists in the synthesis of advanced pedagogical experience and its extension; the formation of the successful young teacher image through the creation and timely maintenance of the portfolio; the introduction of a consolidation system of young professionals in the educational institutions.

Provided that we consider the activity of a novice teacher as a manageable system, then it is possible to identify several management objects, where quality determines the implementation of new standards. These objects include lessons and extracurricular activities, equipment of the classroom and, most importantly, the evaluation system of student educational achievements. The quality of the latter, in turn, depends on the level of a teacher's managerial competence implementation.

The mission of novice teachers' induction to the professional environment programs is to convey information about the main modernization spheres of Russian education to every newcomer, create conditions for the continuous development of teachers' professional knowledge and skills, improve their pedagogical skills and, consequently, the quality of education.

Our research has a number of limitations. The limited number of participants does not allow us to generalize the results to a broader context, but our study could form the basis for future research. The study opened up interesting perspectives regarding the models of mentoring novice teachers' induction, particularly increasing the motivation of novice teachers; building up the methodological potential of young teachers; advanced training of novice teachers; individual support of novice teachers; corporate culture development and social partnership development.

However, this study is only the beginning, and future in-depth research is required, especially regarding novice teachers who are not pursuing formal postgraduate studies. Second, similar studies could be conducted across different school settings and with different members of the school community, such as school heads. The effect of mentoring novice teachers' research use in their teaching and their students is still an underrepresented field and would benefit from further research. Future research with different and larger samples of novice teachers, for instance by designing a questionnaire, could further investigate the influence of the background of beginning teachers, such as age, gender, and type of teacher education, on the emergence and character of the tensions. Finally, it would be valuable to conduct international studies to investigate whether novice teachers from different cultures have different views regarding their professional development.

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Workplace Learning and the Practice of Agency in the First Two Years of Teaching: The Case of Arab Novices in Israel

Hiam Nasseraldeen, Tsafrir Goldberg, and Lily Orland-Barak

Introduction

In recent decades, teacher attrition has increased, constituting a major problem in Western countries as many teachers leave teaching at early stages (Ingersoll & Perda, 2011). Paradoxically, this happens despite the increase of induction programs (Tynjälä & Heikkinen, 2011) that are assumed to have a strong effect on rates of turnover (Borman & Dowling, 2008; Ingersoll & Strong, 2011) and on fostering teacher socialization to reduce attrition. Yet, while the world suffers from teacher shortage and attrition (Eurydice, 2018), the Arab educational system in Israel suffers, by contrast, from a surplus of teachers (Pinson & Agbaria, 2015) with

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low attrition rates (Arviv-Elisheva & Tzimrman, 2013). This is not because the Arab educational system in Israel is granted more favorable conditions, but rather due to the complex micropolitics of school settings of the Arab minority in Israel (Pinson & Agbaria, 2015). Such duality of low attrition, on the one hand, and complex school micropolitics, on the other hand, invites questions related to how novice teachers learn to teach under such circumstances, and what they might do to navigate within these complexities. These questions are the focus of this study.

We position our study within a sociocultural perspective which views learning as situated and as occurring through participation in social practices (Caspersen, 2013; Wenger, 1998). Such participatory process is known to be shaped by personal and organizational factors of the workplace (Tynjälä & Heikkinen, 2011). Thus, we focus on learning processes as experienced by novices at the workplace in relation to their sociocultural local context, acknowledging, at the same time, the role of individuals as agentic actors rather than as merely subjected to organizational processes (Eteläpelto et al., 2013).

Theoretical Background

The initial years of teaching are intensive and crucial as they influence teachers' learning, their perceptions of teaching and learning, their professional identity, the quality of their future teaching and, eventually, the decision to stay or leave the teaching profession (Feiman-Nemser, 2012; Pogodzinski et al., 2013; Ronfeldt & McQueen, 2017). During this period, novice teachers learn to socialize into the school culture, norms, and local teaching community while they often suffer from reality shock, partly due to the organizational school system (Caspersen & Raaen, 2014; Kelchtermans & Ballet, 2002; Zeichner, 2012). These encounters with the school culture, interactions, work conditions, and climate all influence novice learning at the workplace (Jurasaite-Harbison & Rex, 2010). Their effective socialization and learning is also influenced by a strong school leadership, by the organizational school culture, and by the adequacy of the tasks promoted during induction (Avalos, 2011; Flores, 2004; Maloney, 2012). In addition, the quality of induction programs

has been found to have a significant influence on novice teachers' socialization and retention (Feiman-Nemser, 2003; Paula & Grīnfelde, 2018). To this end, Nasser-Abu Alhija and Fresko (2010) examined the induction of novices within the Israeli context, and pointed to the positive impact of supportive mentoring in socializing novice teachers not only pedagogically but in adjusting to the school culture. Mentors were found to be the most significant agents in socializing into the school culture (Martin et al., 2016; Nasser-Abu Alhija & Fresko, 2010; Orland-Barak, 2016).

The literature illuminates on workplace learning (Tynjälä, 2008) as characterized by collaborations with colleagues, by managing impasses and difficulties through consulting information sources (Kyndt et al., 2016; Tynjälä & Heikkinen, 2011). In the case of novice teachers, who mostly learn by sharing experiences with other colleague teachers (Birkeland & Feiman-Nemser, 2012), experiencing a positive and cooperative school culture and supportive leadership is essential for developing a positive disposition toward being a teacher and doing teaching (Flores, 2004; Szeto & Cheng, 2018) and for learning at the workplace (Jurasaite-Harbison & Rex, 2010). Besides the school internal culture, the wider external context is also found to influence the workplace learning (Achinstein et al., 2004; Avalos, 2016; Fuller & Unwin, 2011). To sum up, studies acknowledge the influences of both internal and external workplace factors on the learning context.

In her review of workplace learning research, Tynjälä (2013) suggests a holistic 3P model (Presage, Process, and Product) to understand learning from a sociocultural perspective. According to this model, the presage factors (i.e., both learner and context factors) influence the learning process through the learner's interpretation of those factors. In other words, the learning process depends on the way learners see themselves and their workplace and on their choice of participation in workplace learning opportunities referred to as agency (Billett, 2002, 2011). Taken to our case, the way novices see themselves as teachers (workers and learners) and how they make use of the school affordances (the workplace) to promote their learning process (i.e., the activities through which teachers learn).

In earlier work, agency was either seen from an individual perspective (Giddens, 1984), or through analytical separation between the individual and the social context (Archer, 2000). Later, adapting a sociocultural approach, the roles of both individual agency and the social and cultural context were acknowledged (Billett, 2006; Evans, 2007; Hodkinson & Hodkinson, 2004). Billett (2002) introduced the notion of dual participation, to describe the relationship between workplace affordances and the choice of individual decision of engagement in what is available. Workplace affordances refers to activities individuals are encouraged to participate in and to the guidance they are offered. Such affordances are influenced by the sociocultural factors of the workplace (Billett, 2011; Eteläpelto, 2017; Eteläpelto et al., 2013). However, learning is not only about workplace affordances, but also about the individual's choice and degree of engagement in these activities. In this vein, the role of individual agency becomes significant for understanding workplace learning (Billett, 2011; Eteläpelto et al., 2013). From the perspective of novices as agents, Kelchtermans (2019) suggests that seeing them as agents is basic for developing an alternative perspective of novice teachers. He proposes rethinking the "deficit" perspective of novices which carries the connotation of seeing them as weak and in need of remedial support and substituting it for a view that foregrounds novices' strengths as agents, as networkers, and as assets (Kelchtermans, 2019). Our study supports this view, acknowledging the role of novices as agentic actors especially when workplace conditions are unprivileged and complicated such as the case of Arab schools presented next.

Context

Answering the call for examining context-specific settings in order to understand teacher learning (Jurasaite-Harbison & Rex, 2010; Tynjälä & Heikkinen, 2011), we focus on the unique context of Arab schools in Israel assuming that it bears significance on workplace learning opportunities created and offered to novices and their enactment of individual agency. The Arab educational system in Israel serves the minority population of Arabs. It runs under full control of the state educational system

(Pinson & Agbaria, 2015) but functions in total administrative separation (Jabareen & Agbaria, 2011). Arab schools suffer from complicated aspects such as high needs, underachievement, and problematic teacher-student relationships (Arar & Ibrahim, 2016; Hijazi, 2016; Khoury-Kassabri, 2009; OECD, 2016). Studies that examined the Arab educational system explained various complicated conditions as rooted in two sources. One source, as studies point out, is related to the continuous marginalization of schools as part of a minority, such as a lack of school resources and funding (Adi-Rakah et al., 2011; OECD, 2016). The other source relates to the Arab traditional culture and norms (Abu Asbah et al., 2014; Agbaria, 2011; Gindi & Erlich-Ron, 2019). For instance, Cohen and Abedallah's (2013) study examined the relationship between work and non-work variables and organizational commitment among Arab female teachers. They traced a strong influence of non-work variables such as spousal support and family-work conflict on teachers' organizational commitment and called for supporting non-work aspects rather than focusing more on work conditions. In a more recent study, Hayik and Weiner-Levy (2019) identified the significance of cultural factors (such as power relationships) within the Arab educational system and society on identity shaping of prospective teachers. As for novices, the school culture and organizational climate of Arab schools in Israel were recognized as part of the difficulties that novices face in their early years of teaching (Ilaiyan, 2013; Toren & Iliyan, 2008).

In line with the above, local studies revealed major difficulties in conducting teacher assessment by Israeli Arab principals due to personal relations, and cultural and social factors (Arar & Oplatka, 2011; Orland-Barak & Abu Rahmoun, 2020). In their recent study, Reingold and Baratz (2020) point to dilemmas and conflicts Arab principals encounter as being caught between the local social context and the demands of the formal education authority. Given the complex micropolitical setting of Arab schools (even for principals) as described above, we assume that novice learning to teach is likely to be influenced by such local context-specific characteristics, which might yield idiosyncratic forms of teacher agency as novices strive to succeed in their first years of teaching. The current study aimed to explore the interplay between contextual factors of local Arab school settings and novice learning at the workplace from

the perspective of individual agency. We ask: what are the processes, resources, and strategies that Arab novices access and adopt when learning at the workplace in their first years of teaching? How do environmental and contextual factors of the Arab school influence such learning?

Method

In this chapter we present findings from the analysis of qualitative data collected in a broad-scale national research (Orland-Barak & Goldberg, 2018). We focus on the data collected in the context of induction in Israeli Arab schools. Twenty-four Arab teachers agreed to be interviewed. Most of the participants (20) are female while only four novices are male. The lower number of male participants stands in line with the local and global feminization of the educational systems (Moreau, 2019). Twelve novices teach in elementary schools. All the others teach in junior high (four participants) and high schools (eight participants). All male novices teach in high schools. Participants were interviewed during their second year of teaching (one year after finishing their internship) in monocultural Arab schools, all located in the north of the country. Participation in the study was voluntary.

To allow participants to articulate their learning experiences, including personal and workplace aspects, the in-depth semi-structured interviews (Kvale, 1996) addressed aspects of learning at the workplace identified in the literature. In regard to the first research question, we asked about the learning process: learning opportunities, strategies, and workplace learning resources (A translation of the full interview protocol is presented in Appendix). In cases where possible learning resources (mentoring, staff meetings, coordinator, other colleagues, induction workshop, etc.) were not mentioned by the participants, we asked novices to relate to them specifically. Participants were asked to provide examples of their engagement in such experiences and specify what they learnt. In regard to the second research question, we intended to avoid asking directly about sociocultural aspects to ensure that our questions do not influence or guide their accounts of learning in particular directions.

The inductive thematic analysis started with organizing, reading thoroughly, and coding the data (Charmaz, 1995; Creswell, 2013). Next, we looked for recurrent themes across interviews. Then, sensitizing concepts of professional agency were used to reveal the different manifestations of novice agency (Patton, 2002). We examined the data for context-specific aspects (such as lack of vacancies), school affordances of learning opportunities (such as mentoring), and novices' descriptions of their engagement in these opportunities. This helped illuminating on both personal and social factors of the workplace and recognizing the role of individual agency in the learning processes.

Interviews were carried out by Arabic-speaking researchers in Arabic and held face to face with an open choice of a convenient language for participants. All interviews were recorded, transcribed, and translated. A qualitative computer-based analysis software (ATLAS) was used to organize and code the data (Creswell, 2013). Pseudonyms are used to protect the participants' identities.

Findings

Our findings revealed influences of cultural and social characteristics of the Arab community in Israel on novices' learning and practice of agency at the workplace. First, we present findings that reveal cultural and social norms of the local community that influence the learning process. Then, we present the forms of individual agency enacted by novices to navigate their learning at the workplace.

Novices' Learning Processes Are Influenced by the Cultural Norms of the Local Community

The data analysis surfaced two major themes related to novices' experiences of learning: their status as novices in the school and the significance of a supportive school principal. While the former is often perceived as hardening their learning at the workplace, the latter is regarded as bearing

a strong positive influence on their induction. Both themes, as will be shown, are influenced by cultural and social norms of the local community.

The Cultural Norms of the Local Community Influence How Novices Experience Their Status Among Colleagues

When describing their learning processes, novices often related to their relative social and professional status as inferior to veteran colleagues. Novices, who are not yet granted the formal authority as teachers, described their disadvantaged status through their students, parents, and school staff's attitudes: "You know how students look at you and underestimate you as a new teacher" [Anwar], "Usually parents complain to the principal when there is a problem but with senior teachers, parents approach them directly. It's not the same with novices" [Hasna], "As a new teacher, I felt that no one saw me, they [school staff] didn't take me seriously" [Salma]. Though this hardship is characteristic of novices' developmental stage, we identified additional context-specific aspects. Their perceptions of their disadvantaged status as novices (and mostly female) is not only attributed to the lack of proven professional competence but also to the cultural norms that operate in their patriarchal local community where social status prioritizes authority, advanced age, and preferred gender (Abu Asbah et al., 2014). The following description demonstrates local cultural norms and boundaries that novices experience at the workplace. Afnan refers to a cultural norm acceptable in the Arab community, where students address their teachers by the word "Teacher" rather than using their first names. As novice (and young) teachers, they often return to the schools they attended as students, finding themselves needing to break these social strict boundaries, as they are now supposed to call their previous teachers (colleagues now) directly by their first names.

> Those were teachers who taught me, to talk to someone who taught you, how would you address him? …All the teachers that taught me and I still approach them by "Teacher." [Afnan]

Afnan implied that calling previous teachers by first names seemed to her as an act of disrespect. Her description points to the clear common authority-based structures running in Arab schools (teacher vs. students, veteran vs. novice) and the difficulty to handle the sudden shift from being students to having an equal status as colleagues. Such a hardship influences the learning process at the workplace, since approaching veteran colleagues becomes a stressful task for novices in such a context. In a similar way, the following excerpt, demonstrates how age-based status influence the sharing of ideas during a learning workshop, eventually constraining novices' engagement in a potential learning opportunity.

> Older teachers, just like my father, they think that we are still too young. They just want to talk. They wouldn't listen …When there is a discussion, we, young teachers, want to speak, they don't accept our opinions. They believe they are right, just like my father who says: you are too young, you understand nothing yet. [Amin, a male teacher]

Amin's description points out not only to the age-based boundaries, but to the similarity between school structures and those running in Arab families, highlighting the superiority attributed to older people in both family and school. Reference to resemblances between the school organizational structure and the family structure were highly evident in the data. Novices often related to the school by comparing it to a family unit with descriptions like "It felt like a family," "I felt safe to ask because it is like a big family." Following this analogy, the principal becomes the "head of the family" as Anan explicitly described "The principal was like a father to me…I felt great affection from his side and that helped me a lot." Next, we elaborate on the role of the principal in novices' learning and induction.

The Way in Which the Principal Defines the Novice's Status Bears an Influence on the Learning Process

In our data, principals were intensively mentioned by participants when they described their learning processes. Though we know about the

significant role of school leadership in inducting novices (Flores, 2004; Maloney, 2012), we still find this dominance to be surprising for two reasons. First, we expected mentors to be more significant and available than principals, especially because mentoring is a mandated component of the national induction program in Israel (National Authority for Measurement and Evaluation in Education, RAMA, 2011). Second, none of the interview questions alluded explicitly to the role of the principal (unlike the mentor about whom we asked directly). Thus, we interpreted the highly frequent reference to the principal from a cultural perspective. In the Arab social structures, the family unit is highly significant, while parents (especially fathers) are considered the 'head of the family' whom children aspire to impress (Katz & Lavee, 2005). Analogously, novices often stated their need to impress the school principal. This need was explained by novices as an act of "paying back" for being supported: "The principal trusted me and I have to give back" [Samah], or as attempts to keep the teaching position: "I was afraid of the principal's evaluation… I felt I was running in a circle to impress the principal forgetting about everything else but seeking ways to impress him and prove I was competent in order keep my job" [Samia].

When novices expressed their intensive concerns about impressing the principal and proving themselves, they often mentioned the national induction assessment scheme and the lack of teaching vacancies in the Arab education system. Furthermore, novices often reported they had to prove not only that they were competent but also that they exhibit initiative in teaching. In some cases, when approached for guidance, their colleagues told novices directly "You need to prove yourself," implying that in their eyes their (novices') learning is an individual endeavor rather than a collective one.

To understand these concerns, we return to two mentioned aspects, the induction program and the teaching labor market in Israel. As part of the national induction program requirement in Israel, principals' evaluation determines novices' license and tenure, hence, magnifying their role. In addition, novices seem to compete over limited teaching vacancies in light of the surplus of Arab teachers and limited labor market for Arabs in Israel (Agbaria, 2011; Arar & Abu Asbah, 2010). Aware of this hardship, Kamilia for instance, expressed concerns about keeping her

teaching position: "I'm counting on staying in this school. It's difficult to find work. I was lucky to get into work. There are no positions." Eventually, the novices who are only at a stage of learning to become skilled teachers, seem to believe they are expected to be competent and display inventiveness. "I was afraid of the principal's evaluation… I felt I was running in circles to please the principal forgetting about everything else but seeking ways to impress him and prove I was competent in order keep my job" [Samia], "I used to come to school and sit immediately in front of the computer searching for new ideas, so the principal would get a good impression and see me as a strong teacher" [Nadia]. This situation is paradoxical. On the one hand, novices' concerns to impress the principal and keep the job seems to constitute a trigger for them to strive toward implementing innovative ways of teaching. On the other hand, it often puts them under tremendous pressure to succeed, which may block them from attending to their basic learning needs as novices, including time to reflect on and learn from mistakes. Recognizing novices' basic learning needs and providing safe spaces for mistakes were described by novices when describing supportive principals. Such a principal was described as someone who functions as "your solid back" denoting expressions of trust and safety. "My principal supported me endlessly. She used to say "You can succeed, I know you can", that gave me the strength and motivation to try the best" [Nahed]. Beyond the support on a personal level that Nahed recalled, the principal's role was described as significant at the school level. In the data, we found recurrent descriptions of how principals' support promoted novices' position as welcomed newcomers and fostered their socialization and learning processes especially in terms of access to collegial support and guidance. Arwa, a novice who moved into a different school (in her second year of teaching) pointed to the key role of the principal in positioning her within the school structure.

> The principal introduced me in front of the whole school, he said "she is a teacher by all means" and that helped me a lot, teachers treated me like any other teacher in school …I preferred to work here for less hours than having a full job in the other [unsupportive] school. [Arwa]

Like in Arwa's case, principals' support was highly appreciated by novices and never taken for granted, especially when novices compared their current principals with others they had previously encountered or heard of from other novices. As we interviewed novices during their second year of teaching, we had the chance to capture a two-year perspective on their process of learning. Comparing attitudes of principals and teachers from different schools toward novices was frequent within our data. For example, almost half of our participants (10 out of 24) experienced a neglecting school leadership and reported moving into different schools in their second year of teaching. All other participants who experienced a more supportive school leadership during their first year of teaching, stayed in the same school. Although originally we had not intended to focus on comparing between novices who stayed in the same school and those who moved to a different one in their second year of teaching, our data surfaced differences between the two groups that cannot be ignored. The first group of participants, who moved to a different school, described intensively their harsh experience of neglect in the previous school, especially by the principal. In such cases, novices perceived their status as unwelcomed among veteran colleagues or as being unfairly treated: "Everyone [in school] takes advantage of new teachers, because they are new, so what? They are here for one year and that's it" [Shadia]. When describing their learning in their second year, novices mainly described the different supportive attitude of the principal and how this improved their feelings, motivation to work and learn, and their status among colleagues. By contrast, the group of participants who stayed in the same supportive school, tended to relate more to learning how to teach and how to cater for students' different needs rather than to changes in their own status at school. Though this may seem obvious, it was surprising to find that even the second group of novices (those who encountered supportive school principals), referred explicitly to the absence of similar hardships, such as status and fear of superiors (mentioned by the first group) implying on the common existence of such hardships in Arab schools. As Nahed recalled, "She [school principal] did not treat me like a new teacher who knows nothing" [Nahed]. We may conclude that in our case, principals play a significant role as 'heads of the family' in positioning and steering the learning processes of novices.

Apart from school leadership and culture, novices stressed their own role in adapting learning strategies and utilizing workplace learning resources especially when experiencing less support. Next, we present the different manifestations of novices' agency as related to their perceptions of workplace affordances.

Novices Enact Individual Agency to Steer Their Learning When Workplace Learning Resources Are Limited

The previous findings highlighted the role of the school internal context (principal, status as novice) and external factors (norms of the local community, lack of vacancies, national induction program). The following findings focus on the agentic role of novices in steering their own learning based on the workplace affordances of learning opportunities and their own choice of engaging in such opportunities. All through the interviews, novices stressed their own role in learning regardless of the degree of school forms of support. The analysis yielded three forms of agency that novices enacted to steer their learning in response to the school affordances: *agency to avoid undesired traditional practices, agency to compensate for limited collegial support*, and *resorting to students as a form of agency*. Next, we elaborate on each of the forms of agency.

Agency to Avoid Undesired Traditional Practices

Novices often reported intentional limited consultations with experienced colleagues. This was often explained by their desire to act differently than veteran colleagues whom they often perceived as being unreliable or unprofessional learning resources. "I'm a new teacher, I have expectations. I have alternative [practices] and ideas. I'm young and close to the students, So, I keep distance [from a veteran colleague], I don't want to listen to her" [Dalia]. Here, Dalia described how she tried to deliberately avoid consulting with a veteran colleague implying the negative possible influences of veterans on her learning to deal with students.

Veterans were often described as unreliable mainly due to hostile attitudes toward their students. As one of the teachers explained, contradictory values held by herself and her colleagues eventually prevented her from learning from them. She described how veterans' hostile attitudes toward students bothered her and thus blocked her learning: "They used to humiliate students. Maybe because it bothered me, I couldn't learn from them" [Adiba]. Adiba's description is not anecdotal, as similar references to the negative student-teacher relationships were recurrent in our data. Similar descriptions of teachers' hostile attitudes have been frequently documented in previous studies of Arab schools in Israel (Hijazi, 2016; Khoury-Kassabri, 2009). On this basis, we can assume that novices' negative perceptions of veteran teachers' behavior might be rooted in their own earlier school experience as students in Arab schools.

We should note that the hostile attitudes were mainly described in relation to class management problems. Novices report on ignoring veterans' advice on these issues and on trying to be more friendly with students instead. As Nasreen stated, "I wanted to become their friend, I wanted to prove myself". This was described as a strategy to manage discipline problems and prove class management competences. Eventually, teachers reported consulting with veterans on technical aspects of their work, such as how much material 'to cover' in one lesson or about school regulations. We can interpret this as an act of agency exercised by novice teachers, in the sense that they choose to discard particular kinds of guidance afforded by the workplace which they perceive as being detrimental to their learning and, at the same time, they actively seek for learning opportunities and guidance from colleagues when these are perceived as trustful and reliable (to be elaborated in the next section).

Agency to Compensate for Limited Collegial Support

Although mentoring is compulsory within the Israeli national induction program (RAMA, 2011), novices often reported either absence of formal mentors or being assigned to unsuitable mentors (different teaching levels or subject matter). Trying to avoid confrontations, novices never

recalled complaining about the absence of adequate mentoring though they acknowledged this as a school pitfall.

Rather, they practiced agency to compensate for the lack of professional structured mentoring. We found evidence of breaking the solitary learning process by actively seeking and locating alternative informal resources available at the workplace. Novices often reported seeking advice among colleagues whom they admired and trusted personally and professionally. Such 'informal mentors' became very significant as the main alternative learning resource. As Narmin recalled, "I was very impressed by her [a colleague's] attitude towards students and how she dealt with them. I learned a lot from her… She also told me to approach her whenever I needed" [Narmin].

Unlike formal mentors, informal mentors are not required to evaluate novices. Informal mentors, as reported by novices, seem to be eager to assist novices by free will and often initiate and offer assistance while expressing sympathy of the developmental phase of being a novice. As Nadia recalled what her colleague had told her, "She said to me 'You are a new teacher and I sympathize with you, we all were novices'. I learned a lot from her." Nadia was more available and willing to share difficulties and consistently consult with her colleague as she felt sympathy and cared for rather than being under continuous examination as is the case with her formal mentors.

Resorting to Students as a Form of Agency

With limited mentoring and collegial learning opportunities, novices reported turning to their students as a resource of learning at the workplace. Though often described as a stressful task, working with students was perceived as providing novice teachers with indirect guidance and feedback. Teachers frequently related to students' responses as a source of learning, especially in terms of managing classroom discipline. For example, Amin described how he learned from holding private talks with students. "I learned that approaching a student in private helps more when dealing with discipline issues, rather than talking to him in front of the whole class. I learned through these private talks that students learn to

take responsibility over their deeds." Besides issues related to classroom management, novices often described how they learn about their own teaching practices and methods based on students' feedback and even described their own success based on students' affection and respect. Moreover, working with students was described as helping novice teachers to learn about their own teaching practices and capacities to do something new. As Sonia explained, "When I work I learn from my experience and I learn new things about myself. When you develop something new, you discover you can do thing you never thought you could."

Resorting to students as a source of learning as evident in our data is known to be central in teachers' work in schools and available regardless of the school culture. More so, in the case of novices where access to colleagues is often less available. Novices also seem to interpret their ability to create and sustain positive relations with their students as a kind of 'competency proof' to the school principal that they can manage classroom discipline, an aspect of teaching which is highly valued in Arab schools. Novices' closeness to students and the need to support their learning might also be interpreted as reflective of their own needs to get support as novices. As some stated directly: "A new teacher needs a lot of support and guidance, just like a student" [Ola].

Discussion

Our data surfaces sociocultural factors that influence novice learning at the workplace. Although our interview questions never explicitly asked novices to address cultural or social norms of the wider community, those surfaced when novices described their learning at the workplace. Novices constantly referred to their relative social and professional status and to the role of the principal in positioning and supporting them. We attributed this to cultural and social characteristics of the Arab community (status, fear of superiors, limited teaching vacancies) which probably intensified novices' feelings of being at disadvantaged status at schools. However, we identified other cultural aspects (such as the role of the principal as 'head of the family') that were potentially beneficial for fostering novices' learning at the workplace. This finding not only

strengthens previous research on the role of school leadership and principals in inducting novices (Brown & Wynn, 2009; Flores, 2004; Oplatka, 2015) but also supports the call for examining how teachers' local and wider context and broader policy of school influence their induction (Achinstein et al., 2004; Avalos, 2016). We suggest further exploration of other possible context-specific aspects that might operate in other marginalized contexts. Exploring such hidden aspects may add insights into our understanding of teachers' learning processes in different contexts, and help plan their mentoring and induction support.

Our findings surface the role of individual agency in novices' learning at the workplace. Learning was steered by different forms of novice agency based on their choice of engagement in learning opportunities afforded by the workplace (Billett, 2006; Eteläpelto et al., 2013). We identified different forms of novice agency enacted to avoid learning from perceived unprofessional resources and to compensate for a lack of structured guidance, and to resort to students as a learning resource. We learned that both school affordances and novices' choice were influenced by sociocultural contextual factors of Arab school settings. The different forms of agency demonstrate how novices learn to juggle in disadvantaged settings. Furthermore, the practice of agency helped novices to become more aware of their status as active learners at the workplace.

From a local perspective, previous studies of Arab teachers in Israel focused mainly on difficulties and hardships teachers face as they are exposed to disadvantaged school cultures and sociocultural contexts (e.g., Hayik & Weiner-Levy, 2019; Ilaiyan, 2013). While acknowledging these challenges, this study underscores encouraging dimensions related to novices' learning through their enactment of new forms of agency. We see this as signs of growth in their attempts to influence, change, and create their own learning opportunities, regardless of existing conditions at the workplace. Toren and Iliyan (2008) suggest that Arab novices cannot fulfill their role as agents of change in the school during the first year of teaching. Our study, however, sheds light on signs of agentic actions of novices in their own territory of development. We believe that these are emergent seeds of professional agency which can more fully develop at later stages of development. Theoretically, our claims support the call for

rethinking the "deficit" perspective on novices toward a more agentic view of them as learners who steer their own learning processes.

Our findings support the claim to examine the broader policy of school as a significant condition for promoting or hindering workplace learning (Avalos, 2016). We also suggest examining other possible context-specific aspects that might be operating in other marginalized contexts. Exploring such hidden aspects may add insights into our understanding of teachers' learning processes in different contexts, and help plan their mentoring and induction support. We also suggest that policy makers take into account context-specific aspects of different communities especially marginalized ones, and examine the suitability of decreed uniform policies for different contexts. Furthermore, since our study shows that novices as agents can influence their own learning at the workplace, we suggest formally promoting teacher agency as components of induction processes and frameworks.

This study focused on novice teachers (in their second year of teaching) who participated voluntarily in the study. All participants reported either experiencing a supportive school culture, or moving into such a one in their second year of teaching. We assume that participants who agreed to take part in this study experienced feelings of trust and safeness within their workplace context and were, therefore, willing to share their experiences. We also suggest studying the influence of context-specific factors and novice agency at later stages of novices' career especially when the shadow of losing tenure and licensing is no longer at stake.

Appendix: Semi-structured Interview Guide

1. Warm-up questions:
   a. *Is your school elementary, junior high, or high school?*
   b. *How would you characterize the socioeconomic level of the school and the students?*
   c. *Do you think that you continued to learn about teaching even after finishing your formal training and starting to teach? How?*

2. Learning process, strategies, and resources:

    a. *Can you recall what you learned about teaching and becoming a teacher during those two years of teaching?*
    b. *In what ways did you learn about pedagogy and how to teach your subject matter after finishing the formal training?*
    c. *How and from whom have you learned to expand your knowledge of classroom* management *since you started teaching?*
    d. *Who were the people who contributed the most to your learning how to teach?*

        i. *How often did you use their support?*
        ii. *Who initiated the help and in what opportunities?*
        iii. *What do you recall learning from them?*
        iv. *How did you learn that (observing, asking, discussing, etc.)?*

    e. *Were there things that hindered or disturbed your learning process? If yes, specify please.*
    f. *Have you learned from your (mentor\ colleagues\ students\ parents\ school counselor\ homeroom teachers\ coordinators)? (In relating to each one of the resources, we asked to elaborate on the following)*

        i. *How often did you use their support?*
        ii. *Who initiated the help and in what opportunities?*
        iii. *What do you recall learning from them?*
        iv. *How did you learn that (observing, asking, discussing, etc.)?*

3. Closure questions:

    a. *What do you think needs improvement or fostering for novices to be able to learn to do their job appropriately?*
    b. *If you could give advice to a novice teacher, what would you suggest?*
    c. *Who would you recommend to turn to for learning?*

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The Teacher Induction Scheme (TIS) in Scotland: Adoption, Evolution, Revolution

Margery McMahon

Introduction

Scotland was one of the first education systems in the world to introduce a formal programme for teacher induction in 2002. The Scottish Teacher Induction Scheme (TIS) has endured for almost 20 years, largely unchanged, except for austerity-driven adjustments to the reduced teaching timetable for newly qualified teachers (NQTs) or, as they are more generally called, probationers or probationary teachers.

The teacher induction scheme (TIS) provides a guaranteed one-year training post in a local authority to every eligible student graduating with a teaching qualification from one of Scotland's universities (GTCS, online). A flexible route is also available for those for whom the TIS is not appropriate, for example those who have decided to opt out of the TIS or are working in a non-state school or have opted to complete their

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probation in another jurisdiction (GTCS, online). This chapter focuses primarily on the teacher induction scheme.

The TIS is now embedded within the Scottish education system and is seen as essential to supporting new entrants to the profession and ensuring teacher quality. The centrality of the scheme has been reinforced during the Covid pandemic, when the structured professional development and mentoring that are key features of the scheme, have become ever more important for newly qualified teachers whose practicum experience was impacted upon or curtailed by the pandemic.

This chapter outlines the development of the teacher induction scheme in Scotland from its introduction in 2002. The chapter considers the policy drivers and contextual factors that led to this and considers how the TIS has evolved as the wider educational context and environment around it has shifted. The chapter concludes by examining its current relevance for newly qualified teachers as schools adapt to contemporary challenges, including the pandemic and its impact, as well as new policy drivers to diversify the teaching profession.

A Teaching Profession for the 21st Century

Scotland is one of the devolved nations of the United Kingdom, with responsibility for education and schools transferred from the UK government to the Scottish government. Teacher preparation occurs through initial teacher education (ITE) delivered through university providers. Partnership is a key feature of teacher preparation programmes and ITE providers work closely with local education authorities and schools in programme design and delivery and in planning practicum or placement experiences for student teachers. Such partnership extends to the teacher induction scheme with key stakeholders working together in the delivery of the components of the TIS.

Prior to the introduction of the teacher induction scheme, induction for newly qualified teachers was completed over a two-year period and experiences varied greatly (Scottish Executive Education Department, 2001: 7). The development of a new induction programme was driven by a concern to provide a more coherent, planned and supportive experience

for new teachers to improve teacher quality and teacher retention. The introduction of the TIS occurred as part of major workforce remodelling agreement 'A Teaching Profession for the 21st Century' (Scottish Execut ive Education Department, 2001). The report which led to this agreement was based on a wide-scale review of teachers' pay and conditions, their preparation and ongoing development. Many shortcomings were found in the existing programme of support for new teachers and it was reported that:

> While some new teachers praised the help they had been given in their probationary period and quickly secured permanent employment, others were given little guidance and could find themselves teaching in a multiplicity of schools on a supply basis. This gave them insufficient opportunity to get to know either the pupils or the staff with whom they were working; they received little in the way of mentoring support or guidance; and it could mean that the probationary period took longer than two years. The Committee views this situation as little short of scandalous. It is no way to treat a new entrant to any profession, let alone one that is as demanding and of such public importance as teaching, where help and wise counsel are essential. It is difficult to think of circumstances more likely to lead to discouragement and to new recruits leaving the profession for other jobs (SEED, 2001: 7; Purdon, 2003 in Byrce & Humes, 2003; O'Brien, 2009).

As part of the workforce agreement, a new induction programme for beginning teachers was introduced. New teachers were guaranteed a full time, fully salaried teaching post for one year following initial qualification. They were given a reduced teaching timetable (0.7 FTE*)[1] to provide time for engagement in professional development in school or in the local education authority. They were also assigned a mentor and supporter. While the programme offered a qualitatively different experience for new teachers, there were aspects of the mentor/supporter role which generated tension. For example, while training for mentors was provided by local authorities and schools, there was variance in this, at least in the initial phase of the TIS, and there continues to be no requirement for a formal qualification for mentors. Another source of tension was the dual

[1] FTE: Full Time Equivalent.

role of the mentor in support and evaluation where the mentor 'signs off' on the completion of the probationary period and attainment of the Standard for Full Registration. Nevertheless a central goal of the TIS was achieved in providing new teachers with a less fragmented initial experience in their first year of teaching.

Teaching Scotland's Future

Almost ten years after 'A Teaching Profession for the 21st Century' and the introduction of the teacher induction scheme, a review of teacher education in Scotland was launched. This review, led by the former Chief Inspector of Schools, Graham Donaldson, resulted in 50 recommendations, adopted in full or part by the Scottish government. The *Teaching Scotland's Future* report recognised and acknowledged the successes of the TIS:

> The induction scheme which followed the Teachers' Agreement is rightly much admired internationally and was praised as 'world-class' in the 2007 OECD country review of Scotland. The guarantee of a paid place on the scheme ended the fractured probation arrangements which had hitherto characterised the experience of many newly qualified teachers. In providing protected non-contact time and mentoring, the scheme also reflected acknowledged best practice internationally (Donaldson, 2011: 8).

The report did however highlight issues that Donaldson and the review group saw as needing to be addressed, including 'the role and training of mentors and some duplication with pre-service courses' (Donaldson, 2011: 8). To address these, the *Teaching Scotland's Future* report recommended greater continuity and connection between initial teacher preparation and induction so that they are planned as 'one overall experience' (Donaldson, 2011: 88) and with the involvement of university-based teacher educators in the development and delivery of induction schemes (Donaldson, 2011: 94). A more structured approach to the selection and training of mentors was recommended and local authorities and national bodies were tasked with developing approaches to quality assure the

scheme (Donaldson, 2011: 53). The report also sought to address the challenges that can arise in the mentoring relationship when the mentor also has a role in evaluation/assessment and the creation of two roles—mentor and supporter—was recommended (Donaldson, 2011: 54).

Although the teacher induction scheme formed only one part of the Donaldson review, which looked at all aspects and stages of teacher education in Scotland, including school leadership, the review and subsequent report provided the most comprehensive evaluation and analysis of the scheme to be undertaken since its introduction. Given the investment, financially by employers and professionally by new teachers and their mentors, evaluation and research on the impact of the scheme has been limited (Shanks, 2020), an issue that is considered in the final section of this chapter.

Advancing Professionalism in Scotland

While the *Teaching Scotland's Future* report focused on teacher education, another report published the same year looked at the terms and conditions of teachers' employment, as well as impact and affordability (McCormac, 2011; Hulme & Menter, 2014: 675). With the global economic downturn of 2007–2008, austerity measures across the education sector had led to efforts to reduce teacher numbers and create salary savings. The impact, as Hulme and Menter (2014) observed, was that 'Whilst highly prized, the TIS has been drawn into deliberation on how to sustain commitments to education in challenging economic circumstances' (Hulme & Menter, 2014: 674).

This manifested itself two ways: (i) a reduction in the non-contact time allocated to new teachers so that class contact time increased from 0.7 FTE to 0.8 FTE (Kidner, 2011: 15); and (ii) growing teacher unemployment following the salaried induction year, with the GTCS reporting in 2010 that the proportion of new teachers not employed in teaching in Scotland in the October following induction rose from 5.3% to 27.1% between October 2005 and 2010 (Kidner, 2011; GTCS (2010: 3) in Hulme & Menter, 2014).

Hulme and Menter (2014) argue that 'fragmented employment experiences' are not unusual at an early career stage but the TIS 'created a sense of expectation and security in what turned out to be acutely unstable and insecure times in the wake of the global economic crisis' (Hulme & Menter, 2014: 682). In their study of the experiences of early career teachers in Scotland they found that investment in strengthening mentoring practices during formal induction is potentially undermined by 'intermittent employment experiences in the early years post qualification' (Hulme & Menter, 2014: 684). The implications of this were noted by Fiona Hyslop, then Cabinet Secretary of Education and Lifelong Learning (equivalent to Minister of Education) who raised concerns that the teacher induction scheme had 'displaced' rather than addressed the problem of new teacher unemployment (Kidner, 2011: 10).

In the aftermath of the global economic crisis there was a collective effort to avoid future teacher unemployment of the scale outlined above through a national, collaborative approach to teacher workforce planning and allocation of places for initial teacher preparation in universities. Arguably, this was the first crisis to test the resilience of the teacher induction scheme, which endured with some adjustments and compromises to the original model introduced in 2002. The global pandemic in 2020–2021 presented another significant challenge for the TIS, which is explored later in this chapter.

The Role of the General Teaching Council

The General Teaching Council of Scotland has had a key role in overseeing the teacher induction scheme since its introduction in 2002. As the regulatory body for teachers, the General Teaching Council for Scotland (GTCS) was set up under the Teaching Council (Scotland) Act in 1965. It was the first such body for teachers in the United Kingdom and one of the first teaching councils in the world (GTCS, online).

GTC Scotland, in partnership with the Scottish Government, is responsible for the administration of the scheme and determining whether full registration is to be awarded (GTCS, online). The GTCS also works very closely with local education authorities (who are the

direct employers for teachers) to ensure 'a consistent experience for all probationers across Scotland' (GTCS, online). Probation managers at local authority level are therefore key contacts connecting the GTCS, schools, probationary teachers and school-based mentors.

As well as providing information and guidance for newly qualified teachers, the GTCS also receives and approves interim and final professional 'profiles' that probationary teachers are required to submit. Through these profiles new teachers evidence the ways in which they are meeting the Standard for Full Registration for full admission to the teaching profession. The interim profile is submitted electronically in December of the probationary year. A 'Satisfactory' recommendation at this stage means the probationary teacher can progress to completion of the final profile which is submitted in May/June of the probationary year. If the recommendation is 'Unsatisfactory' or 'Cause for Concern' the probationary teacher must satisfactorily complete a second interim profile to enable progression to the final profile (GTCS, online). Recommendation for progression involves both the supporter assigned to the probationary teacher and their headteacher. The headteacher can confirm or override the supporter's recommendation which is then available to the local authority probation manager for final checking before final submission to the GTCS. In the unusual circumstances of a recommendation for an extension to the probationary period or that provisional registration is cancelled, further advice is provided to the probationary teacher by the GTCS (GTCS, online). The probationary year concludes with celebratory events held by GTCS and local authorities for all those who have successfully completed the teacher induction scheme.

The Role of the Supporter/Mentor

As noted above, the mentor/supporter assigned to the probationary teacher has an important role in recommending progression during the probationary year and the final recommendation for the award of the Standard Full Registration. Thus the mentor/supporter is an important influence in the early career experiences of the new teacher in shaping their future. The conflation of support and assessment in the model of

mentoring envisaged in the initial TIS was seen to be problematic. The *Teaching Scotland's Future* report noted that the original guidance on the teacher induction scheme proposed two key school-based roles: the mentor who would complete the formal aspects of the scheme with the new teacher; and the supporter who would provide pastoral care and support to the new teacher, offering an open space for new teachers to seek advice and share successes and concerns (Donaldson, 2011: 52). Donaldson's review found that the two roles had merged into one for many probationer teachers (p. 52) and recommended that:

> the roles and responsibilities of different individuals within the teacher induction scheme need to be updated and clarified. Given the potential tension in the assessment and support functions of mentors, all new teachers in Scotland should have access to a mentor and a supporter (Donaldson, 2011: 94).

Clarification about the supporter's role and the headteacher's role is provided by GTCS (GTCS, online). As well as providing pastoral support, supporters have a key role in working with new teachers in planning their professional learning and identifying opportunities for professional development. They monitor and evaluate progress through observed teaching sessions and provide ongoing feedback to the probationary teacher. They oversee actions plans and the development of the interim and final profile which they then complete, in conjunction with the headteacher (GTCS, online). Creating the conditions for this programme of support for the probationary teacher is a key role of the headteacher, who is responsible for enabling the new teacher and their supporter to have time to discuss progress, ensuring access to appropriate professional development activities, providing a varied teaching commitment and, with the supporter, completing the interim and final profiles (GTCS, online).

Given the responsibility associated with the supporter's role, the professional and personal skills it requires and the resourcing attached to it (0.1FTE), there is no national scheme for identifying or selecting supporters and no training programme available at a national level. Thus the processes for assigning a supporter can vary from school to school. In

smaller schools, often in the primary sector, the headteacher may also take on the role of supporter. In other schools the role may be delegated to another member of staff, often a member of the school's senior leadership team.

The commitment to increasing diversity in the teaching profession now requires careful attention in the selection of mentors and supporters. The 2018 report *Teaching in a Diverse Scotland: Increasing and Retaining Minority Ethnic Teachers in Scotland's Schools* (Arshad, 2018) requires action from all involved in teaching, including universities, local authorities and schools to effectively engage with this issue by promoting teaching as an attractive and worthwhile career for minority ethnic students and then being committed to supporting them throughout their careers (Arshad, 2018: 1).

The absence of a formal qualification for mentoring as part of the teacher induction scheme means that training for new and experienced mentors can also vary across local authorities. Some schools and local education authorities commission continuing professional development/learning (CPD/CLPL) mentoring courses from teacher education providers or private agencies or fund participation in a university-based mentoring programme. Though not mandatory, the requirement for a formal qualification in mentoring is increasingly seen as important to the future development and strengthening of the teacher induction scheme.

Impact of the Teacher Induction Scheme

The teacher induction scheme has been heralded as one of the most successful elements of the infrastructure for teacher education in Scotland. It was described by the OECD (2007: 15); as 'world class' and the 'gold standard' of 'exemplary' teacher induction (McCormac, 2011: 21 in Hulme & Menter, 2014: 674). Yet, in spite of this, independent evaluation and research of the scheme is limited. Shanks (2020) notes that while there have been some minor changes, there has not been an official review or overhaul since its introduction. An early review, conducted by GTCS in 2005, looked at 'Experiences of the teacher induction scheme: operation, support and CPD' (Pearson & Robson, 2005). This report

referenced a quantitative review undertaken by GTCS in 2002–2003, which indicated that the scheme had been very successful in its first year of operation with clear evidence to show that probationer teachers were being well supported during their induction year (Pearson & Robson, 2005: 5). Similar findings were reported for a second review undertaken during 2003–2004 (ibid.) and the report concluded that 'In general, the Teacher Induction Scheme has been one of the most successful education initiatives in Scotland in recent years' (Pearson & Robson, 2005: 5).

The 2005 survey reported on research undertaken with 3908 teachers who had gained full registration in June 2003 and June 2004, that is the first two groups of new teachers who were involved in the teacher induction scheme (Pearson & Robson, 2005: 5). The survey findings were reported as being consistent with earlier findings that 'the Teacher Induction Scheme is working well and is providing a very positive experience for many of our probationer teachers (Pearson & Robson, 2005: 19). However, it also noted that, 'as with any new initiative there are a number of issues which may now need to be reviewed and amended now that the new scheme has 'settled in' (ibid.). The need for more effective communication amongst all of the parties involved was seen as a central issue to be addressed so that the 'high quality experience' is shared across the country to facilitate a more consistent approach (ibid.). The report made a set of recommendations which included:

- The development of a national supporter/mentor module for all staff involved in working with students and probationer teachers.
- A survey to ascertain headteachers' and supporters'/mentors' perceptions of the teacher induction scheme.
- A survey of the models of support provided by local authorities/schools to provide a more detailed picture of the different types of support used, the training programmes that have been developed for supporters/mentors and the monitoring and evaluation mechanisms that have been put in place.
- Review of the current arrangements regarding the 0.7/0.3 teaching/CPD split undertaken to determine how this time could be used to support the development of new teachers most effectively (Pearson & Robson, 2005: 22).

Much of the extant research relating to the TIS has been undertaken by the General Teaching Council, which is also the regulatory body with responsibility and oversight for the initiative. Research commissioned in 2008 by the General Teaching Council for Scotland, in partnership with the Scottish Government, focused on 'the impact of recent policy initiatives in teacher education, notably the Teacher Induction Scheme, on the professional culture of teachers in Scotland' (Hulme et al., 2008). The study found that:

> early career teachers who secure full time permanent posts are having a positive impact on school culture and on teaching and learning. They are well prepared through initial teacher education and well supported through the Teacher Induction Scheme to undertake their role as class teachers. Recent entrants to the profession demonstrate enhanced capacity for reflection and self-evaluation and demonstrate positive orientations to CPD and peer observation. Experienced colleagues comment on the energy, confidence, enthusiasm and commitment of the new teachers with whom they work. Early career teachers who are products of the Teacher Induction Scheme are increasingly becoming involved as mentors, supporting beginning teachers. Possibilities for peer learning have been enhanced by the reduction in class contact time and improved opportunities for CPD (Hulme et al., 2008: 125).

The research also raised questions about post probationary support, suggesting that there may be benefits in extending the mentoring arrangements in the year following the completion of the probationary period and the need for targeted professional development in the following years in the early career phase (Hulme et al., 2008: 126).

Other research has been undertaken by academics. O'Brien (2009: 42) commented on how the scheme has been 'celebrated by major stakeholders as an example of successful innovation of professional benefit to Newly Qualified Teachers (NQTs), schools and teachers more generally' but questions whether the scheme was deserving of the local accolades it has received (ibid.). Through his analysis O'Brien concludes that, largely, it does but more needs to be known about what happens on the ground

and its impact for supporters, beginning teachers and schools—a fertile area for field and ethnographic research, he suggests (O'Brien, 2009: 49).

In their study of probationary teachers Hulme and Menter (2014) reported positive experiences from interviewees, and specifically 'for teachers appointed to 'permanent' posts in the year following induction the 'practice shock' appears to have been delayed and reduced by structured induction' (Hulme & Menter, 2014: 681).

Recent research relating to the TIS places the Scottish scheme in a comparative context, examining approaches in Denmark, Malta and Scotland. In their study, Shanks et al. (2020) emphasise the need for collaborative cultures and supportive leadership contexts and argue that 'whatever model is in place, an authentic partnership between schools, NQTs and mentors that anchors new teachers into the teaching profession is needed' (Shanks et al., 2020: 11).

Becoming a Teacher During the Global Pandemic

The global pandemic which began in 2020 has left many feeling anchorless, not just teachers and school leaders but pupils and their families. Shanks' et al. (2020) observation of the need to anchor new teachers into the profession takes on added importance as the circumstances and conditions in which newly qualified teachers join the teaching profession have changed significantly. When the pandemic struck, student teachers were called back from placement/practicum and with schools closing as part of national lockdowns, their field experiences were brought to an abrupt end. While Scottish ITE providers worked quickly to provide alternative programmes, the lived experience of classroom practice cannot be easily replicated in other fora or environments.

In Scotland, there was recognition that student teachers impacted by the pandemic would be likely to require more support in their induction/probationary year as new entrants to the teaching profession. There was recognition too that much of this was immeasurable, as the professional and personal impact varies from person to person. GTCS worked to put

in place a range of support mechanisms and contingencies for NQTs. Their 'Guidance for Probationers' recognised the challenges:

- You will have had less opportunities for learning than usual to prepare you for your role as a probationer teacher, which may cause some concerns or anxiety and you may feel unprepared. You have had to manage and deal with the premature and unexpected ending of your initial teacher education (ITE) experience.
- Your role as a teacher and the environment and system you will be working in may look different to the role you had anticipated, and you may not know what to expect.
- Feeling unprepared due to the COVID-19 pandemic your teaching qualification ended before expected. This premature ending may result in you feeling unprepared and that you don't have enough training or experience to start your role. You may also worry that other staff or parents hold this perception of you (Hepburn, 2020).

A series of practical actions to support new teachers as they began their induction year was made available and guidance on contingences in the event of further partial or local lockdowns sought to give reassurance. This included the adjustment to the requisite number of 'days' to be completed for induction—from 190 days to 140 (GTCS, online).

The pandemic tested the agility of the teacher induction scheme to respond flexibly to unplanned and unprecedented circumstances. Responding quickly and pragmatically gave reassurance across the wider education sector that Scotland's new cohort of new teachers would be fully supported but also that they had much to offer too in terms of their digital competence.

Conclusion

A key challenge for any profession is how it sustains and renews itself. The ways in which new entrants to the profession are inducted and are supported through their formative years is central to this. The teacher induction scheme in Scotland represents one way in which a national

education system has responded to this. After nearly 20 years since its introduction it is central to the infrastructure for teacher development, with commitment across stakeholders to fulfilling their obligations to it. There have been times when it has been tested and adjustments needed but these have been important to its ability to endure. Despite this centrality, it remains under-researched, and yet there is much to investigate that can help us to understand the needs of new teachers. Recent challenges such as the pandemic have served to amplify this and, as seems likely, the 'scarring' from the pandemic will endure for many years, there is a need to know more to be able to support better.

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Resilience as a Crucial Training Topic in Teacher Induction Plans: A Systematic Literature Review

Alicia Regalado, Juanjo Mena, and Gloria Gratacós

Introduction

Beginning teachers frequently affirm that the initial instruction they receive at university is often far from what actually goes on in the classroom (Du Plessis et al., 2020). In fact, some beginning teachers declare that the first year of their career in teaching is more challenging than they

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expected (Flores, 2019). Also, claims to improve the quality of teaching have also drawn attention to the need for induction programmes.

Numerous studies have shown that these induction programmes help to integrate teachers into their schools (Çobanoğlu & Ayvaz-Tuncel, 2018), reduce stress (Harmsen et al., 2019) and strengthen the experience of beginning teachers in coping with problems that may arise in the classroom (Çam Aktaş, 2018) as well as promoting their commitment to the teaching profession itself and their continuity in the teaching profession (Ingersoll & Strong, 2011).

All these skills appear to be related to another term that has been gaining in importance in recent years within the field of education, namely, resilience. Resilience is the ability to cope with situations that are considered negative and then emerge stronger after them (Morgan, 2011). Having this capability enables beginning teachers to control their emotions (Tait, 2008), thereby helping to reduce stress.

Therefore, research into the induction of beginning teachers is expected to consider this competence to be a key feature of their programmes. As Leugers (2018) reports, those individuals with a more positive experience in their induction programmes improve their personal resilience capability and increase their motivation to stay in their posts over the long term.

This study seeks to conduct a review of the existing literature to discover whether resilience receives as much importance as it seems it should do in induction plans.

Theoretical Framework

Induction as a Training Stage

Induction programmes provide support for teachers to help them adapt to their school setting in the first years of their professional careers. Çobanoğlu and Ayvaz-Tuncel (2018) have concluded that they help to consolidate beginning teachers' identity, while at the same time provide assistance in the teaching-learning process. Other studies, such as one by Brown (2018), have found that the training offered in induction programmes focuses specifically on supporting different areas in teachers' personal and professional lives, some examples being decision-making,

classroom management or teaching autonomy. Carr et al. (2017), Helms-Lorenz and Maulana (2015), and Munshi (2018) have reached similar conclusions to those mentioned above.

Besides the training these programmes provide, they tend to be accompanied by different kinds of support, such as mentoring, coaching and self-mentoring.

According to Carr et al. (2017), mentoring is understood as a relationship between professionals in which a mentor, generally an experienced teacher, acts as a guide, trainer and supervisor for one that is just beginning; while coaching generally means the use of more specific support designed to develop methodology and its implementation in class, without the need for direct supervision. Finally, self-mentoring is used when a beginning teacher makes intentional use of internal mechanisms to realign and accommodate their actions, thoughts and motivations, and thereby obtain a greater ability for leadership.

Munshi (2018) and Leugers (2018) report that induction programmes steer the troubleshooting process so that a beginning teacher finds their own answers, learning by reflecting upon their own practice.

According to Martin et al. (2016), the overriding purpose of induction programmes based on mentoring is to cater for beginning teachers' needs at school. In addition, they should foster the acquisition of knowledge, personalised support, and favour professional development.

Induction programmes are therefore designed to satisfy the needs of beginning teachers and nurture their professional development through specific instruction, whereby the reflection process becomes the channel used for problem-solving.

Although the advantages and benefits of programmes on induction or the introduction to teaching are known, the TALIS 2018 report (OECD, 2019) stresses that a small percentage of beginning teachers in European countries have taken part in formal induction programmes, ranging from 9% in Georgia or 13.3% in Portugal through to 68.5% in the United Kingdom.

Resilience as a Teaching Capability

The field of education is now increasingly advocating the concept of resilience, as research on the topic has grown in importance, especially in the US. According to the definitions made by several scholars, resilience is

one of teachers' key capabilities (Gu & Day, 2007) that in adverse circumstances enables them to recover quickly and grow professionally (Day & Gu, 2014; Morgan, 2011; Peixoto et al., 2018).

Resilience is, therefore, the capability that empowers teachers to emerge stronger from what are considered trying situations. Moreover, resilience has to do with the search for strategies that prevent teachers from giving up in challenging situations. Thus, it favours their continuance as teachers.

Morgan (2011) confirms that resilience is closely linked to teachers' engagement, as it helps with the creation of coping resources; this suggests that resilience is a variable that has an impact on the retention of teaching staff.

Confirming this hypothesis, Tait (2008) reports that beginning teachers have the same level of responsibility towards their job as their more experienced counterparts. This circumstance may prompt a state of stress and imbalance in teachers that, in a worst-case scenario, may lead to them abandoning the teaching profession (Cook, 2009). Teachers often associate this low level of resilience with an external locus of control; in other words, factors over which an individual does not have complete control (Keogh et al., 2012).

Having a suitable level of resilience, together with other factors, is the key element for teachers' long-term engagement, avoiding their dropout (Belknap & Taymans, 2015; Tait, 2008). Resilience is a purely adaptive capability that provides emotional stability when dealing with adverse or unexpected situations (Bowles & Arnup, 2016). Nevertheless, not everyone has the same life experiences or interprets negative events in the same way. Those people that activate their coping mechanisms to adapt to situations they consider to be negative are individuals with good levels of resilience, yet not everyone has the necessary tools to cope accordingly (Cook, 2009).

The Development of Resilience Within Induction Programmes

A significant part of the induction plans focuses on the professional development of beginning teachers. This involves honing a series of strategies (e.g. problem-solving, classroom management, emotional stability)

that will enable them to face the challenges that arise in the classroom. These multiple capabilities and strategies that need to be developed for overcoming these challenges are characteristic of resilient individuals.

Therefore, the four components of resilience which include persistence, optimism, ability to rebound and care of oneself can foster adaptive responses and shield from stress (Bowles et al., 2014).

Studies such as the one by Belknap and Taymans (2015) contend that the development of a high level of resilience requires beginning teachers to feel supported. This support may come from their colleagues at the school or other stakeholders (tutors, administrators, managers or the social and family milieu). It is also important to promote the explicit teaching of different strategies that help to develop the resilience of beginning teachers (Bowles & Arnup, 2016), as they do not all possess it (Cook, 2009).

This support is now part of some of the induction programmes provided for beginning teachers. Yet to what extent is resilience actually included in induction programmes?

Considering that induction programmes are meant to reduce the negative impact caused by the stress of the first year of teaching, as well as to avoid teachers abandoning their careers (Harmsen et al., 2019; Warsame & Valles, 2018), it seems important the inclusion of this skill in all of them, as according to Leugers (2018) resilience is a predictor of teacher retention.

The outcome of this attempt to reduce the downside of teaching involves the acquisition of skills and strategies to cope with the daily problems that arise at school, such as bad behaviour by pupils, awkward parents, time distribution and so on (Munshi, 2018). Induction programmes have a crucial role to play in achieving this goal, as they encompass all the areas of a person's essential development, both as a professional and as a human being.

The growing importance that resilience is acquiring in teaching has prompted us to consider whether it does indeed play a significant part in today's induction programmes. This led us to search some systematic literature reviews (SLR) about induction programmes. After performing a search, we found three reviews that addressed induction from the perspective of mentoring (Morzinski & Fisher, 1996), the professional learning of public

employees on placements (Simmie et al., 2017) and methodologies that use *Video Stimulated Recall Interviews* (Gazdag et al., 2019). Mansfield et al. (2016) have conducted a systematic literature review (SLR) in which they have analysed programmes designed to develop resilience between 2000 and 2014, but they have not performed a specific analysis of the presence of resilience in induction programmes designed for beginning teachers.

Aims

This study seeks to undertake a SLR on induction programmes to respond to the following two aims:

1. Quantify the prevalence of studies on induction programmes by countries.
2. Describe the nature of the research involved in induction programmes for beginning teachers (i.e. type and number of participants, the design used and its reliability) (*methodological dimension*).
3. Analyse the features of induction programmes by considering the presence of resilience in their content, as well as the most common types of supervision and support (*conceptual dimension*).

Method

Design

According to Guirao Goris (2015), a SLR involves extracting a conclusion or summary from the documents reviewed following an analysis of the information they contain on a specific subject, using a formal, explicit and precise method that can be replicated. It, therefore, involves a mixed method that combines the gathering of qualitative and quantitative data and provides an overall snapshot of the topic under study (in this case, resilience training in induction programmes).

Collection and Analysis of Documents

The procedure for performing an SLR consists of three steps: (a) locating documents by defining the search criteria, keywords and the choice of databases; (b) setting criteria for inclusion/exclusion that help to make the final selection of documents for their subsequent analysis; (c) analysing the documents according to the research aims (Xiao & Watson, 2017).

Searching Documents

The documents in the present SLR have been identified through the Eric, Scopus, Web of Science, Science Direct, and Social Science databases, with two or three search processes focusing on induction programmes designed for beginning teachers (*beginning*/novice teachers), combining the following terms 'Induction Phase', 'Beginning Teachers', 'Novice Teachers', 'Induction', 'Education', linked by the filters AND and OR (see Table 1), accepting all kinds of sources (articles in journals, conference proceedings, chapters from books, dissertations, etc.) that did not fulfil the exclusion criteria specified in due course. In addition, the publication date was set to provide data from 2015 to 2019.

A total of 620 results were obtained, of which 5.48% (34 documents) met the standards set thanks to the exclusion criteria applied (see Fig. 1).

As regards the selected results, 8.82% pertain to Scopus; 20.58% were taken from Web of Science, and the same percentage from Science Direct; Eric provided 38.23% and, finally, 11.76% of the documents were sourced from Social Science Database.

Exclusion Criteria

The initial screening of documents (n = 620) involved exclusion criteria that meant discarding those documents that appeared in several databases (n = 29), with Web of Science having the highest number of repetitions. Secondly, those documents without open access (n = 14) were removed

Table 1 Location of documents on induction programmes for beginning teachers (*n*—initial = 620, *n*—selected = 34)

Search chain	Database	IR	SR	%
Induction Phase AND Novice Teachers	Scopus	15	1	2.94
Induction Phase AND Beginning Teachers	Scopus	10	2	5.88
Induction Phase AND Beginning Teachers	Web of Science	10	1	2.94
Induction Phase AND Novice Teachers	Web of Science	16	0	0
Induction Phase AND Beginning Teachers OR Novice Teachers	Web of Science	128	6	17.64
Induction Phase AND Novice Teachers	Eric	7	1	2.94
Induction Phase AND Beginning Teachers	Eric	8	1	2.94
Induction Phase AND Beginning Teachers OR Novice Teachers	Eric	94	11	32.35
Induction Phase AND Novice Teachers OR Beginning Teachers	Science Direct	262	7	20.58
Induction Phase AND Novice Teachers OR Beginning Teachers	Social Science Database	70	4	11.76
Total		620	34	100

Note: The abbreviation in the third column (IR) refers to initial results, while SR in the fourth stands for selected results

from the 591 remaining documents, which were in Web of Science and Eric.

Once the documents that had been repeated or had restricted access had been discarded, a further five items were dismissed because they were not in Spanish or English, giving rise to a remaining total of 572. The next step involved removing those documents not published between 2015 and 2019, both inclusive (n = 8). In this case, all the documents came from the Scopus database.

The next stage involved singling out those documents whose main focus was the analysis, drafting or assessment of induction programmes for teachers. After reading the abstracts, the articles that did not address the topic *induction programmes* were removed. This meant discarding 494 documents. Although these documents had been sourced from all the databases, most of them came from Science Direct (n = 235) and Web of Science (n = 104).

Out of the 70 remaining documents, only 34 fell into the categories of *beginning*/novice teachers and *induction phase*, which meant discarding all those that focused on the induction of *student teachers, pre-service*

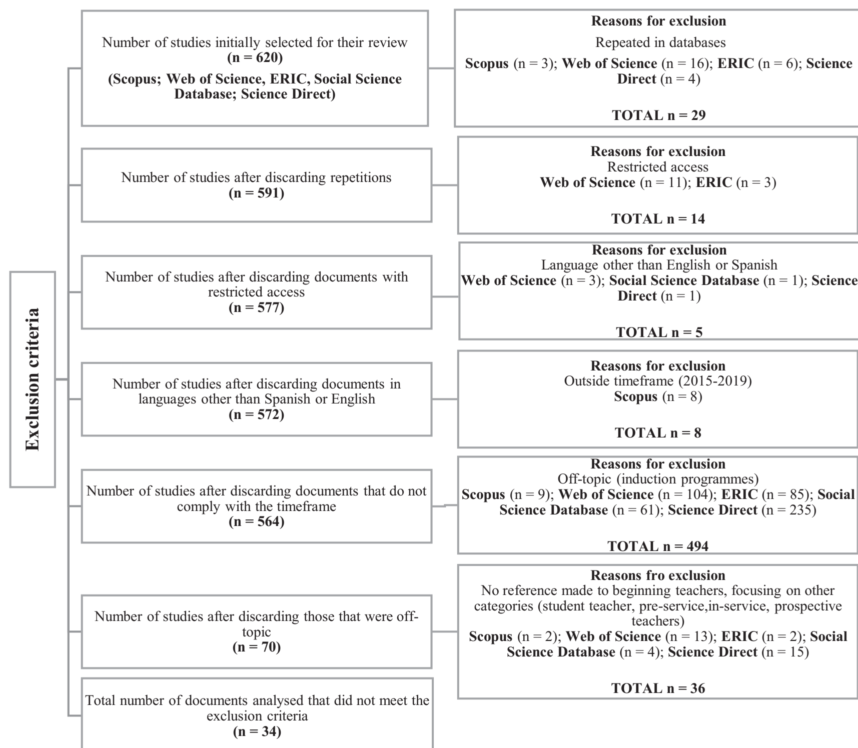

Fig. 1 Exclusion process affecting the initial number of documents selected for analysis

teachers, in-service teachers and *prospective teachers* (n = 36), with most of them provided by the same two databases mentioned above.

The 34 documents left after applying the last exclusion criterion were then analysed according to the following procedure.

Analysis of Documents

Once the documents had been chosen, an analysis was conducted according to two major categories: methodological aspects and conceptual aspects. This involved creating a table in Excel format in which each one of these two categories was divided into nine more specific categories, as shown in the following sections and Annex.

Categories of Analysis

Methodological Analysis

In order to gain a more granular understanding of the methodology used during the research, each one of the documents was analysed according to different methodological aspects. These included data related to the number and type of participants, with type understood here to indicate whether they were beginning teachers on induction programmes, whether they had completed these programmes, or whether they were mentors or administrators.

Consideration was also given to the design used in the survey. We analysed the use of qualitative methods, identifying whether it involved a case study or phenomenological, ethnographic, and historical approaches, or was based on grounded theory. The analysis of the use of quantitative methods allowed to identify exploratory, descriptive, correlational or quasi-experimental approaches. The studies that used mixed methods in the research conducted in recent years were also collected and analysed. Finally, these documents were explored to check whether they had used tests that guaranteed their scientific reliability.

Content Analysis

The documents' conceptual analysis sought to review the presence or absence of resilience as an implicit instructional feature of the induction programmes for beginning teachers whenever the text contained references to the honing of coping skills, or as an explicit one when the term itself appeared in the body of the text. Those cases in which this competence did not appear were also counted.

A further analysis involved the type of institutions that organised the induction programmes that appeared in the reviewed literature, as they can be held by universities, schools or the different districts that coordinate a group of schools.

The type of supervision promoted in each induction programme was also assessed, determining whether the supervision and the instructions

or proposals for improvement received came from a mentor, a coach or the agent was not mentioned and only a general reference was made to induction.

Finally, an appraisal was made of the support provided for beginning teachers during the induction programme in terms of personal and emotional dimensions, which would include support in situations of stress, attrition, and burnout, assistance for striking a balance between personal life and work, and emotional control, amongst others. The analysis also considered how many of them provided support in pedagogical matters, such as assessment mechanisms, planning, and classroom management, among others; as well as the support received in terms of administrative issues, such as school paperwork.

The support received in matters of social adjustment were also assessed, understanding these to mean the support received when entering service at the school and forging social relationships with other colleagues. Finally, the assessment considered how many of the documents on induction referred to support in the metacognitive development of beginning teachers, for example prompting reflection upon the teaching practice itself, self-efficacy, a sense of competence, autonomy during the teaching-learning process and so on.

Results

Data on Prevalence by Country

An initial analysis reveals that the bulk of the documents analysed (see Fig. 2) come from North America (52.73%), with the rest coming largely from Europe (23.52%) and Asia (14.7%). The residual percentage corresponds to Australia, New Zealand and Chile.

The map of induction programmes shown in Fig. 2 reveals a global interest in research into the learning processes among beginning teachers. Nevertheless, North American countries (US and Canada) account for over half of the studies selected.

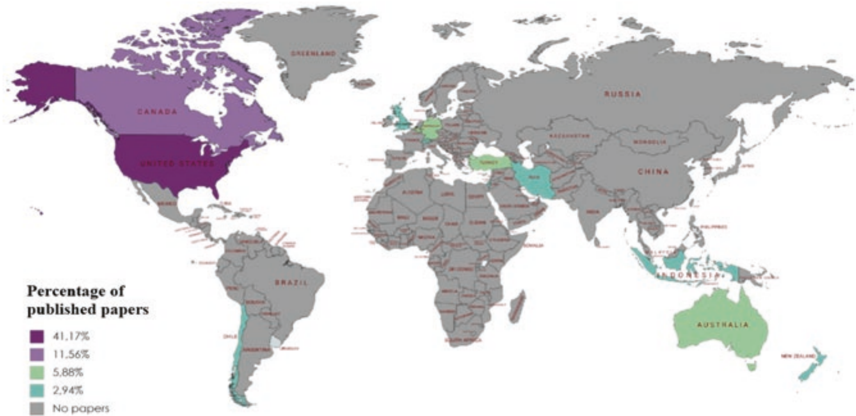

Fig. 2 Mapping on the published papers on teacher induction. Period: 2015–2019

Methodological Analysis Data

An analysis of the samples of participants used in the studies reviewed reveals that the highest percentage of individuals assessed are beginning teachers that were still participating in induction programmes (82.35%) (see Table 2).

Secondly, an analysis of the methodology used in the documents reviewed shows a prevalence of qualitative approaches (47.06%), of which only 11.76% performed analyses of reliability that provided scientific validity. Within the category of qualitative design, the highlights were the use of case studies (23.54%) and the absence of ethnographic studies. By contrast, quantitative studies were the ones least used (20.58%); in this case, they all presented analyses of reliability. No exploratory analyses were performed, but the descriptive and correlational analysis recorded the same frequency (5.88%), while quasi-experimental studies had a higher rate (8.82%). Finally, mixed methodological designs were used in 32.36% of cases, recording a higher percentage in terms of their analysis of reliability (23.53% of a total 55.88%).

Table 2 Methodological frequencies extracted from the documents analysed (n = 34)

Methodological tendencies			$f(n)$	%
Participants		Beginning teachers	28	82.35
		Beginning teachers with completed induction programmes	2	5.88
		Tutors of induction programmes	7	20.59
		Administrators of induction programmes	2	5.88
Design	Qualitative (47.06%)	Case study	8	23.54
		Grounded theory	4	11.76
		Phenomenological	3	8.82
		Ethnographic	–	–
		Historical	1	2.94
	Quantitative (20.58%)	Exploratory	–	–
		Descriptive	2	5.88
		Correlational	2	5.88
		Quasi-experimental	3	8.82
	Mixed (32.36%)		11	32.36
Reliability			19	55.88

Conceptual Analysis Data

Once the documents were selected using the exclusion criteria, they were coded using the categories and subcategories identified in them and detailed in Table 3 (Please refer to Annex).

Based on the conceptual aspects addressed in each programme, the most frequent institutional participation corresponded to schools (47.06%), followed by induction programmes held by universities (25.53%). The induction programmes for beginning teachers organised by education districts were the least frequent, accounting for only 8.82% of all those assessed. The remaining 18.59% had no evidence of where or by whom they were developed.

While the mentoring was the type of support most widely used in the development of induction programmes, as 73.53% of the studies referred to it; this was followed by coaching strategies, accounting for 20.59%. The remaining documents did not mention any specific type of support because they only referred to induction (20.59%). In this case, the results

Table 3 Details of the induction programmes of the studies analysed (n = 34)

Induction programmes				
Categories	Subcategories	Description	*f* (*n*)	%
Institutional participation	University		8	25.53
	Schools	Institution where the induction programmes were offered	16	47.06
	Education district		3	8.82
Types of supervision provided	Mentoring	An expert teacher provides guidance to beginning teachers	25	73.53
	Coaching	An expert teacher provides specific training to beginning teachers	7	20.59
	Unspecified	No specific term provided	7	20.59
Support dimensions	Personal and emotional	Expert teacher's assistance to deal with frustration, anxiety and so on	20	58.82
	Pedagogical	Expert teacher's assistance to implement new methodologies, resources, strategies…	24	70.59
	Administrative	Expert teacher's assistance to deal with bureaucratic work	7	20.59
	Social adjustment	Expert teacher's helping beginning teachers in getting adapted to the school context, colleagues' relationships and so on	17	50.00
	Metacognitive	Expert teacher's assistance in reflecting on and assessing one's own educational work	27	79.41
Resilience in the training content	Not featured		22	64.70
	Implicit	Referring to the concept of 'resilience' in the document—but not addressing the term explicitly	11	32.35
	Explicit	Mention the term 'resilience' in the document	1	2. 95

exceed 100% because both mentoring and coaching were mentioned in the same document.

As regards the dimensions supported by the induction programmes, particular note should be taken of the fact that metacognitive aspects are the ones that seem to have the greatest significance (79.41%), while the ones considered least frequently are those related to the administrative ambit (20.59%). Between these two extremes, and with a medium-high frequency, we find social adjustment, personal and emotional, and pedagogical dimensions (in ascending order). Newly, more than one dimension appeared in the same document and needed to be accounted, thus the total percentage exceeds the 100%.

Finally, the explicit presence of the capacity for resilience appears in only 2.95% of the documents analysed. It is true to say, however, that its presence seems to increase implicitly (32.35%). Nevertheless, resilience is not usually considered within induction programmes (64.70%).

Discussion

Results indicate that the countries with the greatest influence within this field of research were the US (41.17%) and Canada (11.56%) compared to European countries (23.52%). The TALIS 2018 report (OECD, 2019) shows that 53.8% of beginning teachers in the US and 52% in Canada attended induction programmes in their first posting. These results correspond closely to the frequency of the research on the topic found in our study.

The second aim was to analyse the methodological approach most often used in the research into induction programmes for beginning teachers. In this case, the results indicate that most of the research analysed used qualitative methods (47.06%) for compiling their data, wholly in keeping with the studies by Brown (2018), Carr et al. (2017), Martin et al. (2016), and Munshi (2018). Case studies were the most frequent (23.54%), perhaps because this type of design provides a better understanding of the opinions of the teachers that took part in the induction programmes; nonetheless, barely 12% of them were reliable. Although mixed design studies provide a more complete and consistent

perspective, they accounted for only 32.36% of the total (i.e. Helms-Lorenz & Maulana, 2015). In this case, 23.53% had an analysis of reliability. The quantitative designs, such as the one by Leugers (2018), were the fewest in number (20.58%), but all of them had an analysis of reliability.

Our study's results for the support roles or services that often feature in induction programmes show that the most common one involved the metacognitive development of beginning teachers, favouring their professional development (79.41%). These results may be consistent with those reported by Brown (2018), Carr et al. (2017), Helms-Lorenz and Maulana (2015), and Munshi (2018), whereby encouraging teachers to remain in the profession requires supporting their professional development. These scholars also refer to the importance of providing support for teachers' personal development; nonetheless, our study has found that the most common support involves the pedagogical ambit (programming, classroom distribution, teaching strategies, etc.) with 70.59% of the sample.

The previous information could explain why most induction programmes in our SLR were arranged mainly by schools (47.06%) and not universities (25.53%). In this sense, their main focus was to improve beginning teachers' personal and emotional well-being, as well as their professional performance by enhancing metacognitive aspects.

Finally, our study shows that resilience is not a particularly frequent feature in induction programmes. In fact, only 2.94% of the documents referred specifically to the term 'resilience' and 64.7% of the documents analysed did not mention strategies that implicitly referred to resilience, nor explicitly used the term resilience in their text. This circumstance suggests that although resilience is a term of increasing importance within teacher training, a lot remains to be done in induction programmes for beginning teachers. According to Martin et al. (2016), and considering our findings here, we may conclude that induction programmes are a significant way of encouraging beginning teachers, as they respond, to a greater or lesser extent, to their areas of personal and professional development. Moreover, including resilience in induction programmes would allow teachers to enhance personal characteristics as a positive attitude and self-confidence while dealing with a complex reality in their daily

work (Gratacós et al., 2020). Nevertheless, it is worth noting that although 58.82% of the documents contained support in personal and emotional matters, only 2.94% referred explicitly to resilience, when it is an aspect that allows coping with adverse circumstances and being enriched by them (Day & Gu, 2014; Morgan, 2011; Peixoto et al., 2018), and therefore enjoying greater personal and professional well-being. Also, it is worth considering that resilience in induction programmes could help the retention of teaching staff (Cook, 2009; Harmsen et al., 2019; Leugers, 2018; Warsame & Valles, 2018) by reducing dropout rates (Bowles & Arnup, 2016).

Conclusions

This study responds to the need to fill a lacuna in the research related to systematic literature reviews designed to assess the importance of resilience as a training topic within induction programmes for beginning teachers, as well as provide details on the type of research involving such programmes.

An initial finding is that resilience scarcely appears as a training content in induction programmes despite the importance it is attributed in the literature (i.e. Cook, 2009; Harmsen et al., 2019; Leugers, 2018). This may be because it is a difficult competence to address, as its development depends on personal and adverse circumstances experienced by the beginning teachers and the way in which they deal with them (Aguilar, 2018; Leugers, 2018). Resilience is understood to be a coping process, which means it can be strengthened and enhanced (Morgan, 2011). It might therefore be appropriate to provide support designed to achieve a different perspective of adverse circumstances that will enable beginning teachers to understand them as learning opportunities and not as failures or a lack of competence. It should be noted that despite seeking to support beginning teachers both personally and emotionally, and considering that resilience is gaining in importance, only a handful of documents refer explicitly to this competence. There is therefore a need to continue exploring this field both on a theoretical level and in terms of its practical application.

A second finding, centred more on methodology, is that there is a significant presence of qualitative methods of scant reliability that adopt different perspectives to address induction programmes for beginning teachers. This suggests that although the main body of research into induction programmes is extensive, new studies are called for to provide scientific consistency. There is therefore a need to proceed with caution when considering the results reported in these kinds of studies.

This study, furthermore, seems to agree with the results in the TALIS 2018 report (OECD, 2019), as the US is one of the countries with the highest rate of beginning teachers on induction programmes (53.8%). This explains that it is the leading country in research on this topic. Also, schools are the main organisers of induction programmes, which may be explained by the proven benefits of these programmes to adapt to the school environment facilitating their integration (Çobanoğlu & Ayvaz-Tuncel, 2018).

In short, although it is true that concern over the initial performance of beginning teachers and resilience are aspects that are currently growing in importance, there are still numerous aspects that need to be covered in both fields. This study has sought to provide a detailed review of the most recent studies, analysing the presence, or absence, of resilience in them, as well as other conceptual and methodological aspects of interest.

Outlook

This review's findings encourage us to continue our research and consider induction programmes that include resilience as a competence to be developed in beginning teachers, especially in view of the complexity and uncertainty of the modern world.

There is a need for future studies designed to discover how explicit training impacts upon coping strategies and problem-solving, as basic skills in resilient individuals, in classroom practice during the first years of a teacher's career, and assess their long-term impact.

It would also be enlightening to discover the level of resilience in beginning teachers after their first year in the post without having received specific training for honing that competence, and reassess it once they have completed an induction programme that addresses this content.

Elsewhere, it might also be useful to evaluate the differences between levels of resilience among beginning teachers and their experienced colleagues that have not previously taken part in induction programmes for gauging the extent to which the capacity for resilience is naturally present in both groups, and discover whether time helps to increase teachers' level of resilience or whether they require specific training in this aspect.

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Annex: Table with the Analysis of the Documents Reviewed

Conceptual aspects			
Resilience	**Institutionalisation**	**Type of supervision**	**Support dimensions**
1-Not featured	1-College/University	1-Mentoring	1-Personal-emotional
2-Implicit	2-School	2-Coaching	2-Pedagogical
3-Explicit	3-District	3-Not specified	3-Administrative
			4-Social adaptation
			5-Metacognitive

Methodological aspects			
Type of participants	**Qualitative design**	**Quantitative design**	**Mixed design**
1-BT in induction programme	1-Case study	1-Exploratory	1-Yes
2-BT with induction programme completed	2-Grounded theory	2-Descriptive	2-No
3-Mentors	3-Phenomenological	3-Correlational	**Reliability**
4-Administrators	4-Ethnographic	4-Quasi-experimental	1-Yes
	5-Historical		2-No

Conceptual aspects						Methodological aspects					
Authors	Country	Resili-ence	Institu-tion	Super-vision	Support dimen-sions	Partici-pant (*n*)	Type of participant	Qualitative design	Quanti-tative design	Mixed design	Reliability
Harmsen, Helms-Lorenz, Maulana	Netherlands	2	1	3	1	393	1	–	3	2	1
Çobanoğlu & Ayvaz-Tuncel	Turkey	2	2	1	1,2,4,5	357	1	–	–	1	2
Brown, C. M.	USA	1	2	1	1,5	13	1	1	–	2	2
Munshi, A.	USA	2	3	1,2	5	12	1,3	1	–	2	1
Çam Aktaş, B.	Turkey	2	–	1	1,2,4,5	88	1,3,4	3	–	2	1
Warsame, K. & Valles, J.	USA	1	1,2	1	2,3,5	206	1	–	–	1	1
Leugers, L. L.	USA	3	1	1	1,2,4	193	1	–	–	1	1
Carr, M. L., Holmes, W., & Flynn, K.	USA	2	2	1,2	1,3,4,5	–	–	2	–	2	2
Bastian, K. C. & Marks, J. T.	USA	1	1	1,2	1,2,5	846	1	–	2	2	1
Moore, A.	USA	1	–	2	2,3,4,5	1	–	1	–	2	2
Martin, K. L., Buelow, S. M., & Hoffman, J. T.	USA	1	2	1,2	1,2,5	209	1,3,4	–	–	1	2

Ensign, J. & Woods, A. M.	USA	2	2	1,2	1,2,4,5	–	–	2	–	2	2
David, J. K.	USA	1	3	1	1,2,5	130	1	–	2	2	1
Niron, A.D., Yuliana, L., Isbianti, P. & Rahmat, B.	Indonesia	1	2	2	1,2,4,5	–	1	–	–	1	2
Nasser-Abu Alhija, F. M. & Fresko, B.	Israel	2	–	1	1,2,3,5	488	1,2	–	–	1	1
Langdon, F. J., Alexander, P.A., Farquhar, S., Tesar, M., Courtney, M. G. R., & Palmer, M.	New Zealand USA	1	2	1	1,2,5	213	1,3	–	–	1	1
Helms-Lorenz, M. & Maulana, R.	Netherlands	2	2	3	2,4,5	338	1	–	4	2	1
Farrel, T. S. C.	Canada	1	2	3	5	3	1	1	0	2	2

Conceptual aspects						Methodological aspects					
Authors	Country	Resili-ence	Institu-tion	Supe-rvision	Support dimensions	Partici-pant (*n*)	Type of partici-pant	Qualita-tive design	Quanti-tative design	Mixed design	Reliability
Gordon, E. & Lowrey, K. A.	USA	1	1	1	1,2,4,5	–	–	2	–	2	2
Spooner-Lane, R.	Australia	3	–	1	1,2,5	–	–	5	–	2	2
Voss, T., Wagner, W., Klusmann, U., Trautwein, U., & Kunter, M.	Germany	1	–	1	1,2	746	1	–	4	2	1
Keller-Schneider, M. & Hericks, U.	Switzerland Germany	1	1	3	2,3,5	864	1	–	3	2	1
Mintz, J.	UK	1	2	3	5	67	1	–	4	2	1
Williams, A. R.	USA	2	2	1	1,2,5	–	–	2	–	2	2
Doan, L. K.	Canada	1	–	1	5	114	1	–	–	1	1
Altayli, &., Dagli, G.	Cyprus	1	2	1	1,2,3,4,5	19	1,3	3	–	2	2
Doan, L. K.	Canada	2	3	1	4,5	22	1,3	3	–	2	2
März, V. & Kelchtermans, G.	Belgium	1	2	1	2,3,4,5	6	1	1	–	2	1

Du Plessis, A. E., Cullinan, M., Gramotnev, G., Gramotnev, D.K., Hoang, N. T. H., Mertens L L, L., Roy, K., & Schmidt, A.	Australia	1	–	1	2,4	2145	1,2	–	–	1	1
Wang, W., Bale, J.	Canada	1	1	1	2,4	4	1	1	–	2	1
Thomas, L., Tuytens, M., Devos, G., Kelchtermans, G., & Vanderline, R.	Belgium	2	1	3	1,4	292	1	–	–	1	1
Flores, C.	Chile	1	2	1	2,4	40	1	1	–	2	2
Karimi, M. N. & Norouzi, M.	Iran	1	–	1	2,5	8	1,3	–	–	1	1
Ahn, R.	USA	1	2	3	1,4,5	7	1	–	–	2	2

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Integrative Mentoring Pedagogies to Promote Beginning Teachers' Professional Development: Connecting Practice, Theory and Person

Frank Crasborn and Paul Hennissen

Introduction: The Dutch Context

Teacher Attrition

Just like in other Western countries, in the Netherlands major efforts have been made to reduce transition challenges (Pillen, 2013; Veenman, 1984) from being a pre-service teacher to the complexities of practice. Induction programmes are increasingly gaining importance as a way to

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provide guidance to beginning teachers in the workplace by optimizing professional learning and socialization into school dynamics and increasing teacher retention (Kessels, 2010. In their study of the effectiveness of induction programmes in the Netherlands in the first years of a teacher's career, Helms-Lorenz et al. (2016) found that certified teachers who finished a teacher training programme before entry into the profession had considerably lower attrition rates: 9% of certified teachers left education in the first three years versus 16% of all beginning teachers in the sample (the total of not-certified, not yet certified or student teacher, and certified teachers).

Recently, Noordzij and Van de Grift (2020) found that the attrition rate of beginning teachers in the Netherlands in their first year of teaching had been approximately 12% until the early 2000s, rising to nearly 20% in recent years. However, after the first year, the base rate of attrition (retirement excluded) remains stable at approximately 3% to 5% every year. Attrition of certified teachers within one year is about 9%, versus the 12% to 20% of all beginning teachers. The 9% attrition rate of certified teachers within one year after beginning their career is two to three times higher than the base rate attrition of all certified teachers. Thus, Dutch teachers are evidently at risk of attrition, particularly in the first year.

Based on a review, Den Brok et al. (2017) concluded that attrition among beginning teachers in the Netherlands is slightly lower than in countries such as the United Kingdom, United States and Australia. However, they also established that reasons for attrition are similar to those reported elsewhere. Interestingly, attrition seemed lower for teachers with a teaching degree, suggesting that teacher education may play a vital role in decreasing attrition. In addition, it appeared that high-quality mentoring and coaching, reducing workload, and organizing a social network for beginning teachers may be important factors in reducing attrition.

Induction Programmes

To diminish attrition rates, just like other Western countries (European Commission, 2010), schools in the Netherlands implement more or less formalized and induction programmes, which provide handles for schools to enable the learning and mentoring of beginning teachers (Kessels,

2010; Helms-Lorenz et al., 2016). In a review of 15 studies on induction and mentoring programmes for beginning teachers, Ingersoll and Strong (2011) concluded that such programmes can have positive impacts, for example they improved teacher satisfaction, retention and student achievement.

The nature and quality of induction programmes in Dutch schools vary considerably, since schools have the freedom to develop their own induction programmes (Maandag et al., 2007). In particular, induction programmes differ greatly in their contribution to the professional development of the beginning teacher. They are mostly aimed at the socialization, and at fostering well-being of the beginning teacher in the new school (Kessels, 2010).

Hence, in most induction programmes there is room for improvement in this respect. Challenging beginning teachers to develop professionally also is essential, because their first years in the profession have a decisive influence on their further teaching career. Dutch research into induction programmes in primary education, aimed specifically at professional development in pedagogical and classroom management skills, shows that the time a teacher needs to develop into an effective professional can, on average, be reduced from 15 years (without support) to five years (Maulana et al., 2015). This enhances the quality of the teacher and reduces the chances of (early) attrition. In social terms this is a (potential) cost reduction, while it allows pupils to benefit from high(er) quality education and support.

Mentors for Learning

With the growth of induction programmes in schools the interest of researchers in how mentor teachers function also increased in the Netherlands (e.g. Crasborn & Hennissen, 2010; Jaspers, 2019; Van Ginkel, 2018; Van Velzen et al., 2012). As many researchers have emphasized, the role of mentor teachers seems essential in promoting effective teacher learning in the workplace (e.g. Clarke et al., 2014; Hobson et al., 2009; McNamara et al., 2014). For the purpose of the current chapter, we define *mentoring* as the one-to-one support of a beginning teacher by

a more experienced teacher. We define the term mentor teacher as a teacher of pupils with an additional responsibility as a mentor of beginning teachers. We use the term *beginning teacher* for those who are in the first three years as a teacher. In the international literature, mentor teachers are referred to as: *mentor, school-based mentor, school teacher mentor, class-teacher, cooperating teacher, coach, coach-teacher,* induction *mentor* (Hennissen et al., 2008).

Beginning teachers need mentoring support from experienced teachers as they prepare to become teachers (Kelchtermans, 2019). Mentor teachers have great influence on beginning teachers' learning opportunities in the workplace, for example whether or not beginners are encouraged to carry out certain activities. Also, they can inspire as well as impede initiatives and choices of beginning teachers. Apart from this, the array and quality of their mentoring pedagogies repertoire play an important role in being responsive and adaptive to beginning teachers' learning in the workplace (Hobson et al., 2009). Mentor teachers therefore require knowledge of teacher learning and skills in mentoring pedagogies (Van Ginkel, 2018).

Proficiency as a teacher within one's own classroom does not automatically guarantee the ability to support others in their professional growth as a teacher (Smith, 2015). To clarify this, Murray and Male (2005) use the terms '*first order teachers*' (teachers who teach pupils) and '*second order teachers*' (teachers who teach and mentor beginning teachers). Mentors of beginning teachers are not only 'first order teachers', but also 'second order teachers'. This means that they need a double professional perspective to focus on the learning of pupils as well as on the learning of their mentees and accordingly, need to develop new skills and understandings (Aspfors & Fransson, 2015). Mentor teachers themselves repeatedly acknowledge the crucial role of learning new skills and pedagogies to be effective in their mentoring practice (Clinard & Ariav, 1998).

Integrative Perspective on Teacher Learning and Mentoring

Practice, Theory and Person: Cornerstones for Mentoring

In the literature on induction programmes the underlying view on teacher learning is hardly ever made explicit, let alone the underlying vision on the competencies needed by mentor teachers to enact specific mentoring pedagogies in their mentoring practice (Achinstein & Athanases, 2005). In the context of teacher induction, frameworks connecting notions on teacher learning with mentoring pedagogies are often lacking in the literature (Van Ginkel, 2018). Preferably, the choice and implementation of mentoring pedagogies for beginning teachers should build on a view of teacher learning. Hence, in our view an important touchstone for the quality of mentoring in the workplace is the degree to which mentor teachers are able to implement mentoring pedagogies to connect beginning teachers' practical teaching skills, with relevant (practice) theory, and with the identity and personality as a teacher.

With practice we mean the experiences and actions of beginning teachers in their own class or group, the type of school, the team of teachers, and the environment of the school. With theor*y* we mean knowledge of the domain 'learning and teaching', such as theory about motivation, learning principles and didactics, and knowledge about basic needs and characteristics of pupils. This can be formal knowledge in books and publications, but also practical knowledge of teachers and mentor teachers. Lastly, person refers to the learning and development needs, characteristics, identity and idiosyncrasies of the (beginning) teacher, which result from his/her individual development and background.

Therefore, in our view mentor teachers should be able to implement a variety of mentoring pedagogies to link practice, theory and the teacher as person to deepen the learning of beginning teachers. To clarify and underpin the importance of this integrative perspective, and the subsequent necessity to implement mentoring pedagogies to support beginning teachers' professional development, two well-known models showing psychological layers in the way teachers function and learn are presented.

Integrative Models of Teacher Learning

The first model is Korthagen's (2004) 'onion-model' (Fig. 2), based on the 'levels of change' model of Dilts (1990). The second model is the 'integrative model of professional growth' (Clarke & Hollingsworth, 2002). Both models emphasize the importance of connecting and harmonizing different layers of a teacher's functioning and learning.

The outer layers of the 'onion-model' represent the environment in which a person (read: teacher) functions, and the visible actions, behaviour and (skills), including the behavioural potential of a teacher in a specific educational environment. A deeper layer is that of the (often implicit) attitudes, beliefs, preconceptions and (implicit) knowledge. The deepest layers touch on the core of the teacher as a person and refer to the (beginning) teacher's identity, mission and inspiration. The model makes clear that visible actions and behaviour are directed by more than one layer. The integrative perspective assumes that all layers in the functioning of people (read: teachers) mutually influence each other, and that appropriate functioning is determined by the degree to which the layers are connected and attuned to each other.

The empirically founded 'Interconnected Model of Teacher Growth' (Fig. 3) also underlines the notion of the different layers (or domains) being interconnected and the importance of congruence between them for optimal learning of teachers. It distinguishes four interconnected domains: (1) Domain of Practice, (2) Personal Domain, (3) External Domain and (4) Domain of Consequence.

The first domain is that of 'professional experimentation': the teacher's actions and behaviour. The second that of 'knowledge, beliefs and attitudes'. The third that of 'external source of information or stimulus'. These three domains correspond to layers in the 'onion-model'. When actions of teachers have an impact on their own practice (for instance for pupils or the teachers themself) this reinforces new teacher actions and behaviour. This is the fourth domain: *Domain of Consequence* or 'salient outcomes'.

The processes *reflection* and *enactment* ensure that development and change in one domain leads to development in another domain. All four domains are interconnected. The interconnected, non-linear structure of

the model allows identification of particular ‘change sequences’ and ‘growth networks’ to be identified, and shows the idiosyncratic and individual nature of a teacher’s professional growth. When a change in one domain leads to a change in another, Clarke and Hollingsworth (2002) call this change sequence. This can, however, be of short duration. Only when all four domains are connected in a so-called growth network can one speak of integrative learning and longstanding professional growth.

Linking Levels of Learning with Diverse Pedagogies

The presented models avoid the risk of making the focus of professional development too limited and underline that a teacher’s functioning and learning can be activated or influenced from different starting points, layers or domains. Also, the models make clear that when different layers or domains are insufficiently attuned to each other, a teacher’s functioning and learning will be impeded.

This notion is also reflected in the distinction in mentoring and coaching pedagogies that Niggli (2005) makes in his Drei Ebene Modell (‘three-layer model’). The first layer refers to the teacher’s practical actions (behaviour) in a specific educational context. The second layer refers to implicit beliefs and knowledge, driving the teacher’s actions and behaviour. The deepest layer refers to the teacher as a person: the professional identity, mission and inspiration of the teacher. Niggli links different mentoring and coaching pedagogies to each layer.

Several other educators and researchers undeline the importance of implementing pedagogies to encourage broad and deep learning not only through reflection on teacher behaviour (‘how-to’ questions) but also on connected feelings, beliefs, drives, inspiration and moral issues involved (e.g. Gaye & Gaye, 1998; Kelchtermans, 2007; Mansfelder-Longayroux et al., 2007; Zeichner, 2008).

All together, these perspectives indicate that different mentoring perspectives and pedagogies are not necessarily in contrast with each other, but that it is essential to implement various pedagogies in parallel with one another, in a way that supports harmonious integration of the various layers of the presented models about the learning of teachers. Mentor

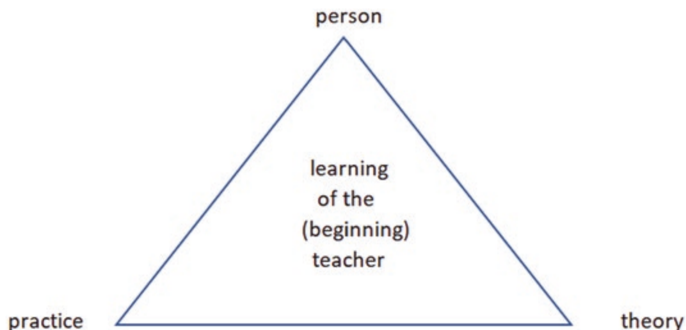

Fig. 1 Integrating practice, theory and person in teacher learning

teachers in cooperation with and school-based teacher educators and coaches can help to bring about this interconnection and tuning by choosing and balancing specific mentoring pedagogies.

Supporting beginning teachers in the workplace to improve their functioning and learning, in our view requires mentor teachers to acquire and implement a varied arsenal of integrative mentoring pedagogies. In the next section, we will describe examples of mentoring pedagogies to activate the learning in and from one of the three main layers, and will use the cornerstones of the triangle (Fig. 1) as a frame of reference.

Integrative Mentoring Pedagogies: 20 Examples

Over the past decades teacher educators, mentors, coaches and researchers have developed a rich repertoire of pedagogies to help teachers develop professionally during initial teacher education as well as in induction programmes in the workplace. Several authors have published selections of these in different contexts and from various perspectives (e.g Korthagen et al., 2001; Loughran & Hamilton, 2016; McNamara et al., 2014; Orland-Barak, 2010; Swennen & Van der Klink, 2009). Although there is great abundance of specific tools, they are quite dispersed and linked to different perspectives on teacher learning in different educational contexts.

In this chapter we arrange and present 20 examples of mentoring pedagogies from an integrative perspective. As a guiding framework, we will

use the presented triangle practice, theory and person (Fig. 1). The corners of the triangle each serve as the starting point of a specific pedagogy in helping beginning teachers to connect with one of the other corner(s). The connections can, for example, run from practice to theory, theory to practice, practice to person, from person to theory, from theory to practice and so on.

The selection of examples we have made for the purpose of this chapter stems from our own experiences and knowledge as a mentor teacher, teacher coach, teacher educator and researcher. We used three criteria, proposed by Koster and Bronkhorst (2012), namely (1) whether a pedagogy builds upon a vision on learning and educating teachers with reference to relevant sources and literature, (2) has come about systematically, and (3) is based on experiences in practice of, and explicitly referred to by, other mentors, teacher educators and researchers.

In our collection of examples, as presented in Table 1, we have arranged the pedagogies in three groups without aiming to be complete or create mutually exclusive groups.

We focus on pedagogies that exceed subject-specific pedagogies, that is going beyond the details of pedagogies to educate teachers in a specific subject matter, or the development of pedagogical content knowledge. Also, our assortment focuses on generic mentoring pedagogies that can be applied in a variety of international contexts and across the mentoring of both primary and secondary education teachers. Each pedagogy has references to literature for further exploration. The left-hand column in Table 1 lists pedagogies that take the layer of action and experiences in practice as their starting point or focus. The middle column gives examples of pedagogies with theory (implicit or formal knowledge) as starting point or focus. The examples in the right-hand column aim at the layer of the teacher as a person as a starting point.

Practice as Starting Point

The examples of pedagogies in the left-hand column of Table 1 (experiences and actions in practice as starting point or focus) are (a) observation and feedback, (b) modelling, (c) co-teaching, (d) real-time coaching,

Table 1 Twenty grouped examples of mentoring pedagogies

Starting point/ focus	Practice (experiences/ actions)	(Practice) Theory	(Teacher as) Person
Examples	a. Observation and feedback b. Modelling c. Co-teaching d. Real-time coaching e. Individual reflection f. Group reflection	*Knowledge for practice* g. Core practices h. Deliberate practice i. Micro-teaching j. Working with cases *Knowledge in practice* k. Concept mapping l. Stimulated recall m. Laddering interview *Knowledge of practice* n. Teacher inquiry	o. Storyline p. Ideal teacher q. Metaphors r. Core reflection s. Friction narrative t. Wall-building

(e) individual reflection on experiences and (f) group reflection on experiences.

(a) Observation and Feedback

Observation and feedback are among the oldest pedagogies. Observation focuses on visible behaviour of teachers, pupils and mentors in educational practice (Brophy, 1979). Over the years observation and feedback have been closely studied in the context of what is called 'process-product' research into effective educational behaviour of teachers (Muijs et al., 2014). This has led to the development of various guidelines and steps for systematic observation (O'Leary, 2020). Observation can be done from three perspectives: the mentor observing the teacher to give action-oriented feedback, the teacher observing the mentor when teaching pupils, to imitate and scrutinize that behaviour as a model, and the beginning teacher observing him/herself.

Van Es and Sherin (2002) show that the use of video cases can contribute to the development of professional observation skills to improve effective interaction with pupils and the ability to notice critical situations in the classroom. Their 'learn to notice' framework includes: (1) noticing important situations and moments, (2) using one's own (practice) knowledge about the observed situations and context to interpret them, and (3) looking for and establishing links between the observed situations and concepts and theories about learning and teaching.

(b) Modelling

Experienced teachers function as role models but beginning teachers do not automatically learn new educational behaviour just by looking at them. Mentor teachers can be models by critically discussing their own behaviour and the effect of that on pupils with their mentee, before and after the lesson, and, during co-teaching, by supplementing or questioning the approach of the beginning teacher or by deliberate showing of behaviour. Swennen et al. (2008) distinguish four types of modelling: implicit modelling, deliberate modelling, explicit modelling and legitimizing.

When a mentor teacher shows the desired educational behaviour without being aware of it, this is called implicit modelling. When, on the other hand, the desired educational behaviour is consciously shown, this is called deliberate modelling. Explicit modelling is when mentor teachers explain on which practical and theoretical notions their educational behaviour is based. Legitimizing is when mentor teachers also legitimize their educational behaviour from formal theories and concepts, to add value for the (beginning) teacher. When mentor teachers apply the educational theories and concepts that they hold up for the beginning teacher to follow in their own practice, this is called congruent teaching.

Based on the concept of congruent teaching, a four-step pedagogy for practice was developed, in Dutch abbreviated to 'VELG' (a 'velg' is a rim giving a wheel its strength). The four steps are (1) being a model, that is 'teach as you preach'; (2) making explicit what you are doing by stepping aside and reflecting on your actions; (3) legitimizing your actions, by accounting for their basis in theory; (4) discussing usability by asking beginning teachers how much of the model behaviour (e.g. a concrete

approach or action, or its theoretical basis) they could use in their own practice.

(c) Co-teaching

Another more extensive mentoring pedagogy is co-teaching, which is not restricted to talking about teaching practice before or after lessons, but also involves direct support during lessons. Mentor teachers do not only use modelling, but also scaffolding (Van Velzen et al., 2012). This means that the mentor offers direct help during one or more lessons that the (beginning) teacher and the mentor teach together (Tobin & Roth, 2006). In co-teaching the mentor teacher demonstrates behaviour and gives feedback and hints during the joint lesson.

In various subject matter domains and educational contexts methods for co-teaching have been developed, for example Content Focused Coaching (Staub, 2004), the Collaborative Apprenticeship Model (Glazer & Hannafin, 2006) and the Collaborative Mentoring Approach (Van Velzen et al., 2012). All these approaches feature modelling and scaffolding in three key steps: joint preparation, teaching and evaluation. One of the findings of research by Van Velzen et al. (2012) is that, with this type of scaffolding, it is quite challenging for mentor teachers to switch between the teacher and mentor role.

(d) Real-Time Coaching

Another form of scaffolding is real-time coaching (Stahl et al., 2018), also called synchronous coaching (Coninx, 2013). This type of mentoring provides teachers with immediate, on-the-spot feedback while teaching. To provide immediate feedback, a small wireless earphone is used.

Real-time coaching can give the (beginning) teacher the feeling of complete responsibility and independence, while enabling the mentor teacher to give direct hints and suggestions during the lesson, and the teacher to adapt his behaviour immediately. Moreover, because the specific coaching goal is formulated in advance, real-time coaching can be precisely targeted. An additional advantage is that it gives beginning teachers the feeling that they are not on their own during the lesson and

that they can fall back on their mentor teacher (Coninx, 2013; Hooreman, 2008).

Despite the knowledge base of real-time coaching, it is not yet commonly used in the field of secondary education (Scheeler et al., 2006). To improve the usability in practice the EarCoachforTeachers app was developed as a digital user-friendly tool for mentor teachers in the Netherlands and Flanders (Crasborn et al., 2018). Mentor teachers can use it to give short feedback messages via a tablet or smartphone during the lesson. The app converts the message into a succinct audio message that can be heard immediately by the teacher via an earpiece. The 'whispered' messages should be corrective, specific and short (Coninx, 2013). In advance, the mentor teacher and beginning teacher must agree on a learning goal that will be the focus of the real-time coaching session. The lesson is followed by a short evaluation. Background of the Dutch version of the EarCoachforTeachers can be consulted on www.earcoach.nl.

(e) Individual Reflection on Experience

Also, individual reflection on actual practice experiences and learning needs of beginning teachers can form the starting point for learning and mentoring. Difficult educational situations as well as positive work experiences can be discussed. A much-used pedagogy to activate reflection in teachers is based on the so-called spiral model, in international literature also called ALACT model (Korthagen, 2010). In this approach individual teachers learn to reflect systematically through mentoring dialogues. The pedagogy consists of five steps: (1) Action, (2) Looking back on the action, (3) Awareness of essential aspects, (4) Creating of, and choosing from, alternative methods of actions, (5) Trial in practice of alternative methods of actions. The model can be applied independently from decisions on what counts as good teaching. It is often used as a framework to educate and train mentor teachers in supervisory skills (Crasborn et al., 2008).

(f) Group Reflection on Experience

To help mentors to enable groups of beginning teachers to learn from experiences in the workplace, Hermans et al. (1993) developed a five-step pedagogy, in Dutch abbreviated to 'VESIt'. The steps are (1)

prestructuring, (2) using experiences, (3) structuring, (4) focusing, and (5) adding theory.

The first step aims at offering a focus, the second at using genuine and personal experiences, the third at structuring the reflections of the beginning teachers on these experiences, the fourth at focusing on a limited number of specific facets that surfaced during the previous step and are connected with the beginning teachers' concerns, and the fifth step at identifying small theoretical principles that can help guide the beginning teachers' insights and actions in new situations. This fifth step is named 'theory with a small t', as opposed to the scientific theory in articles and handbooks ('Theory with a capital T'), in other words practice-oriented principles that can be used in teaching practice straightaway. At the same time, this in itself is a new step of prestructuring the next cycle, as it focuses the attention during the next experiences of beginning teachers. Applications and research regarding this five-step (VESIt) pedagogy can for example be found in Hennissen et al. (2017) and Tigchelaar and Korthagen (2004).

Theory as Starting Point

The examples of pedagogies in the middle column of Table 1 take theory as their starting point. In other words, the various types of knowledge that play a role in the functioning and learning of teachers. Cochran-Smith and Lytle (1999) distinguish 'knowledge *for* practice', 'knowledge *in* practice' and 'knowledge *of* practice'. We use these categories to group the selected examples of mentoring pedagogies.

Focus on Knowledge for Practice

Knowledge for practice is formal knowledge, as in, for example, books and articles. These are often offered to the teacher as a prescription for action, to study (research-based theory) first, and then, after some exercises, to try it out in practice. We discuss here as examples the following

pedagogies: (g) core practices, (h) deliberate practice, (i) micro-teaching, and (j) working with cases.

(g) Core Practices

Core practices focus on the learning of basic skills as stepping stones towards the learning of more complex teaching skills in more or less simplified and safe practice situations, the so-called approximations of practice (Forzani, 2014; Grossman et al., 2009). Core practices are actions or activities that (1) a teacher uses repeatedly, (2) can be learned, (3) keep the complexity of educational practice and (4) integrate the essential knowledge, skills and professional identity growth of the teacher (Grossman et al., 2009). Examples of core practices are identifying thinking processes of pupils in content domain; explaining core content; leading educational conversations; choosing examples, models and representations to fit the didactic content; getting pupils to take on co-responsibility for class organization; giving instructions for independent work or co-operation; and so on.

(h) Deliberate Practice

Teachers do not automatically get to be better teachers by being in the profession longer (Van de Grift et al., 2011). More complex pedagogies, such as differentiation, often remain difficult for many teachers throughout their career. Experts in a profession (also) grow by deliberate, sustained and very focused practice, also called deliberate practice (Ericsson, 2006). The aim here is to develop specific teacher behaviour to reach a higher professional level. There are some important principles when it comes to deliberate practice: (1) the task the teacher chooses (or is set by a mentor teacher) must exceed the teacher's current skills level; (2) the bar must be raised a little every time, so that the teacher is forced to step out of his/her comfort zone; (3) the learning goals of the tasks must be clear, and tasks must align with the level of the learner; (4) the mentor teacher must provide feedback, directions, and must raise questions, but must also criticize and point out mistakes; (5) these mistakes must be correctable, so that the practice tasks can be repeated; (6) honest self-criticism is also a must (Ericsson & Pool, 2016).

(i) Micro-teaching

To train core practices, and to deliberately practice more complex skills in the context of an induction programme, the pedagogy of micro-teaching (Allen & Ryan, 1969) can be applied. This pedagogy allows teachers to step away from the action situation, to reflect with others on the experience, to be given action alternatives, and to try out new behaviour. This may involve practising a specific teaching skill, such as leading an educational conversation, in a simplified context, for example, with fewer pupils, during a shorter lesson, with less complex tasks, with (beginning) teachers as pupils or involved in carrying out the task together with the mentor teacher. After the lesson there must be an evaluation with the mentor teacher, and sometimes also a written reflection by the (beginning) teacher(s) involved in the deliberate practice task. Joyce and Showers (2002) emphasize that learning to apply new teacher behaviour effectively in practice, micro-teaching should be integrated in a three-step pedagogy: (1) explanation and demonstration, (2) practice and feedback in simplified practice situations (micro-teaching) and (3) practice and coaching in actual practice situations.

(j) Working with (Video)Cases

The need to integrate practice, theory and person has given rise to a rich tradition of case-based learning in educating teachers. While originally just textual descriptions of realistic educational situations, later video was used to present cases. This added to the usability and strength of case-based learning (Kolodner, 2006; Brouwer, 2007) distinguishes three types of instructive videos: model videos, action videos and trigger videos. All three often have a specific action concept or (practice) theory as their starting point. Model videos are recordings of experienced teachers showing good practices that can serve as an example (modelling), as discussed above. Action videos are recordings of teaching behaviour to be analysed for improvement together with the mentor teacher. Trigger videos are recordings of specific situations and behaviours intended to highlight a specific concept or stimulate awareness.

Research shows that working with video cases can contribute to better observation and understanding of classroom situations (e.g. Brouwer &

Robijns, 2014; Geerts, 2018). However, using (video) cases should be embedded in a specific context, work practice and approach. This can be done by applying observation assignments, mentor support, and linking the cases to other media, such as images, sounds, texts and websites to create so called 'rich media cases' (Van den Berg et al., 2008).

A new digital development is virtual reality (VR), with which a 3D world, for example, a classroom situation, can be simulated. Although the possibilities of VR have generated much enthusiasm, VR has not yet delivered clear positive or negative results in educational situations (De Lange & Lodewijk, 2017) and research into this is just beginning (Theelen et al., 2020).

Focus on Knowledge in Practice

In practice situations (beginning) teachers also learn subconsciously. This results in so-called knowledge in practice, also called practice theory, practice knowledge or informal knowledge. A teacher acquires this knowledge by himself while working in practice situations. This type of knowledge mostly remains subconscious and implicit and is linked to specific educational contexts and persons. It may consist of knowledge on subject content, the learning of pupils, pedagogy, communication aspects, the curriculum and learning environment (Van Driel et al., 1998). Explicit focus on, and discussion of, this practice knowledge can broaden and deepen the learning of (beginning) teachers through directed intervention (Zanting et al., 1998). To do so, mentor teachers can use various pedagogies, for example (k) concept mapping, (l) stimulated recall and (m) laddering interview. In these approaches knowledge is the result or output, not the starting point or frame of reference.

(k) Concept Mapping

A concept map shows the hierarchy or order of concepts and is a graphical representation of the way knowledge is organized and structured in someone's mind (Novak, 2010). In a concept map (in)direct connections and relationships are made visible with lines of different types and thickness, arrows, signs and shadings, and different letter sizes. There are four

major types of graphic organizers for concept mapping: (1) spider, where the main topic is located in the centre of the map and sub-topics extend from it; (2) hierarchy, in which the main topic is at the top and sub-topics are beneath it; (3) flowchart, where information is organized in a linear format; and (4) system, which is similar to flowchart mapping with added inputs and outputs (All et al., 2003).

Concept maps can be helpful to capture, and compare and discuss, (parts of) the practice knowledge of teachers as well as of their mentor teachers. They can also be used to trace changes in practice knowledge over time (Buitink, 2009; Meijer et al., 2001) by asking (beginning) teachers to make another concept map on the same theme or issue after a certain amount of time, so that it is possible to see what was learned in the meantime. In addition, they may prove useful with group assignments, in which a group of beginning teachers and one or more mentor teachers co-ordinate common concepts as starting points for their teaching.

(l) Stimulated Recall

The stimulated recall interview (Calderhead, 1981) is a suitable instrument to make practice knowledge of teachers explicit. Beginning teachers can have such interviews with their mentors, and vice versa. During the interview a video recording of a recently carried out teaching activity is used to help discover what the teacher was thinking or experiencing during a concrete action. Based on ideas and approaches by Ethell (1999), Meijer et al. (2001) describe several techniques that can be used in such an interview after the (beginning) teacher or mentor has (observed and) recorded an educational activity.

(m) Laddering Interview

Another method to visualize practice knowledge is the laddering interview (Janssen et al., 2013). A laddering interview (a term borrowed from marketing research, describing a technique to elicit consumer goals and underlying values) focuses on exactly that part of the teacher's practice knowledge that (mainly) drives actions during educational activities,

including implicit goals. During the interview the mentor or coach notes the interviewee's answers on 'post-its' and sticks these on a large sheet of paper, to succinctly visualize part of a teacher's practice knowledge.

Focus Knowledge of Practice

Knowledge *for* and *in* practice can be combined into knowledge *of* practice. This knowledge comes about when one is trying to solve an issue or problem in educational practice. Knowledge *of* practice emerges through reflection on, and research of, practice in, for example, a small-scale professional learning community. As an example of a pedagogy that suits the development of knowledge of practice, we will discuss teacher inquiry (n).

(n) Teacher Inquiry

Over the past two decades teacher inquiry has become a relevant pedagogy to help teachers develop professionally (Cochran-Smith & Lytle, 2009; Ponte et al., 2004). Research here serves as a learning strategy to improve one's professional skills through a better and broader-based understanding of one's own actions in educational practice (Ponte, 2002), Teacher inquiry offers opportunities to link explicit formal knowledge with implicit practice knowledge and learning questions at different points of the learning process in the context of one's own development as a teacher (Lunenberg et al., 2007).

Practice-based research entails a (collaborative) reflective process by which teachers themselves critically examine their own (or shared) educational practices and investigate the specific practical problems and concerns emanating from these practices. Hence, teacher inquiry often takes place in Professional Development Schools (PDS) in small communities of practice (Dana et al., 2011). Teacher research can take different forms, represent different genres and entail different interpretations depending on the ideological, historical and epistemological frameworks adopted, including for example action research, design-based research, lesson-study, self-study or narrative inquiry (Zeichner & Noffke, 2001). Common features of these approaches are: orientation towards action in educational practice, based on insight into that concrete practice, use of data (such as observations, marks, interviews) to gain that insight, active

involvement of colleagues, and systematic character. To guide teachers and their mentors and educators through the process of practice-based research as a pedagogy for learning, several authors described teacher inquiry with relevant scenarios, examples, helpful exercises and step-by-step instructions (e.g. Fichtman-Dana & Yendol-Hoppey, 2019).

Person as Starting Point

Lastly, we highlight the examples of mentoring pedagogies in the right-hand column of Table 1, which focus on the idiosyncrasy, identity, motives, beliefs and personal characteristics of the beginning teacher. Teachers develop a personal interpretation framework and subjective educational theory based on their life and work experiences (Kelchtermans & Vandenberghe, 1994). The mentor teacher can support the beginning teacher with various pedagogies to focus on (the development of) the teacher's own identity (Beijaard et al., 2004). We present six examples: (o) storyline, (p) ideal teacher, (q) metaphors, (r) core reflection, (s) friction narrative and (t) wall-building.

(o) Storyline

To link personal and professional aspects of being a teacher during learning to teach, storytelling or writing about their own life stories can be used as a handle (Goodson et al., 2010). The beginning teacher is the narrator who gives meaning to the story. In this way the teacher can show and elaborate on the development of his own professional identity. This is called 'narrative reflection' (Clandinin & Connelly, 1998). The storyline pedagogy (Beijaard et al., 1999) is helpful in showing how becoming and being a teacher develops. The storyline is the starting point for a discussion on experiences, events, contacts and perceptions as important determiners for this development. For example, Omand (2017) explains concrete tools and questions to apply the storyline pedagogy in practice.

(p) The Ideal Teacher

The views of a (beginning) teacher about what makes a 'good teacher' are mostly based on the teacher's own educational experiences as a pupil (Lortie, 2002 [1975]). Using the graphic organizer '*spider*' for concept mapping (All et al., 2003) insights can be gained in the teacher's own notions and conceptions about features and properties of the *ideal teacher* and to translate these into personal learning goals and learning questions. The teacher notes an important property of the ideal teacher in the middle of a sheet of paper. This is the body of the spider. Then legs are added to refer to concrete teacher behaviour. Next, the (beginning) teacher chooses the behaviour he wishes to work on and formulates this as a personal learning goal. Finally, the concrete activities to realize the learning goal are named (Everhardus, 2002).

(q) Metaphors

Metaphors are a way to understand through analogy (Lakoff, 1993). They can provide familiar, concrete reference points to help understand novel, challenging or hidden constructs. Several authors have promoted the use of metaphors to activate teacher learning (e.g. Munby & Russel, 1990). Metaphors are not merely linguistic expressions (written or oral). Images, pictures, photos and drawings can also be effectively used to conceptualize and summarize complex and interrelated information in a way that can be easily comprehended and, subsequently, can activate links within a person's own knowledge (Weber & Mitchell, 1996).

Research in teacher thinking revealed much about the relationship between teaching metaphors and teacher behaviour (Bullough Jr. & Stokes, 1994). More successful beginning teachers had richer and conceptually more complex metaphors for teaching, and they had more options in the plotlines they constructed with students. Tobin and LaMaster (1995) provided evidence that supporting beginning teachers in uncovering their metaphors and in evaluating and altering these metaphors, could lead to a change in practice. When teachers embraced new metaphors to guide their teaching they were able to set up new plotlines in their teaching practice.

(r) Core Reflection

To make reflection on personal qualities more profound, Korthagen (2004) developed the core reflection model. In this six-layer model reflection (Fig. 2) can focus on: environment, behaviour, competences, beliefs, (professional) identity, and mission. This is based on the theory that teachers function more effectively and more naturally when these layers are in harmony. Core reflection aims at becoming aware of one's own personal qualities, such as courage, perseverance, passion and clarity. According to a rule in positive psychology focusing on those qualities and on positive experiences is more effective than emphasizing deficiencies and things that do not go well yet (Seligman & Csikszentmihalyi, 2000). This typically requires positive feedback and a focus on successes and ideals. Evelein and Korthagen (2015) developed various tools and techniques for teachers and their educators and mentors to use in teacher education and mentoring practices in the workplace.

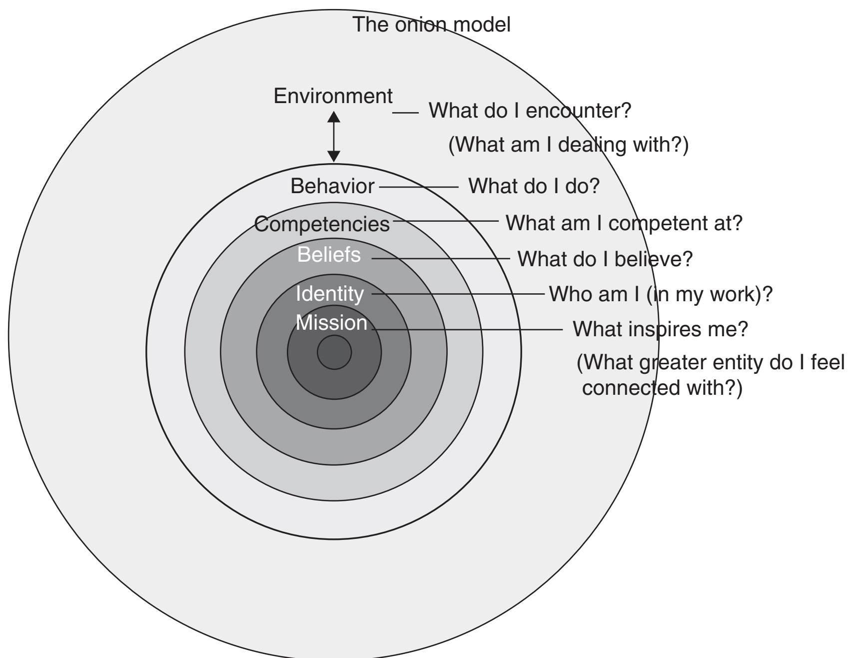

Fig. 2 Onion-model (Korthagen, 2004)

(s) Friction Narrative

Teachers can also learn from frictions that occur between the (beginning) teacher as a person and the demands that the environment makes on him/her. This can lead to resistance, tension or crisis (Pillen et al., 2012). To learn from this type of experiences beginning teachers (individually, together with their mentor teacher, or in mentored peer review sessions) could apply a method such as *friction narrative*, that is try to capture and describe friction in a narrative. Meijer et al. (2014) describe the concrete steps of this pedagogy.

(t) Wall-Building

This pedagogy encourages beginning teachers to reflect on the connection between their own subjective theories and different educational goals or values. In wall-building teachers each get a number of cards ('bricks') with keywords or statements about educational values, norms and goals. The cards are then used as 'stones' to build a 'wall', placing notions considered fundamental at the bottom, and notions considered of less importance more towards the top. In the discussion that follows the (beginning) teachers each account for the position of their 'stones' and so articulate their educational views (Korthagen, 1992).

Contextual Factors and Research Challenges

The quality of mentoring beginning teachers in the workplace not only depends on mentor teachers' and educators' repertoires of mentoring pedagogies and skills. Also, the interplay between the affordances of the workplace and the agency of the mentor teacher is essential. The mentoring relationship is an important intermediating factor in the interaction between affordance and agency. The quality of the collaboration between mentor teacher and beginning teacher is not only a motivator for choosing and applying specific mentoring pedagogies, but choosing and implementing particular mentoring pedagogies can also contribute to building up and deepening an existing mentoring relationship.

Adaptive Mentoring

Unfortunately, there is no magic wand to create a match between a mentor teacher and a beginning teacher (Rajuan et al., 2008). This match will have to be forged by them together, in the process and over time (Hoffman et al., 2015). Success in practice will depend on many factors, such as: social context, the informal or formal character of the relationship, the expected and actual duration of the relationship, and differences in age, influence, experience and capacities between the mentor teacher and the teacher. The mentor teacher's pedagogical repertoire and skills are therefore of great importance. But also voluntariness, mutual trust and acceptation, a shared view on, and expectations of, the collaboration, efficacy, challenge and inspiration (Crasborn & Brouwer, 2016). When mentor teachers manage to link up with the learning needs of the beginning

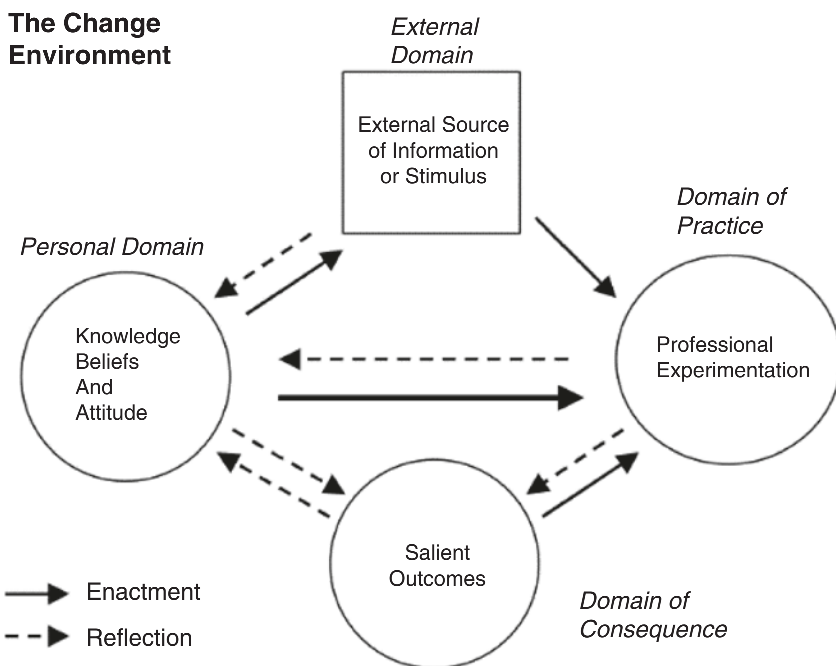

Fig. 3 Interconnected model of teacher growth (Clarke & Hollingsworth, 2002)

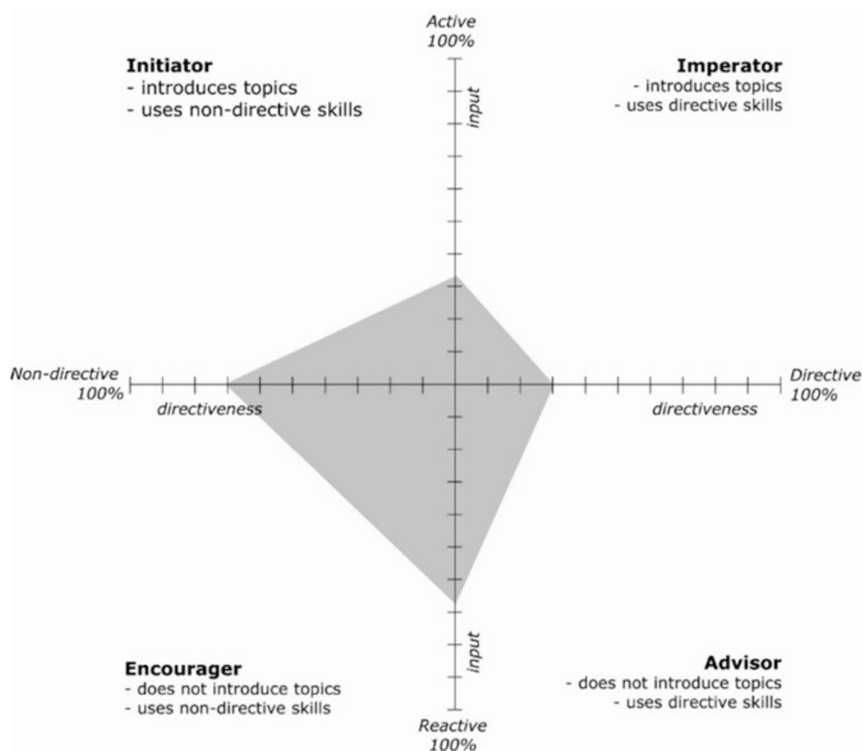

Fig. 4 MERID model with mentor profile (Crasborn & Hennissen, 2010)

teacher in various mentoring situations, this is called situational or adaptive mentoring (Van Ginkel, 2018).

This means that mentor teachers can work from various roles (see Fig. 4), as is shown in the so-called Mentor Roles in Dialogues (MERID) model (Hennissen et al., 2008). The vertical axis visualizes the degree to which the mentor teacher sets the agenda or responds to topics introduced by the beginning teacher. The horizontal axis shows the degree to which the mentor teacher uses directive coaching skills (e.g. judging, giving opinions, or giving advice and instruction), or is mainly non-directive (e.g. listening, summarizing, asking follow-up questions). In this manner four roles can be distinguished: the initiator (actively setting the agenda in combination with non-directive coaching skills), the imperator

(actively setting the agenda in combination with directive coaching skills), the advisor (following the agenda of the teacher in combination with a directive coaching skills), and the encourager (following the agenda of the teacher in combination with a non-directive coaching skills). In general, mentors teachers tend to use a more directive approach in mentoring dialogues (e.g. Van Ginkel, 2018; Mena et al., 2017). To help mentor teachers and beginning teachers to reflect on their mentoring relationship they can draw up and discus the mentor teacher's role profile in dialogues using the MERID model. The steps of this pedagogy are published in (Crasborn et al., 2011).

Organizational Preconditions

For building up and maintaining productive mentoring relationships and applying mentoring pedagogies that enhance the beginning teacher's learning also organizational requirements in the school context are vital. Some contextual factors can make the development of a solid induction programme challenging. Firstly, induction programmes are set in local contexts and labour markets of schools. Supply and demand issues often determine what is and is not possible. Second, schools often see it as their primary task to teach pupils and consequently have limited resources and expertise to develop and implement effective and sustainable induction programmes for beginning teachers.

Research emphasizes that effective induction programmes in schools typically contain elements that reduce the workload of beginning teachers, such as exemption from extra tasks, fewer lessons, easier classes, more comfortable timetables, opportunities within the timetable to meet mentor teachers. Programmes also contain elements that increase the 'load-bearing capacity' of the beginner, such as support with personal development plans, mentoring based on (video) observations, collegial consultation and peer-coaching and guidance by a mentor (Helms-Lorenz et al., 2016).

In addition, external incentives and rewards can support the way mentors function in the workplace. Allocation of sufficient hours for mentoring and reduction of the teaching workload as teacher of pupils are important in this respect. Also, financial rewards or other forms of (im) material recognition are helpful. On the other hand, external pressures

on day-to-day teaching, such as mergers, reorganizations, or an overload of prescriptive criteria for teaching, are unhelpful. Functional timetabling that allows the mentor teacher and beginning teacher to meet and talk regularly is also indispensable (Ehrich et al., 2004). Also, an open collegial learning culture and contacts with networks of teacher and co-mentors of other schools are important. And the school leadership should encourage the involvement of mentor teachers and teacher educators in the development and evaluation of the workplace curriculum and in associated decision processes (Hobson et al., 2009).

Research Challenges

Choosing and applying adequate mentoring pedagogies based on research into their efficacy is a challenge for several reasons. Firstly, in general research in this field tends to be dispersed and small-scale, often only offering circumstantial data. Secondly, it is hard to separate the effect of a pedagogy applied in a specific educational context from the influence of other variables. Many factors play a role: the school practice in which mentor teachers and (beginning) teachers operate, the characteristics and skills of those involved, the place of a specific method in the (workplace) curriculum as a whole and the often context-specific way a method is applied. Thirdly, studies rarely compare the effects of different pedagogies, and if effects are studied at all, the details of the implementation of the pedagogy under study are often not explained (Cochran-Smith et al., 2015; Grossman, 2005).

Fourthly, the literature hardly agrees on the definition of efficacy in this context: should a pedagogy have a positive impact on the actions and thinking of the beginning teacher or (also) on the learning of their pupils. Also, it is difficult to capture in research the relationship between specific mentoring pedagogies and the learning of teachers and their pupils. Studies on the outcomes of mentoring pedagogies in the context of induction programmes on students in schools appear practically missing. Such research is complex in design, to control for the effects of various programmes on students in schools to attribute differences in student outcomes to the behaviour of beginning teachers, and control for other influences.

Opfer and Pedder (2011), in their review of professionalization practices of teachers, claim that research in this field does not focus sufficiently on the complexity of the mutual relationships and too easily assumes linear relationships and is often theory-driven. The research outcomes might prove that one approach is more stimulating or effective than another, but do not answer the crucial question why this is so. Only then conclusions can be drawn that can be translated into concrete education and induction practices. To achieve this, in our view, qualitative practice-oriented and more situated self-study-, action-, or design-based research (Loughran, 2007; Ponte et al., 2004; Van den Akker, 1999) would be more productive. To begin with, the criteria Koster and Bronkhorst (2012) formulated, and which we used to select our 20 pedagogy examples in this chapter, may also help other mentor teachers, teacher educators and researchers to get a first grasp of the value of specific pedagogies for their mentoring practice.

Epilogue

In this chapter we grouped and described 20 examples of pedagogies mentor teachers can use to contribute as facilitators for building bridges between practice, theory and person, and to help broaden and deepen the learning of beginning teachers in the workplace. They form a varied arsenal of mentoring pedagogies that mentor teachers may have at their disposal and can deliberately and systematically put into practice to challenge beginning teachers to explain their teaching behaviour, to make statements on interpretations and their understanding of what happens in school practice, and involve and expand their (practice) knowledge and personal development. This is how integrative mentoring can work, with durable professional growth of the beginning teacher as an outcome. In our vision, this is a challenging and important pedagogical task in the practice of mentoring beginning teachers.

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Generative Mentorship: Exemplars from a STEM Teacher Preparation Program

Paige K. Evans, Cheryl J. Craig, and Mariam Manuel

*teach*HOUSTON began in 2007 as a kernel of an idea that was put into practice and has since grown into a comprehensive STEM teacher education program known nationally and internationally. Its purpose is to increase the number of qualified secondary STEM (Science | Technology | Engineering | Mathematics) teachers in Houston, America's fourth largest and most diverse city. *teach*HOUSTON is a collaboration between the College of Natural Sciences and Mathematics and the College of Education. Supported by both university units, *teach*HOUSTON was created to strengthen STEM teacher education by coupling deep subject

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matter learning of biology, chemistry, physics, mathematics, and computer science with strong teacher education pedagogy and school placements in the STEM field. The program prepares teachers to provide instruction that is reflective of the cultural and lived experiences of urban youth, which in turn affects these students' career choices and life opportunities. In this chapter, we focus on the mentoring program embedded in *teach*HOUSTON. The exemplars we share highlight the generative development of mentoring relationships that are fostered by faculty, LEAD Houston Master Teacher Fellows, and *teach*HOUSTON in-service teachers in relationship with preservice teachers as they transition to becoming induction year teachers (first three years of profession). The relationships built and sustained through the mentoring community serve as the foundation for designing student-centered instruction that is engaging, inclusive, and reflective of a positive climate amenable for learning, equity, and excellence.

*teach*HOUSTON Program and Its Context

We now describe *teach*HOUSTON and the National Science Foundation in the U.S., which is the source of the majority of *teach*HOUSTON's funding.

*teach*HOUSTON

The *teach*HOUSTON program is organizationally in the University of Houston's Department of Mathematics but physically located in the College of Education. It is the first replication site of UTeach, which began at the University of Texas at Austin. As foreshadowed, the sole purpose of *teach*HOUSTON is to address the severe shortage of qualified American secondary STEM teachers (Craig et al., 2017). *teach*HOUSTON does its part through its flexible degree plans that fully integrate grade 7–12 teacher certification courses within the four-year degree plans for STEM majors without added time or cost. The program prepares teachers in rigorous research-based instruction that integrates content

and pedagogy provided by faculty with extensive teaching experience in public schools. As for *teach*HOUSTON graduates, 95% teach in Greater Houston; 80% teach in high-need schools; and 88% of the program's graduates continue to teach in public schools beyond five years. Reflecting the population of the second most diverse campus in the U.S., *teach*-HOUSTON produces teachers who are 37% Hispanic, 31% White, 19% Asian, and 13% African American (*teach*HOUSTON annual National Science Foundation report, 2019).

Critically important to *teach*HOUSTON's structure is the generative way in which mentoring takes place (Crisp & Cruz, 2009; Umbach & Wawrzynski, 2005). In a past article, we referred to mentoring embedded in *teach*HOUSTON as multilayered (Craig et al., under review). In this chapter, we refer to mentoring within *teach*HOUSTON as generative. We do so for two reasons. The first is utilitarian. We needed an identifiable way to distinguish one piece of scholarship from another. But our second reason points to an underlying truth. The mentoring that happens within *teach*HOUSTON is ultimately grant driven. Thus, mentoring in *teach*HOUSTON is layered (approaches stack one upon another) and generative (one approach to mentoring in one grant program leads to other approaches in other grant programs, some yet unknown) as new grant opportunities become funded. The intent of this chapter is to characterize the mentoring relationships (Fig. 1) between faculty, LEAD

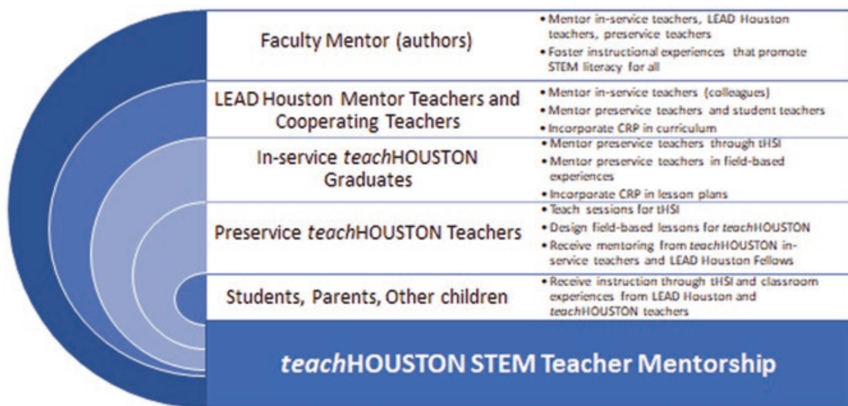

Fig. 1 *teach*HOUSTON STEM teacher mentorship

Houston Master Teacher Fellows, and *teach*HOUSTON in-service and preservice teachers, which we will describe in more depth in the National Science Foundation section to which we now turn.

National Science Foundation

To address teacher shortages in the STEM areas of study, the National Science Foundation (NSF) created scholarship grant programs to fill gaps in the American workforce. Overall, there is a deficit of one million STEM college graduates, which is not unlike the shortages other nations face (President's Council of Advisors on Science and Technology [PCAST], 2010). Included in this insufficient number is the projected shortage of secondary STEM teachers. NSF decided to award grants that provide scholarships for STEM undergraduate/graduate students to subsidize or to pay for their education. In exchange, the students pledge to pursue STEM-related careers (i.e., teach the STEM disciplines) and "pay back" the investment made in them by mandatory employment in secondary schools located in high-need school districts. We now present brief sketches of the two NSF grants and a third initiative that fueled the generative, multilayered mentoring processes we feature in this chapter.

NSF UH-LIFE Grant

In 2016, *teach*HOUSTON was awarded an NSF Noyce grant that was formally titled University of Houston—Learning through Formal and Informal Experiences or UH-LIFE, which is the acronym we use for it. Consistent with NSF's vision, the purpose of UH-LIFE is to increase the number of highly qualified teachers, particularly those from underserved minority populations, certified to teach in the critical needs areas of grades 7–12 mathematics and science in Greater Houston and across the United States through recruitment, preparation, and induction efforts. Intentional in this grant is the mentoring fostered between preservice teachers (Noyce interns and scholars), *teach*HOUSTON in-service teachers (*teach*HOUSTON graduates), and faculty as part of the Noyce

Professional Development and Mentoring Institute (NPDI). Faculty from *teach*HOUSTON and the STEM content areas serve as facilitators along with *teach*HOUSTON in-service teachers for daily summer institute sessions in order to improve preservice teachers' content knowledge as well as to model promising practices in teaching and research-driven strategies for improved student outcomes. Subsequent to the NPDI, preservice and in-service teachers serve as counselors and teachers in a STEM summer camp. Through the NPDI, preservice teachers are exposed to additional aspects of curriculum development and instruction and the subtleties of everyday teaching from networking and mentoring opportunities made possible with in-service teachers and faculty.

NSF LEAD Houston Grant

In 2018, *teach*HOUSTON received another Noyce grant, University of Houston—Leading through Equity and Advocacy Development, which we refer to by its acronym, LEAD Houston. This grant was designed to develop and retain secondary STEM teachers in high-need districts through the cultivation of teacher-leadership skills. Selected teachers, also referred to as Master Teacher Fellows (MTFs), are provided with the opportunity to engage in graduate-level coursework, professional development, and mentoring of preservice teachers. As mentor teachers, they work with preservice teachers in their field-based courses taken prior to student teaching. As cooperating teachers, they serve as mentors to those who are completing their student teaching experience, which is a full-time, 14-week experience in high-need public schools. The MTFs offer high-quality evaluation, guidance, and dialogue, which enable student teachers to grow and thrive in diverse, urban schools. The special relationships formed during this integral experience remain long beyond the student teaching semester and evolve well into the first few years—the induction years—of the student teachers' careers.

*teach*HOUSTON STEM Interactive

During the summer of 2020, due to the COVID-19 pandemic and the ongoing need for social distancing, all in-person activities including the

NPDI and STEM summer camps, initiatives of the UH-LIFE grant, were canceled in an effort to minimize health risks for students and teachers. Consequently, *teach*HOUSTON created its first virtual STEM summer initiative, the *teach*HOUSTON STEM Interactive (tHSI). The goal was to ignite student interest in STEM and promote innovation as well as to cultivate STEM literacy. Preservice STEM teachers worked with *teach*HOUSTON and STEM faculty members and *teach*HOUSTON in-service teachers to develop and deliver engaging online STEM modules hosted on the college's website. This resulted in valuable experiences teaching as well as planning and executing lessons in a virtual format while receiving ongoing mentorship from *teach*HOUSTON in-service teachers.

Having described *teach*HOUSTON and mapped our contextual backdrop, we now outline this chapter's literature review, conceptual framework, and research method. We then offer three examples of in-service and preservice teacher mentoring relationships within *teach*HOUSTON programs. Finally, we analyze the exemplars and pinpoint overarching themes, in addition to offering recommendations for the future.

Literature Review

Mentoring

Similar to reflection, mentoring is a widespread term claimed by nearly every paradigm in the educational enterprise. It has become a ubiquitous approach to supporting every kind of program design and implementation. Mentoring historically has had to do with an older, wiser faculty member guiding and supporting the job development of a younger peer or student (Sorcinelli & Yun, 2007). This automatically takes us to the *Odyssey*, Homer's poem that includes the role and duties of Mentor, the advisor, from whom the idea seed of mentorship finds its origins. However, definitions have changed over time. In the early 1990s, 15 definitions of mentorship were located in the literature (Crisp & Cruz,

2009). Without a doubt, the definitional plurality of mentoring has continued to expand.

Two reviews on mentoring were particularly useful to the *teach*HOUSTON initiative: one by Irby (2013), and another by Long et al. (2012). Irby reviewed 500 mentoring articles and focused on 34 pieces of scholarship relating to developmental relationships in mentoring. The idea of developmental relationships spoke to us because relationship is foundational to knowledge communities and the narrative inquiry research method, concepts we elaborate later in this chapter. In Irby's (2013) words,

> developmental relationships in mentoring [in] a *mentor/mentee dyad* (italics in original) is recognized as an evolutionary process via a recursive stream of progressive consciousness and action that builds support, trust, confidence, risk-taking, and visible positive transformation through dialog[ue] (includes negotiation, listening, reflecting, challenging, planning). (p. 333)

As readers can see, Irby's definition fits well with our notion of mentoring as a multilayered (Craig et al., under review) and a generatively unfolding process.

The second literature review that caught our attention is by Long et al. (2012) regarding mentoring and its relationship to early career teacher attrition and retention. This review specifically fit NSF's raison d'être for its scholarship grant programs, which is to curb urban teacher attrition. Long et al. (2012) were quick to point out that mentoring and induction are terms often used in "taken-for-granted" ways with insufficient attention paid to their research bases and to "how problems [are] framed" (p. 8). To complicate matters, the research team determined that mentoring and induction are different terms that have been conveniently collapsed and used synonymously in education. For Long et al., Nielsen et al.'s (2007) distinctions between induction and mentoring are instructive. Neilson et al. define induction as "a period when teachers have their first teaching experience and adjust to the roles and responsibilities of teaching" (p. 15) whereas mentoring is a part of teacher induction programs, but it is not the entire induction program. Additionally, the concept of mentoring is not limited to beginning teachers. Others can mentor mentors as we have seen in research undertaken in Israel and

Norway (i.e., Orland-Barak, 2012). This is true also of *teach*HOUSTON as readers will soon learn.

Long et al. (2012) favored a move away from "narrow, technical and fixed goal-oriented" (p. 19) approaches to mentoring and a move toward mentoring embedded in the developmental process of becoming a teacher. This fits *teach*HOUSTON's generative concept of mentorship, which favors metamorphic approaches to the cultivation of ideas and endeavors enacted in response to the needs of preservice STEM teachers and alumni. For Long et al., future research needs to be framed around sustaining teachers rather than instrumentally inducting and retaining them. The research team claimed that autobiographical and biographical research (i.e., Jewell, 2007), identity research (i.e., Lieberman & Pointer-Mace, 2010), and continuity of experience research (Flores & Day, 2006) would support this shift in focus. The narrative inquiry we conducted fits these latter veins of research.

Before moving on to our conceptual framework, we want to focus attention on mentoring programs documented in the literature. This is because *teach*HOUSTON (Craig et al., under review) involves many versions of mentoring including peer mentoring (i.e., Budge, 2006), parent mentoring (i.e., Goldner & Mayseless, 2008), and the mentoring of underserved populations of mainly students of color (i.e., Zalaquett & Lopez, 2006) while others (i.e., Dawson, 2014; Karcher et al., 2006) center on mentoring frameworks instead of mentoring acts (i.e., exchanges between mentors and mentees). This shift allows for the "heterogeneity of mentoring" approaches (Dawson, 2014, p. 137) and "a diversity of relationships across a variety of contexts" (Dawson, 2014, p. 144). This is an important consideration where *teach*HOUSTON is concerned because developmental mentoring takes place generatively in the context of an overarching *teach*HOUSTON mentoring framework, as we illustrate in Fig. 1.

Conceptual Framework

The concepts of experience, story, knowledge communities, and culturally relevant pedagogy are foundational to how mentoring and mentor-mentee relationships have unfolded within the *teach*HOUSTON program. These ideas enable us to better picture the interplay between the mentoring framework and the acts of mentoring that happen within it. Multiple layers take shape to create a generative form of mentoring arising from grants already awarded and grants yet to be applied for.

Experience

In John Dewey's experiential philosophy, experience and education are closely coupled and interchangeable with life. To this combination, we could add the mentoring experience which broadens and deepens one's education and brings unity to one's life. Dewey maintained that each (mentor) experience lends something vital to the (mentoring) experience that follows it, adding informatively or non-informatively to what constitutes life (Dewey, 1938). Also, ongoing streams of experience develop one's ability to generate future streams of (mentoring) experience. Hence, experiential learning generatively affects how humans live, how they learn, and who they are. Other parts of Dewey's philosophy are also enlightening. An especially important part is the agency and mindedness that Dewey gave educators (i.e., mentors, mentees). Dewey (1908, 1938) became the first American-born philosopher that conceived of them as being "moved by their own intelligences and ideas."

Further to this, experience is intimately connected to narrative. Experience is captured through storytelling and represented in narrative form. Through "follow(ing)… where the story leads" (Craig, 2002), we focus laser-sharp attention on storied experiences and where they take mentors' and mentees' thinking and actions. The sharing of "evocative stories of experience…allows [everyone] to reflect on what could be different because of what was learned" (Wall, 2006, p. 148). This understanding is important both for narrative inquiry and mentoring.

Story

When communicating, mentors and mentees gravitate toward telling stories (Baboulene et al., 2019, p. 330). This is because humans are *homo narrans.* They "weave coherence, meaning and beauty in the spaces between themselves and their social worlds…" (Penwarden, 2019, p. 249). The medium of transaction is story or narrative, two terms used interchangeably in this chapter. To Lamott, stories are "mirrors, mentors, guide dogs… They… free us from hubris…and tunnel vision…" (Lamott, 2018, p. 98). This is particularly true when mentoring experiences are shared. Such stories "hold [mentors and mentees] together" by teaching "what is important about life, why we are here and how it is best to behave, and that inside us, we have access to … memories [,]…observations…imagination." In sum, experiential stories of being mentors/mentees provide "all that [is] need[ed] to come through…" (Lamott, 2018, p. 179).

Knowledge Communities

Teacher community and teachers' introductions to it is a topic that has been explored internationally (i.e., Aubusson et al., 2007; Kelchtermans & Ballet, 2002; Maynard, 2001) in the literature. In teaching and teacher education, two different versions of teacher community have been compared and contrasted: teachers' knowledge communities (KCs) and professional learning communities (PLCs) (Craig, 2009). Our inquiry takes shape around knowledge communities, which are safe, storytelling places where prospective teachers (mentees) narrate the rawness of their experiences, negotiate meaning, and authorize their own and others' interpretations of situations (Craig, 1995, 2007). Conversations between knowledge community members produce new perspectives, which further refines teacher knowledge and, in turn, influences teachers' or prospective teachers' practices. KCs take shape around commonplaces of experience (Lane, 1988) as opposed to around bureaucratic and hierarchical relations that declare who knows, what should be known, and what constitutes 'good teaching' and 'good schools'

(Clandinin & Connelly, 1996), which is what locally has happened with PLCs (Craig, 2012a, 2012b, 2013) where beginning and experienced teachers are left out of reform conversations and changes are prescribed for them that are subsequently imposed on them.

Culturally Relevant Pedagogy

Culturally relevant pedagogy (CRP) is an approach *teach*HOUSTON employs whereby teachers respond to students by incorporating elements of their cultures in learning the STEM disciplines. Culturally responsive pedagogy includes cultural knowledge, prior experiences, frames of reference, and performance styles of urban underrepresented youth of color to make learning encounters more engaging and relevant (Gay, 2000; Ladson-Billings, 1995, 2017). This philosophy of teaching encourages the design and embodiment of instruction that is sensitive toward, and informed by, students' cultural and linguistic backgrounds (Gay, 2002; Irvine, 2010; Ladson-Billings, 2009). CRP involves a student-centered approach to teaching that connects content topics with the lived experiences of students (Castaneda & Mejia, 2018). This increases the invitational quality of *teach*HOUSTON and betters its chances of resonating with students of color not only in a particular course but also where university majors and possible professions (teaching or otherwise) are concerned.

Method

Narrative Inquiry as Mode of Investigation

According to Clandinin et al. (2018, p. i),

> narrative inquiry is based on the proposition that experience is the stories lived and told by individuals as they are embedded within cultural, social, institutional, familial, political and linguistic narratives. It represents the phenomenon of experience and also constitutes a methodology for its study.

Because narrative inquiry privileges narrative as both a form and an approach to inquiry, it is a personal experience research method (Connelly & Clandinin, 2006). Its "ground[ing] in relationships" (Clandinin et al., 2011, pp. 34–35), also makes it a relational form of inquiry. The relationships that narrative inquirers cultivate with those educators with whom they work gives them access to more nuanced kinds of knowing about mentoring. This insider knowing could be dismissed or go unnoticed and unreported in other methods of research—even in some other qualitative methods. Because narrative inquirers privilege relationships, they seek ongoing feedback from mentors and mentees to ensure that their storied experiences are presented in their own terms and are respectful of the boundaries established between the personal and the professional in the given relationship.

For these reasons, narrative inquiry is a difficult research methodology to explain and an even more complex to live (Clandinin et al., 2007). It is generative in that it cannot be reduced to steps enacted formulaically. In Conle's (2000) words, "methods of narrative inquiry, rather than being externally defined, emerge out of the inquiry activities" and "are not as much a means to an end as they are part of the ends achieved" (p. 201). Through this approach, narrative inquirers openly and wakefully attending to prospective teachers' and teachers' stories are afforded "better understanding[s] of educational life" (Clandinin & Connelly, 2000, p. 2).

Analytical Tools

Narrative inquiry, mirroring experience itself, is three-dimensional. Consistent with Dewey's qualities of experience, it involves three commonplaces (Schwab, 1973): interaction, which has to do with the personal and social; continuity which captures the past-present-past continuum; and place or contextual backdrop (Clandinin & Connelly, 2000). In order for narrative inquirers to commingle these dimensions of teacher experience in their reporting, they use three research tools: broadening, burrowing, and storying and restorying. Each interpretive device plays a different function in the unpacking of teachers' "narratives of experience" (Connelly & Clandinin, 1990).

In this chapter, we use *broadening*, our first analytical tool, to discuss trends in U.S. policy making and the backdrop for why the National Science Foundation was formed in the U.S., which we have already done. *Burrowing*, our second interpretive tool, is what happens when we take a fine-grained look at reconstructed mentoring experiences with *teach*HOUSTON, which we will do in the next section of this chapter. As for *storying and restorying*, it is the vehicle we use to think with stories rather than to merely talk about them. Through storying and restorying, mentoring experiences in the NSF-funded *teach*HOUSTON program will have life breathed into them.

Narrative Exemplars as Representational Form

Broadening, burrowing, and storying and restorying are foundational to creating narrative exemplars. Adopting Bruner's (1986) groundbreaking view that story and argument are different forms of knowledge, and also drawing on Kuhn (1962/1996) in the philosophy of science and Mishler (1990) in social psychology, Lyons and LaBoskey (2002) called for the use of narrative exemplars as a way to show that prospective and practicing teachers know what they are doing in their practices (i.e., mentoring) and that they know that they know about (mentoring) relationships. These candidate exemplars, in Lyons and LaBoskey's words, provide "*concrete examples…elaborated so that members of a relevant research community can judge for themselves their 'trustworthiness' and the validity of observations, interpretations, etc.*" (Lyons & LaBoskey, 2002, p. 20, italics in original). Such exemplars share five common characteristics. They:

- Capture intentional human actions that not only tell a story, but convey developing knowledge of those involved (i.e., actions in the mentoring context that give rise to new senses of knowing).
- Are lodged in socially and contextually embedded situations (i.e., how new forms of online mentoring took shape as a result of the emergent COVID-19 situation).
- Draw other people into the mix as the narrative exemplar is unpacked (i.e., new people join existing mentoring relationships, which generatively give rise to new mentoring relationships).

- Implicate people's identities (i.e., mentors and mentees discuss how their senses of self have changed).
- Focus on interpretation, often including different points of view (Lyons & LaBoskey, 2002) (i.e., how new ideas about STEM teacher education mentoring take shape over time).

Truth Claims

The use of narrative exemplars raises questions concerning truth claims. As Lyons and LaBoskey (2002) assert, decisions about whether accounts are true or not reside with readers. The "measuring stick" typically is the degree to which those truths are actionable (Lyons & LaBoskey, 2002) in readers' respective places and situations. On the whole, narrative inquiry research privileges narrative truth (Spence, 1984) in that it follows where stories lead rather than being driven by time-ordered historical events. The bottom line is that narrative inquirers enter research studies narratively rather than historically. Hence, our research is written in narrative form not as a historical account.

Narrative Exemplars in *teach*HOUSTON's Grant Programs

The three exemplars we feature here are reflective of mentorship experiences acquired through *teach*HOUSTON's newly developed summer 2020 program and from the UH-LIFE and LEAD Houston grant endeavors. The first exemplar is about Saul, who is a LEAD Houston Master Teacher Fellow (MTF) and a biology teacher. His narrative describes his experience in the LEAD Houston program as well as the various opportunities he has had to serve as a mentor for preservice teachers in the *teach*HOUSTON program. The second narrative centers on Cindy who is a *teach*HOUSTON graduate, a UH-LIFE scholar, and a biology teacher at the same school as Saul. Her story captures her experiences of being a mentee of Saul's and a mentor of Bernardo, who is the

subject of the third narrative. The third exemplar highlights Bernardo's experience as a mentor and mentee in the *teach*HOUSTON program. He is a UH-LIFE scholar and former intern who was mentored by Cindy in the *teach*HOUSTON STEM Interactive and is now student teaching at the same school as Saul and Cindy. Tables 1, 2, and 3 provide information about each of the three teachers as well as the demographics of their secondary Greater Houston schools.

Table 1 Teacher participants' educational profiles

Teacher	Years of teaching	Grade level	Content area	Bachelor's degree	*teach*HOUSTON affiliation
Saul	8	9–12	Science	Kinesiology	LEAD Houston
Cindy	1	9–12	Science	Biology	Traditional pathway; UH-LIFE scholar
Bernardo	0	9–12	Mathematics	Mathematics	Traditional pathway; UH-LIFE scholar; Noyce summer intern

Source: Educational profile data collected from interview responses

Table 2 Self-reported teacher demographics

Teacher	Gender	Self-identified race or ethnicity
Saul	Male	Hispanic/Multiracial
Cindy	Female	Hispanic
Bernardo	Male	Hispanic

Source: Educational profile data collected from interview responses

Table 3 Teachers' school characteristics

School type	School minority Pct.	School Eco Dis. Pct.	District minority Pct.	District Eco Dis. Pct.
9–12	75%	46%	78.4%	77.1%

Source: All data is reported by schools to government based on the 2015–2016 school year, and accessed through U.S. News & World Report, 2019

Note. Pct. = Percentage of total. Eco Dis. = Economically disadvantaged

Saul's Journey

Saul teaches biology at a magnet high school located in a major school district in Houston. He is currently in his eighth year of teaching and has been with this high school since the start of his career. Nearly 50% of his school's student population comes from economically disadvantaged households, which means they are below the mean income in the State of Texas. Also, 75% of the students enrolled identify themselves as part of minority populations (see Table 3) in the national census. Saul, a native Texan, completed his bachelor's degree in Kinesiology, and shortly thereafter began his career as a secondary science teacher. He mentors preservice teachers from two public universities in the Houston area, and is involved in curriculum writing on his campus. Saul also helps with in-service professional development for his campus's STEM department.

As a teacher, Saul strives to empower his students in the classroom and as members of the community. This belief is also reflected in his teaching philosophy, "My teaching philosophy is to reach my students at their individual level…Every student needs the same opportunity to flourish, and I am here to do my part in that." Saul described his upbringing as a motivating factor that led him into teaching and mentoring. He discussed lacking positive adult figures to look up to during their formative years in K-12 school. Saul recognized the value of a caring adult and role model and, hence, at the age of 16, decided that in order for him to serve as a support figure he needed to become a teacher. He explained:

> Growing up in the city, especially the neighborhood that I grew up in, it is—it was hyper-violent at the time. It still is. Just last Friday, there were four shootings, and two murders, you know. And so, I knew that I needed to be—I need to be now, who I needed back then.

Saul acknowledged the impact that the LEAD Houston program has had on his abilities to teach and mentor. He described an instance in the Fundamentals of Engineering Education course when the instructor immersed him and fellow cohort members in a reverse engineering inquiry project. Saul explained that the instructor did not deter him from choosing a challenge product to disassemble. Instead, the instructor

allowed for the learning to take place organically, which yielded a deeper understanding of the engineering design process for him and his group members. He related the instructor's ability to teach through inquiry to his generative approach to mentorship when coaching students:

> I also come from a coaching background. And so, there's such a thing as over coaching. There can be a thing as—I would classify it as over guiding, where you need to know that is not going to work for you. You cannot say let's do this or let's do that. No, let them go and learn. Let them learn it, I don't want to say the hard way, but a bit longer way.

Saul discussed the need for teacher mentors to also view themselves as lifelong learners: "I think a growth mindset is what I'm really trying to hit at, where we don't want to stay stagnant… but also [mentors should] be able to be spoken to, to speak, and listen." Saul further explained that mentors, while providing feedback, should also be open to constructive criticism of their own abilities. Hence, both the mentor and mentee should learn and grow together as teachers. Accordingly, Saul explained that an important characteristic in mentees is also the willingness to learn and grow from feedback and experience. Moreover, he spoke of the need for both, mentors and mentees, to be reflective in their practice as it allows for greater insights and takeaway points.

One of the primary challenges of mentoring, according to Saul, is resisting the urge to give direct instruction to the mentee and instead allow them to make the necessary mistakes. "It is the balance that I struggle with." He explained that he finds it important for mentees to learn from uncomfortable experiences. "Right now, is your time to make mistakes…So, go out there and do the best you can, but when you fall a little bit, I'm going to have to let you." Saul shared that he recognizes there are times when he must step in and provide immediate support to a struggling teacher. However, much like when teaching through inquiry, he finds that it is worthwhile to let his mentees struggle as they will grow with the experience. He explained:

> That feeling is the worst thing on this planet, and so that will prepare them [preservice teachers] to say, okay, let me get my words down and let me find what slides I need… And it helps their presentation as they go forward.

In terms of the mentorship he has personally received, Saul greatly credits the LEAD Houston program and *teach*HOUSTON faculty members. Saul explained that the LEAD Houston program invigorated his drive to serve as a researcher and to question the status quo in education. Saul credits the program not only for shaping his professional practice, but also his personal growth, "Just the growth, I can chart it—what it was before this program, and what it is now. It's just—I would say not only a professional growth, but personal growth as well." According to Saul, the LEAD Houston program provided a safe space (a knowledge community) for him and his cohort members to discuss ideas, learn together, and collaborate on endeavors that are designed to improve the status of STEM education.

> Like, the *teach*HOUSTON faculty gave us a place. Like what we want for our students in school, a place to—yeah, you can come in here and fail, but let us get things right. It was just a free flow of information going both ways, and it did so much. You can see it reflected in the classroom—my classroom.

When asked about how Saul discusses culturally responsive pedagogy (CRP) with his mentees, Saul explained that he likes to start the conversation gently. He acknowledged that often times people are not comfortable or prepared to discuss the depths of how the cultural and linguistic backgrounds of diverse students lack reflection in K-12 curricula. "It starts off real basic at first because you know it can [get] deep real quick, right. And some people aren't comfortable with those conversations." Saul shared that he has found teachers to be most receptive toward CRP when they are exposed to the positive student learning outcomes that occur as a result of the pedagogical approach. According to Saul, teachers are moved by the results when they "hear how much those kids have learned" and that "not only did the students pick up on their culture and different cultures, but also on what's going on with the science behind everything." Saul compared the process for introducing CRP to using training wheels, "start off slow, and then just ramp up." He shared that he also takes this approach when teaching students in his classroom. Saul starts the year slowly

introducing topics of cultural and linguistic diversity until ultimately facilitating a robust project on race and gender stereotypes during the second semester genetics unit in his biology course. Hence, Saul is able to take an inquiry-based approach with his teaching and mentoring practice both of which have been influenced and shaped by the LEAD Houston program.

Cindy's Journey

Cindy graduated from the *teach*HOUSTON program in 2019 with a Bachelor of Science degree in biology and a Grade 7–12 science certification. She is currently teaching at the same high school as Saul who was her mentor during her preservice student teaching experience.

As a first-year teacher, Cindy explained that much of her success is a result of the solid foundation she received during her preservice teacher preparation through the *teach*HOUSTON program. Cindy shared that she did not experience the common pitfalls most first-year teachers do which results in burnout and ultimately high attrition rates. In her words, she explained:

> I was not struggling when it came to teaching or when it came to building relationships with the students. And so, it just didn't feel like my first year. It felt like it was a breeze. And I think a big part of the reason for that was because of *teach*HOUSTON, like we were taught about different situations, mentored how to deal with or how to assess students and how to differentiate between them.

When asked about the role of mentorship, Cindy pushed back on the notion that teachers must "save the kids." Instead, Cindy claimed, "But as a mentor, I feel like it's the exact opposite. We're here to help them, lead them." Cindy explained that as teachers and mentors it is important that they avoid telling students of one right way to approach things, and instead empower them to find their way. "In a way, to be a mentor is to facilitate—not just to give them the answers." Cindy discussed the importance for allowing mentees the room to explore and express their own ideas, in an effort to foster problem-solving skills within the mentee that will have lasting benefits. She went on to say:

> A good mentor is going to give them freedom, freedom to express themselves and input their experiences into their journey. A good mentor, I believe, will also not be afraid to tell the mentee, "Okay look, now try to look at it from this perspective."

With regard to ways in which the *teach*HOUSTON program helped prepare Cindy for serving as a mentor, she immediately recalled her cooperating teacher, Saul, during her student teaching semester. Cindy discussed Saul's willingness to let her try things and give her the freedom to make decisions as a novice teacher. "And so, when I got to his classroom, I was completely free to do what I wanted. And so, that really, really helped a lot. So, I feel like student teaching was where I grew the most as a teacher…." This growth, experienced with Saul's mentorship, helps explain why Cindy's approach to mentoring also includes allowing mentees the freedom to explore and try new things.

When asked about opportunities she has had to serve as a mentor, Cindy referred to her most recent experience with *teach*HOUSTON, which was the *teach*HOUSTON STEM Interactive (tHSI). Readers will recall that tHSI was an NSF-funded virtual summer STEM experience that targeted students in grades 6–8 due to the social distancing requirements presented by the COVID-19 pandemic during the summer of 2020. Cindy served as a mentor to a team of preservice teachers. Cindy shared:

> I was able to learn a lot about how I want to be as a mentor. It was a little hard at the beginning, because I was not really sure what I was doing. But I think I was able to navigate it so well, because I had had great mentors already.

Cindy spoke about the challenges of mentoring in an online platform and how she creatively initiated activities that allowed the members to build relationships and get to know one another. She also shared that her mentoring style provided the members of her team with choice as to how they wanted to approach the lessons, as opposed to, her providing them with specific guidance. Moreover, Cindy explained that she helped the

team collaboratively achieve consensus when more than one idea was presented as she explains below:

> So, like, when we came up with lessons, it wasn't "Okay, this is what we're doing, guys." It was more like, "Okay, what are some things you all want to do?" And so, then there would be two, three great ideas, and we would mesh them together. So, it was more of a collaboration than it was actually like, "I want you to do A, B, and C." And I think that was one of the reasons why the projects were so flexible.

Another challenge Cindy experienced was finding a balance between cultivating friendships and serving as a leader. She explained that getting to know the mentees and building a trusting relationship is important. However, she recognized that there were also moments when she needed to uphold expectations. She shared an example of how she balanced the complexities with one of her mentees during tHSI this way:

> One of my mentees…was really busy; she had different classes. And I could tell that she was feeling a certain type of way, because she felt that she wasn't contributing enough to the team even though she was. And so, at one point, she did slack off a little bit. And so, I had to push back and be like, "Okay, well yes, your classes are very important. And I would want that to be your priority before us, but I want you to still prioritize. So, let's try to make some time."

Cindy stated that ultimately, she found balance and realized that establishing boundaries was necessary and beneficial to the mentor-mentee relationship. She discussed the importance of the norms that she helped set at the start of the program and how that helped foster expectations. Furthermore, the time she spent developing relationships with her mentees was also worthwhile as it allowed them to reach out to her when they were struggling or had concerns.

> I do believe that by the end, we were really, really close. And I think that it was because that at the beginning, that tone was set where it was, "These are the expectations. I expect everybody to participate. I expect everybody to have a role in this and work as a team. But if you have anything going on in your life, you can tell us and we can be flexible with it."

Cindy explained that her mentorship reflects the lessons she learned from her mentors in the *teach*HOUSTON program. She spoke about a *teach*HOUSTONS faculty member she worked for during her formative preservice teacher career. According to Cindy, this faculty member influenced the way in which Cindy now provides feedback to her mentees.

> She finessed how she would phrase things. So, the reason I'm using this word is because it is never in a critical way as in like, "Oh, that is completely horrible. I do not want that." It's always, "Okay. These are the great things that I saw. And maybe these are other ways that we can make things better." So, I really learned from her … how to give criticism without being critical negatively toward someone, how to give constructive criticism.

During her interview, Cindy discussed the qualities she deemed essential in a mentee. Much like her own mentor, Saul, Cindy also spoke about the need for a mentee to be open to learning and willing to accept constructive criticism. She explained that as mentees it is often difficult to feel as though you may not be meeting expectations or that you are letting your mentor down. However, Cindy stated that these moments of falling short are a part of the process, and even though it is not always pleasant to receive feedback, it is essential for one's growth as a teacher. She went on to convey some effective attributes of a mentee:

> a mentee who is going to be open-minded, a mentee who is going to be receptive of what the mentor is telling them, and a mentee who can integrate and apply the advice that has been given by the mentor in their own way, if that makes sense.

Cindy confirmed one of Saul's statements about the need for a mentor to allow their mentee to make mistakes and experience uncomfortable situations, for, they contain vital lessons. Cindy recalled her own experience as a mentee and shared how crucial the freedom to try new things was to her growth as a student teacher. Further to this, she shared that having a trusting relationship with a mentor is integral to the process because it allows the mentee to feel safe knowing that the mentor will be there as needed as she explained below:

> I think a good quality to have as a mentee is to be open to trying new things, especially things that they're like telling you, "Okay, maybe you should do this in the classroom." Even though you've never done it, it's always good to be open to it, because it might just surprise you. It might not be for you, but at least you know that for whenever you do go out there. There was something that my mentor told me when I was a mentee. And he said, "Right now, make all the mistakes, because I am here to pick you up if you need it."

When asked about whether her mentoring experience helped her work with diverse populations, Cindy referred back to her time serving as a student teacher for Saul. At the time Saul was integrating culturally responsive pedagogy (CRP) in his classroom, an approach he explored during graduate courses through the LEAD Houston grant program. Cindy explained that watching Saul prepare lessons that reflected the lived experiences of his students and celebrated their cultural and linguistic backgrounds, inspired her to also embody the pedagogical approach in her classroom. She explained:

> I actually built lessons with him and saw the reactions in the students when they could relate to things. And so, it really did just prepare me to work with different diverse students…And so, I know that because of it, I am a better teacher.

Cindy shared specific examples of strategies she learned from Saul and applied in her own classroom. For instance, modeling herself after Saul, when approaching vocabulary Cindy breaks down the words, "using different strategies to help students from different cultures actually understand the science behind it." Cindy stated that teaching in this manner has been revealing for her too, as she has discovered Greek and Latin roots of STEM vocabulary that she has committed to memory.

As a mentor, when introducing concepts of culturally responsive instruction, Cindy thinks back to one of her own mentors in *teach*-HOUSTON, her academic advisor. Cindy recalls specific verbiage the advisor used in a seminar conducted during one of her preservice courses. Cindy explained that the seminar allowed her to understand that the

concept of culture extends beyond religion or race and includes other facets that compose an individual's identity. "And so, as a mentor when I try to explain it, I use words like it's 'who you are, it's your identity.'" Cindy further elaborated that CRP is a dynamic concept and preservice teachers must experience it themselves as students and through opportunities for implementation with students. Hence, during the *teach*HOUSTON STEM Interactive experience Cindy encouraged her mentees to connect with students and provide avenues for students to share more about themselves, as she elaborated below:

> They (preservice teachers) observed what building culture was and how bringing in what the students were doing really, really helped the dynamic of our whole teach, because the kids were now more comfortable with it. They were like, "Oh, I'm learning that you're from El Salvador. I'm learning that you like to dance. Okay, these are some things I like." And so, it became a thing, a norm for the kids to want to tell us more about them.

As Cindy reflected on how she has evolved as a mentor and a teacher, she continued to credit the *teach*HOUSTON program with her achievements in each area and for the opportunities that resulted in growth. Upon completing her first year in the classroom, Cindy has already been selected as the biology team leader for her campus. Cindy explained that her leadership and mentoring style is a combination of the mentors and leaders she has observed: her *teach*HOUSTON faculty mentor, her academic advisor, and her student teaching mentor (Saul). Cindy is building confidence as a leader and realizing that she does not need to have all the answers, but that she does need to empower and energize her mentees or team members. Furthermore, much like she does with her own students, Cindy prioritizes getting to know her mentees and sharing her own experiences with them in an effort to connect and provide guidance. She explains below:

> So, myself as a mentor, I think one of the things that are very important to do would be that, like knowing that you don't have all the answers and you don't have all the knowledge but that you do have your own experiences. And they are very important when it comes to the way that you make deci-

sions in life. And so, sharing those with somebody can help them navigate their own life or their own teaching journey.

Bernardo's Journey

Bernardo is a Hispanic male who is a senior majoring in mathematics and minoring in STEM education with the *teach*HOUSTON program. His journey to becoming a mathematics major and teacher started early on and was largely influenced by his parents and former calculus teacher. As Bernardo explained, "I am the child of immigrants and my parents [believe] if you want to achieve a better life, you need to do this through education. Education is the pathway to everything." Thus, he majored in mathematics, a subject he learned to love throughout his K-12 education. Bernardo described his calculus teacher, Mr. Esposito, as very caring in that "He was always putting student needs before his needs." He further explained that he truly cared about his students and if he noticed that one of his students was feeling down, he would take out time to inquire if they were okay. For this reason, Bernardo felt comfortable in having conversations with Mr. Esposito regarding his future goals. During one of these conversations, Mr. Esposito talked about his love for teaching and how it was rewarding and important work. As a result of many conversations with his teacher, soul searching, and parental influence, Bernardo decided that he would pursue a career in teaching, even though many of his friends did not understand this decision and queried: "Why are you going to college and to just be a teacher?" Nevertheless, through the mentorship and support of Mr. Esposito, Bernardo committed to becoming a math teacher.

The *teach*HOUSTON program was a perfect fit for Bernardo in that he was able to obtain a degree in mathematics along with a minor in STEM education and teacher certification with the *teach*HOUSTON program. Bernardo explained that he felt comfortable with the mathematics content, but not in the classroom management aspect of teaching. Bernardo valued the early and ongoing field-based experiences provided by the program. In his words, he explained:

> I felt like I was lacking in the classroom management part… .*teach*HOUSTON did teach me a lot about that [by] going into actual field experiences in the program, as opposed to sitting in a classroom, and being [lectured] on how you should teach. You actually get to implement things. So, it taught me a lot about classroom management.

Bernardo went on to explain the importance of being in the field: "You can talk to people that are currently teachers, especially when they allow you to go into their classroom. It's a very important thing because you actually get to practice everything." He added, "Thanks to mentorship, I feel more comfortable going into a classroom now than I ever would if I was in a different program." He went on to say that his mentors in the field were "open communicators, easily reachable and understood the importance of teaching experience in that that they 'knew the things they are supposed to know.'"

As previously explained, students in the *teach*HOUSTON program are provided with an array of informal experiences outside of their prescribed coursework. Bernardo was able to participate in several of these experiences. In one instance, he was hired to serve as a project office worker. In this role, he assisted his professors with setting up classes, mentored preservice teachers who were just starting the *teach*HOUSTON program as well as his peers. He captured that experience in this way:

> I feel like when we were in the Project Office we were all like a family there, and we were open with each other. I feel like we are always mentoring each other. So, I do get a lot of questions [like] "Can you look at my lesson?" Because it is always fun to bounce your lesson off people that are not in the same class as you because it is like a whole different perspective, even if they are not teaching or majoring in the same subject as you…they catch things that usually like people in your major do not catch.

In another experience discussed, Bernardo participated in the previously mentioned Noyce Internship as part of the UH-LIFE grant where he was able to work with more experienced students in the program, as well as, those that had graduated and had been teaching a few years. He

valued working with those further along in the program and recognized their helpfulness. When discussing his experience, he explained "….that mentor was really good at giving his feedback." The following year, he was afforded the opportunity to serve as the lead intern for the Noyce Internship. He explained, "I got to work with people and give them feedback, work with them and kind of train them a little bit." He then characterized the attributes of a good mentee, saying a good mentee is, "someone that's very open to feedback… I used to take things kind of personally." He explains that mentees need to be good at taking feedback and not being offended by it and that mentors need to be good with offering constructive criticism. He ended by saying that "it goes both ways for mentor and mentees, like the communication thing because if they're not communicating, then it's like not a good relationship."

During this past summer, Bernardo was an intern for the previously described *teach*HOUSTON STEM Interactive. He was very appreciative to be mentored by a *teach*HOUSTON in-service teacher, Cindy. Bernardo said:

> I had a mentor that was actually a teacher in the classroom. It was a very good experience because I feel like [she was] very thorough and very good at picking things up …that you don't really notice about yourself… it is more like looking at you from a different angle.

He went on to explain his growth as a teacher over the summer and also discussed how valuable his mentor's feedback was. Bernardo recalled that as a mentor, Cindy emailed the interns in her group after all of the teaching sessions, providing positive feedback and indicating areas for improvement. He truly appreciated the opportunity to learn from his mentor. Bernardo reflected backward saying, "I really liked the feedback because it gave me something to work on first. It made me feel good because I did good with these things…[but] I need to work on this."

As highlighted, Bernardo has had numerous opportunities to be in both the role of mentor and mentee. Because of this, he has insights into the challenges of mentoring. In a mentoring role, he is cautious about hurting others' feelings. He indicated that he is "always afraid of hurting people's feelings a little bit…and hates making people feel less than

positive." However, Bernardo does realize that feedback is necessary. He underscored that "you do have to give feedback. You do have to give criticisms and constructive criticism." He explains that he is very hands-on when he is mentoring and that he likes to be very involved. He said, "I want to make sure that if I'm mentoring someone, they still get their chance to try their things their way, and I am not going to butt in." He went on to emphasize the importance of picking and choosing battles and not addressing everything at once, "this is a battle we need to pick right now, and this is not a battle we need to pick right now."

One area of growth for Bernardo, which directly aligns with the goals of the UH-LIFE grant, is to be able to work with a diverse population of students. Bernardo feels like he has had several opportunities through *teach*HOUSTON that prepare him to work with students of color. In his words, "through *teach*HOUSTON, I've also [interacted] with many different types of students. You'd never go into a classroom and it was just like all the students are like the same, and I loved that." Bernardo went on to describe his field-based experience in his Classroom Interactions (CI) course, the third field-based course in the *teach*HOUSTON program:

> When I was in CI, it was literally like a mixture of everything, which I loved, and it was such a good experience because you know how to interact with different kids. You know how to use these differences in order to educate more kids about differences and diversity, and throw in a little bit of CRP (culturally responsive pedagogy) in there.

He particularly stressed the importance of CRP and how critical it is in the teaching of diverse students. It ensures that teachers are addressing students' cultures and helps both teachers and students to respect human differences and be more appreciative of different cultural and linguistic differences. He explained: "Once you put the culture into content, and bring those two together, it makes the content more relatable and it helps the material stick better." He went on to say, "It is not only teaching these kids about diversity and how to interact with people of different backgrounds and everything, but it is also helping them learn content better. So, it's like a two for one."

Emergent Themes

The aforementioned exemplars were created from the interviews, focus groups, and observations we conducted as part of the narrative inquiry progress. Across the exemplars, mentoring is foregrounded with respect to inquiry, feedback (including empathy), and culturally responsive pedagogies. We begin by analyzing the inquiry theme, then move on to feedback and conclude with a discussion of culturally responsive pedagogy.

Mentoring and Inquiry

In this first theme, mentoring and inquiry, we begin with Saul introducing the idea that mentors should never "overcoach." His comment comes after he had experienced an inquiry-driven reverse engineering project, which the instructor led the students through organically rather than forcing a prescribed procedure. When Saul discussed overcoaching, he meant that mentors should not immediately offer ready-made answers to a mentee's queries. He said there are times when struggle is necessary. Saul likened the experience of struggle to the experience of unknowns in scientific inquiry. He intimated that learning how to face struggles strengthens one's ability to engage in rigorous inquiry as one evolves in one's career continuum.

Saul's belief, in turn, impacted Cindy, his mentee. Cindy specifically discussed how she had experienced inquiry with Saul before she had a name to give the lived phenomenon. She also underscored the following point: "I think a good quality to have as a mentee is to be open to trying new things…Even though you've never done it, it's always good to be open to the experience because it might just surprise you." Cindy then specifically referenced Saul, who as her mentor, had told her that "right now, make all the mistakes, because [he is there]…to pick [her] up if [she] needs it."

Moving on to Bernardo, we find several references to Mr. Esposito (Bernardo's high school teacher) and Cindy, his mentor during the *teach*-HOUSTON STEM Interactive. Bernardo particularly named multiple formal and informal teaching experiences that provided him with an

inquiry backdrop within which to determine methods and approaches best suited to him. Cindy especially created the conditions for him to experiment in an open inquiry environment.

Mentoring and Feedback

The relationship between mentoring and feedback, the second theme traversing the three exemplars, is also richly represented in the narrative accounts. Saul, for instance, emphasized the "free flow of information going both ways, and [how] it did so much." He went on to say that it was "reflected in the classroom—[his] classroom," which strongly indicates that his knowing and doing became closely intertwined after-the-fact.

Cindy explained that her approach to mentoring reflects what she learned from multiple mentors in the *teach*HOUSTON program. She specifically discussed a *teach*HOUSTON faculty member with whom she worked as a student worker. That professor modeled how to give effective feedback. That mentor "finessed" the feedback Cindy gave. Cindy learned from her "how to give criticism without being critical negatively toward [the person]…[in short], how to give constructive criticism." She likewise learned from Saul, her mentor, who spoke of the need for both mentors and mentees to be reflective practitioners because attention given to feedback "allows for greater insights and takeaway points."

Bernardo also had a great deal to say about his multiple mentors and the feedback they gave him as well. He described some of the feedback he received "as looking at [yourself] from a different angle." He reinforced that his mentors in the field (Cindy and others) were "open communicators, easily reachable and understood the importance of teaching experience in that that they 'knew the things [we] are supposed to know.'" Bernardo also spoke of working in the *teach*HOUSTON offices when fellow student teachers would pop in and "we were always bouncing ideas off of each other and comparing things." He went on to describe the feedback he gave. Bernardo then said that a good mentee is "someone that's very open to feedback… I used to take things kind of personally." He explained that mentees need to be good at taking feedback and not being offended by it, and that mentors need to be good with offering

constructive criticism. He underscored the fact that "it goes both ways for mentor and mentees, like the communication thing because if they're not communicating, then it's like not a good relationship."

For Bernardo, Cindy, and Saul, *teach*HOUSTON presented a variety of spaces where different iterations of communities of knowing (knowledge communities) informally and formally gathered to give and receive feedback as knowers of their own prospective practices and career trajectories.

Mentoring and Culturally Responsive Pedagogy (CRP)

The boon to mentoring in this chapter is most definitely how mentoring assists with the adoption of culturally responsive pedagogies (CRP). Because all three practicing and prospective *teach*HOUSTON teachers are of color (with Saul being of more than one race), the topic of CRP is taken up without reservation. Saul said he prefers to start the discussion "gently." He recognizes that some "are not comfortable or prepared to discuss the depths of how cultural and linguistic background of diverse students" are not reflected in K-12 curricula. Saul has noticed that teachers are more receptive toward CRP, however, if they are exposed to positive student learning outcomes that result from it. Those teachers like to know what students have learned, that is, "not only what the students pick [ed] up on their culture and different cultures, but also on what's going on with the science behind everything." Saul compared the introduction to CRP to using training wheels "and then just ramp[ing] it up" to a 24 or 27-speed bicycle.

As for Cindy, she was a student teacher with Saul when he was integrating culturally responsive pedagogies in his classroom, an approach he was initially introduced to during graduate courses through the LEAD Houston grant program. Cindy explained that watching Saul prepare lessons that "reflected the lived experiences of his students and celebrated their cultural and linguistic backgrounds" provoked her to do the same in her classroom. Seeing the reactions of Saul's students helped her "to prepare [for] different students." In short, it made her "a better teacher."

Finally, we wind our way back to Bernardo who brings us full circle with the mentoring and culturally responsive pedagogy topic as well.

Bernardo felt like he has had several opportunities through *teach*HOUSTON that prepared him to work with students of color. In his words, “through *teach*HOUSTON, I’ve [interacted] with many different like types of students… You never go into a classroom and it was just like all the students are… the same.” Bernardo concluded that once culture and content are coupled, content becomes “more relatable and it helps the material stick better.” “It’s like [a] two-for-one” bargain is how Bernardo summed it up.

Final Words

In this chapter, we described the *teach*HOUSTON program generally and then focused on a cross section of the grant-supported work and a cross section of mentoring cultivated between faculty, *teach*HOUSTON pre and in-service teachers, and LEAD Houston Fellows. We used the narrative inquiry tools of broadening (description of NSF, its grant projects, the *teach*HOUSTON program), burrowing (digging deeply into the experiences of Saul, Cindy, and Bernardo), and storying and restorying their experiences (through laying one person’s experience on top of other people’s experiences, mining the connections). In the end, the importance of mentoring and inquiry, mentoring and feedback, and mentoring and culturally responsive pedagogy bubbled to the surface. The mentorship opportunities made possible through *teach*HOUSTON are reflective of the generative and unprescribed, student-centric approach taken by the program as it organically evolved from serving tens to hundreds of preservice and in-service teachers. In the future, we imagine that different cross sections of *teach*HOUSTON could be studied, along with different alumni and different student teachers. Finally, we expect separate chapters eventually being written about each of the three main themes identified in this work. Lastly, another NSF grant (UH-ACCESS) recently has been awarded. How that grant leaves its mark on generative mentorship in the *teach*HOUSTON program is yet to be seen.

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An Understanding of the Way Mentors and School Leaders Can Support the Effective Transition of Beginning Teachers into the Teaching Profession

Michelle Attard Tonna

Introduction

Retaining newly qualified teachers proves challenging in most educational systems. Statistics suggest that attrition rates have been rising steadily since the 1970s, although these vary across countries (e.g. Smith & Ingersoll, 2004; McKenzie et al., 2005; Ingersoll & Strong, 2011; Sutcher et al., 2016). There are different reasons suggested in literature as to why teachers leave, such as increased employment opportunities, distorted expectations of the workload they would be faced with, idealistic perceptions of teaching and emotional burnout, beginning teachers' sense of self-efficacy but also the 'practice shock' which teachers experience when compared to their experiences of teaching in their pre-service

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phase (Kyriacou & Kunc, 2007; Hong, 2010; Høigaard et al., 2012; De Neve & Devos, 2017).

As Flores and Day (2006) point out, the first years of teaching, referred to as 'induction', are an important phase for any teacher's socialisation, identity building and professional growth. Yet, many newly qualified teachers (NQTs) feel alone and isolated, and they lack support and guidance (Smith et al., 2013). While for some NQTs the initial years when they enter the teaching profession are characterised by a sense of development and success, others feel they have not yet mastered all the duties required in being a teacher and that the profession is giving them a number of challenges that they have not been trained to address (Caspersen & Raaen, 2014; Day & Gu, 2010). The nature of their work experiences has consequences for them, for their current and future students, for their colleagues and for the teaching profession (Langdon et al., 2014; Smyth et al., 2016).

Induction is recognised as a vital stage in the professional journey between initial teacher education (ITE) and continuing professional development (CPD). This phase is often described as inherently complex and pivotally important (Schatz-Oppenheimer & Dvir, 2014; Aus et al., 2017) and recognised by Britton et al. (2003) as an opportunity for learning and a special phase in teaching. In many educational systems, this phase, which can range from a few months to a couple of years, involves recruiting teachers, who have just completed their initial phase of education or training, in a supportive school environment which takes into consideration the capacity of work they are able to perform and in some cases, reduces their teaching load to allocate them enough time to reflect on their professional learning and discuss their practices with a mentor. Some educational systems also provide additional learning activities targeted to address a number of teacher competencies which NQTs are expected to complete during this phase. Experienced teachers, often recognised (and trained) as mentors, are allocated with these NQTs to guide them during induction phase until they can attain a permanent warrant or registration into the profession. In this way, NQTs are introduced to a community of professional learners and helped to transition into the profession, which is essentially the purpose behind induction (Bubb, 2004; Kearney, 2017; Gariglio, 2021).

Induction does not benefit only NQTs but also those who support them, together with current and future pupils that new teachers work

with as these will learn more and be happier (Aspfors & Bondas, 2013; Postlethwaite & Haggarty, 2012). Although NQTs would have received training on how to teach through their initial teacher training phase, the school they are then placed in when recruited can once again serve as testing ground for their strengths and weaknesses, and the areas of practice they need to develop.

The term teacher mentor, in this chapter, refers to a teacher of some experience who works with a newly qualified teacher (referred to as mentee) during her/his early experiences in the classroom. The teacher mentor will be in a position to offer support through observation, being an enquirer and a critical thinker. Rather than being there to give advice and solve problems, the mentor's role is to question, to listen and to model reflective thinking (Chitpin, 2011; Kim & Silver, 2016). The mentor is often portrayed as a 'critical friend', someone endowed with the ability to challenge the mentees in his or her care to re-examine their teaching while providing encouragement and support (Chitpin, 2011). The mentor observes the mentee and provides feedback. This systematic approach familiarises the mentee with a list of agreed behaviours that are, at least in part, specified by others. In school-based mentoring, the teacher mentor provides guidance and support to mentees. To be able to do this, mentors will have to be teachers, who have 'mastered the profession'. Good teacher mentors are effective and committed practitioners who cherish lifelong professional learning and who, in addition to their teaching experience and the resulting teaching craft knowledge, also possess skills and human qualities that facilitate the mentoring process. For instance, the mentor should be someone who can listen and show empathy, is altruistic, non-judgemental, and also able to motivate others to continue along the journey as they face the multiple challenges of being a teacher.

The Social Aspect of Teachers' Practices

As Aspfors and Bondas (2013), Mardahl-Hansen (2019) and D'Eon et al. (2000) state, the teaching profession is fundamentally social and relational. They argue that human relationships lie at the core of the school community and influence newly qualified teachers' initial working

experience. While handling a student who is misbehaving requires skills and experience, dealing with challenging relationships between colleagues is also considered as a very difficult hurdle facing beginning teachers (Day, 2008). Indeed, good relationships and cooperation among teachers are important for promoting pupil learning (Day et al., 2016). Terry (2019) identifies encounters and relationships at work and opportunities for receiving feedback and support as important factors when it comes to learning at work. It is also essential for teachers to have opportunities to participate in a professional community of practice (Timperley et al., 2007). Teachers learn in dialogical relationships that are formed in broader, professional networks of teachers; such networks can prove supportive because teachers observe each other's practices, and share ideas and perceptions. Hence, collaboration and interaction can be seen as a pivotal means of learning in their workplace (Tynjälä & Heikkinen, 2011; Gorospe et al., 2018).

Yet, teachers have traditionally worked in relative isolation (White, 2013). The privacy of practice which characterises their work in schools produces isolation, and isolation can prevent teachers from being innovative and improve their practices. Isolated teachers perceive others as self-reliant, and they are reluctant to ask for help or to engage in instructional conversations. Isolation prevents teachers from disclosing personal strengths, challenges and needs. Mentoring, by contrast, provides opportunities for teachers to observe other teachers in action. They can work together to facilitate each other's professional growth and development (Kachur et al., 2013). Teacher mentoring as collaborative self-development is a valuable source of professional growth for teachers at every stage of their careers. It is a means for teachers to observe, reflect on and discuss their practices. Teachers mentoring other teachers provide opportunities for the teaching staff to:

- Note useful practices other than the ones they use
- Feel motivated to improve their teaching
- Identify areas of practice for reflective dialogue
- Accelerate improvement in student performance

In this chapter, the author will explore how a number of teacher mentors facilitate the professional growth of NQTs through feedback conversations, observations and joint reflections, during their induction phase, by creating opportunities of collaboration whereby they learn how to become responsible for their own professional growth. These teacher mentors had the responsibility to guide their mentees through induction and serve as their critical friend in this journey. Analysing the practices of beginning teachers, through the experiences of these mentors, can provide us with the knowledge needed for supporting their commitment to effective teaching. It will also raise important notions of how the workplace context can act either as a support or as a barrier to this crucial phase of a teacher's trajectory and how induction can be acknowledged as an opportunity for learning (Britton et al., 2003).

The Maltese Context

In the Maltese education system, a mentoring and induction period has been recently formally introduced as an integral condition of employment (Ministry for Education and Employment, 2017) for all those teachers employed within the Directorates for Education. Some of the newly qualified teachers employed by the non-state sector also undergo an induction programme within their own school, but in this case the head of school, as the employer, decides on the need and format of this programme and whether the NQT is allocated a school-based teacher mentor or not. It is here important to mention that in Malta, NQTs often have to do the same job as their more experienced colleagues, where they are given full responsibility for their students' learning. For this reason, their colleagues, and members of the school leadership team, need to ensure that the situations these NQTs are working in are not overly demanding or overwhelming, and to encourage them to retain their job rather than quit.

An induction policy, launched by the quality assurance department in October 2012, meant that newly qualified teachers must undergo a two-year induction and mentoring programme during their induction period before they could be awarded a permanent teachers' warrant (Quality

Assurance Department Malta, 2012). Throughout these two years of induction period, newly qualified teachers are expected to focus on developing key professional knowledge, attitudes and skills required to become reflective practitioners within the education system. During this process, they are also required to participate in a three-day induction seminar, keep a personal reflective journal, attend a group session with a senior member of the college leadership team (the head of college network), attend two formal meetings with the college mentor assigned to them (sometimes based in their school but very often based in another school in the vicinity) and attend a concluding national seminar at the end of the scholastic year, organised by the Quality Assurance Department. Newly qualified teachers in their first year of induction are also allocated a teacher mentor, not necessarily from their own school, who will meet them a few times during that scholastic year and who is required to complete a report at the end of the year detailing the support given.

For a number of years, teachers were trained to be mentors of NQTs through a short training programme offered by the ministry, to which a number of teachers and members of the school leadership team attended. Teacher mentors are usually allocated a number of NQTs to mentor, each year, within their own college network (a cluster of schools in the same geographical radius) and are expected to fix appointments with the NQT and visit the school for meetings. Teacher mentors may choose not to provide this support, especially if they have time restrictions in their school schedule. Other officers and employees within the directorates, colleges and schools could also request to be mentored at any time in their career.

Since 2016, mentor training was also formalised by the Faculty of Education, and all those teachers aspiring to become mentors must undergo a Postgraduate Certificate in Educational Mentoring, the successful completion of which qualifies them to mentor student-teachers who are following the Master in Teaching and Learning in their preservice stage and carrying out their field placement in schools; and NQTs during their induction period. The Faculty of Education adopts a subject-based model and when possible, allocates teacher mentors who teach the same subject or learning area of the mentee. It is also stressed, within this

model, that mentoring takes places within the same school the teacher mentor is based, and discourages mentoring across schools. The mentoring approach being used, for both student-teachers and NQTs, is that of reflective practice. Teacher mentors encourage their mentees to question decisions, choices and ways of teaching vis-à-vis educational theory that they are being exposed to and situational, contextual understandings of schools and learning communities. The role of the teacher mentor, with both student-teachers and NQTs, is not to evaluate practice but to help the mentees think about their practice.

Method

The author's objective in this research study is to evaluate the way a number of teacher mentors are supporting NQTs in schools, particularly to combat isolation and nurture in them skills of professional growth. It is also important to explore how schools are adapting to this mentoring scheme and whether they are providing both NQTs and mentors with the adequate support structures for mentoring to thrive. Narratives of teacher mentors will be used to gather this understanding.

The use of narratives has been introduced by Stapleton and Wilson (2017) as a meaning-making process as well as a way to co-create the reality of life with the experiences one encounters. Personal narratives can encompass the fabric of social reality for those who compose them because social narrative frameworks have a profound impact on the stories people can and do tell (O'Toole, 2018). Through narratives, individuals define themselves and others through the stories they communicate and through the process they use to make sense of their life events (McLean & Syed, 2015). This research method will be used to explore the experiences of six teacher mentors who have supported an NQT for one scholastic year in the period between October 2019 and May 2020, and who have written reflective narratives of their experiences.

The predominant reason for using narratives as a research tool is because of their representational functions:

- Telling a story of their mentoring experience gives the mentors an opportunity to foreground that story in a certain perspective or direction (Frank, 2014). Simultaneously, it preserves the open, fragmented nature of the mentors' selves and does not universalise mentoring in a way which obscures the experiences and perspectives of other mentors. The reflections, in a narrative form, that contribute to this research data represent various aspects of mentoring, and not one narrative necessarily captures all of these important characteristics.
- Narratives also create multiple possibilities of the self (Borg, 2018) and are not simply plots that representationally foreground certain characteristics of the mentor. They are interactional events between the mentors and their audience (the reader) and are open to revision and multiplicity because of the ongoing negotiation taking place.
- A third reason for choosing narratives is because through their narration, the mentors act out particular selves and in so doing they can construct and in some ways transform themselves. The narrator voices and ventriloquises her/himself (Bakhtin, 1963/1984, 1935/1981). In so doing, the narrator identifies those past selves as recognisable types of people in recognisable relationships with narrated others. This yields a trajectory for the mentor, as the positions of past selves lead towards the self narrating the story here and now.

The narrative which lies at the basis of the author's writing and forms of understanding is different from a descriptive, deductive or statistical approach which is often used in literature belonging to teacher professional learning. Narratives describe a particular experience rather than the general experiences of others (Hayler, 2011). The narrative being used, based on reflections which these six teachers mentors documented, illuminates social structures and behaviours through individual perspectives. The author does not attempt to capture the totality of a mentor's experience, but to present glimpses that display how teachers' practices are experienced at a particular time and place. The parallel review and discussion situates and connects these experiences within the wider context of the relevant structures such as the local social context and the education system.

The analysis used to interpret these narratives is based on coherence, causality and intention. The mentors give their experiences meaning with the act of storytelling, and these stories in turn shape their lives and their relationships (Osler, 2018). The mentors' stories explain the way they relate to events that they believe have meaning, and in this way they open a window into the internal world of a person (Wood, 2019). This research technique has helped the author to share these mentors' stories as a way of gaining access and new understandings of mentors' experiences, beliefs and practices. Thanks to this approach we as researchers become agents in the building of knowledge—we are both creators in, as well as created by the social and cultural worlds we inhabit (Harris & Rhodes, 2018). The author is here distinguishing between memories of personal experience as the focus of a research, and memories of personal experience as a lens through which to view the experiences of these mentors. This research study is informed by the latter approach. From this perspective, this research is not about a specific mentor or mentoring experience; a personal experience is utilised to demonstrate that this life and its experiences do, to a certain and central extent, make the phenomena (Hayler, 2011). As Taylor (2019) observes, practitioners' lives are not easily separated from their craft, and that the self is a crucial element in the way teachers themselves construct the nature of their job.

Six teacher mentors supporting six NQTs in their first year of teaching participated in this study. The purpose was to record the reflections, through a narrative approach, of these mentors during the period of time where they were collaborating with their mentees—that is, when their mentees reached out to them and asked for help. The study is based on comprehensive reflections of a personal professional nature, recorded on an online platform. The mentors participating in this study were encouraged to keep a 'reflections log' to document the encounters with their mentees, in a way of telling a story. These reflections followed no particular pattern and were sometimes lengthy and regular, at other times brief and sporadic. The mentors' reflections were also sometimes based on prompts which the researcher was posing, regarding the role these mentors fulfil, their mentoring approach and their identity as mentors in schools. The prompts took the shape of open questions which helped

spur their reflection, and sometimes accompanied by specific questions related to specific situations and other claims of that narrative.

The insights emerging from these reflections reflect the mentors' identities and worldviews, as well as their relations with others and with their environment. Moreover, they reveal how these mentors organise and structure their professional and personal inner world (Wittmayer et al., 2019). The reflections were analysed through a phenomenological approach at the end of the scholastic year, which marked the end of the data collection period. The aim of this qualitative analysis is to provide a meaning to an unclear text through a reasonable interpretation (Ginsburg et al., 2015). This method of analysis was first proposed by Giorgi (1975) and allows the analysis of social reality from the subjective viewpoint of those experiencing it. The reflections uploaded on the online platform are divided into categories of meaning, with each category receiving a name embodying its central theme. In the second stage, central themes related to the research subject are examined and grouped, and in the third stage, an attempt is made to explain the studied phenomenon theoretically by analysis of the hyper-themes of each single story and of all the stories collectively.

Findings

The Crucial Role of the School Leadership Team

One of the most important themes which emerged from the analysis of these narratives is regarding the kind of support that newly qualified teachers find in the schools recruiting them, and how this support impacts on the mentoring being given. It is a well-researched fact that the systematic guidance and support of NQTs leaves a positive impact on these teachers and their development in the profession (Engvik, 2014) and that school leaders have a very important role in the development of a positive learning culture (Youngs, 2007; Peters & Pearce, 2012). Newly qualified teachers encounter different types of professional cultures during their induction. As the teacher mentors reveal in their narratives, there are

school cultures which encourage their mentees to share experiences, to discuss teaching challenges and to have dialogues on collaboration:

> Narrative Entry 5, Teacher Mentor 1*I know of schools where the Senior Leadership Team (SLT) offer their assistance when needed and try to make sure that the new teachers have access to the school's facilities and resources … in my case as well. As a mentor I have found full support from the SLT and although it's very hard to find time in the timetable to meet the NQT, they do try to make her feel welcome and they show that they are interested in her development.* (December 2019—excerpt from a reflective log kept by the Teacher Mentor)

For the NQTs inhabiting such cultures, learning will occur because the school encourages equality in cooperation between colleagues. On the other hand, there are NQTs who find themselves in a professional culture that contributes to comparisons, competition and isolation (Aspfors, 2012). To make matters even more problematic, NQTs are often given challenging classes and students to teach, and sometimes also subjects that they have not been trained in. As Jakhelln (2011) points out, when there is no culture that allows NQTs to feel that they can share their sense of uncertainty and discomfort, their learning potential is undermined. It is important for NQTs to have an informing culture in the school, where they are given insight into the systems and structures in the school at an early stage, and where they can feel willing to ask for help (Jakhelln, 2011).

School Cultures Promoting Learning

> Narrative Entry 12, Teacher Mentor 3*We often talk about change, but are schools seriously cultivating a mindset that actually supports change? I think that schools, and school leaders, should be proactive in providing experiences for teachers to grow professionally. And yet, my school does not really support such initiatives. They are not sensitive of the need to create a trusting* relationship *between mentor and mentee—this can only happen if time is allocated for me to meet my NQT, to discuss issues with her in the comfort of a space which is receptive. I am never asked on any progress I may be making with her, and I feel that things cannot improve just by my intervention.* (February 2020—responding to a prompt on the online platform)

In Maltese schools, the head of school is responsible for providing the right learning environment for the students under her/his care and for ensuring that teachers are effectively doing this in a pedagogically sound manner. It is thus also expected, though not always obvious, for school leaders to communicate their expectations of NQTs and in showing that they understand the challenges that beginning teachers face. Indeed, not all school leaders show an understanding that NQTs are still learners, and that it is acceptable that they will make mistakes and learn from them. The school leader should express such an understanding of the professional development of NQTs in the school. This signals an understanding of the familiarity with being an NQT (Birkeland & Johnson, 2002).

> Narrative Entry 7, Teacher Mentor 2*From my experience as a primary school teacher, time is very limited. We rarely find time and so it is very challenging to give our full support and guidance to the NQT. Thus, in my opinion, schools need to help the mentor by freeing up some time for this to happen. Providing adequate space is also important—one cannot expect the mentor to hold a fruitful discussion with the mentee in a hectic, noisy environment such as the staff room. Having this type of space available is not to be taken for granted. For instance, in my school, it is very difficult for me as a mentor to find and book a space for such meetings with the NQT.*
>
> *The head of school should also be supportive and encourage teachers to pursue continuing professional training. If it becomes a struggle every time I ask to attend some seminar, then I come to realise that the Head is not really sensitive of my learning needs. Ideally, the Head should also be more directly involved in the NQT's journey, rather than just signing their progress sheet.* (March 2020—responding to a prompt on the online platform)

There are studies which show that organisational factors impact on teachers' learning. As Hopkins and Spillane (2014) emphasise, the formal organisational structures inside the schools are critical in shaping the NQTs' opportunities to learn about teaching. School leaders have an influence on how the professional culture is experienced by the teachers, how the culture for learning impacts the pupils and how teachers learn in their workplace. It is also important to acknowledge that the demands placed on school leaders may make it difficult for them to engage with their members of staff in a timely, responsive manner and that expecting

them to oversee the learning of NQTs may not even be realistic, considering the nature of the tasks they are requested to fulfil.

> Narrative Entry 3, Teacher Mentor 6*When I started teaching I did not have a mentor, we were pretty much left to our own devices. I remember being sent to a school and the Head just giving me a timetable and telling me to find a desk in the staffroom. Upon entering the staffroom everybody was chatting and nobody paid any attention to me! To say that I felt like a fish out of the water is an understatement. I managed to find a couple of new teachers like me and we stuck together for the rest of the year.*
>
> *Nowadays when I see NQTs with their mentors I realise how lucky they are to have someone to talk to and discuss issues they might be encountering, as opposed to when I started teaching. One might think that this is a form of hand-holding and why not? After all one should always be open to suggesting and new practices, but needs to feel comfortable trying things out. Every little thing helps, even just showing the mentee the way around the school or how to manage the school's environment. When the school is welcoming, beginning teachers can relax and focus on their learning.* (December 2019—responding to a prompt on the online platform)

Thus, school leaders have great importance in how learning is facilitated and what can be learnt at all levels in a school (Youngs, 2007; Peters & Pearce, 2012; Opfer et al., 2011). For NQTs and their colleagues, knowledge becomes a construction of meaning and understanding created in the encounter between individuals in social interactions. The basic foundation of the social constructivist perspective is that individuals learn and develop in the social context that surrounds them (Flores & Derrington, 2017). Yet, very little attention seems to be devoted in Maltese schools for this to happen, and head of schools do not have enough opportunities to provide feedback to teachers in their schools (Cutajar et al., 2013).

> Narrative Entry 9, Teacher Mentor 4*Maybe I am making a sweeping statement here, but I do not think that we are entirely ready for the change as far as the preparation and development of beginning teachers is concerned. Sometimes, NQTs are deemed to be a burden on the school's system and a cause for disruption and chaos. While mentors have taken the decision to support NQTs, not all teachers show the same kind of receptiveness, and not all of them are prepared to welcome new prac-*

tices which NQTs may bring with them. In our own training to become teachers, we were never encouraged to work together and we had a culture where we refrain sharing a lesson plan with someone for fear of it not being perceived as good enough. Some teachers have moved on from these fears, possibly thanks to their disposition to reflect and their will to develop professionally. Others, however, are still stuck in a fixed mindset and would not share resources or ideas, and neither would they welcome resources being shared with them, maybe because they believe they are professional and self-sufficient. They will never be open to learn from an NQT, or be ready to support one. In my humble opinion, this mindset is the greatest challenge for effective professional learning to take place.

School leaders also lack to understand the importance of mentoring. *During one of my discussions with the NQT, she mentioned if she can see the resources available at school for Maths. I asked the Assistant Head in charge and was told that we have to go during the opening hours of the room (Monday or Thursday, 10.00–11.30). I ended up going there myself and taking photos of the resources, as the NQT has lessons during that time. I also found it really challenging to observe my mentee in class during particular times of the day. I asked the Assistant Head to shift a lesson so as to accommodate my request, but she was not cooperative at all.* (January 2020—excerpt from a reflective log kept by the teacher mentor)

Supportive Collegial Relationships

It is important for school leaders to better engage NQTs and to provide a culture where the teaching staff cooperates so that interaction between the teachers is not left to chance, and so that NQTs have the opportunity to contribute their knowledge and competence to the school (Aspfors & Bondas, 2013). The head of school can also encourage established teachers to be appreciative colleagues for NQTs especially when mentors are not available, thus being open to new ways of teaching and encouraging creativity. A systematic guidance of NQTs has a positive impact on these teachers and their development in the profession (see Youngs, 2007). Empirical studies show that active and supportive leadership is necessary if good professional learning communities are to be provided (Ho et al., 2020).

Narrative Entry 14, Teacher Mentor 5*Strong collegial relationships contribute to school improvement and success. Our world is changing and therefore our lessons need to meet the 21st century skills just as much. Taking the primary*

sector into perspective, most teachers would agree that it is practically impossible to prepare an average of 25 lessons weekly which are of high quality and relevant to today's world considering the present heavy teaching loads and other relevant duties which are required from our class teachers. Cooperation and team work not only break the isolation of the classroom but they also help teachers to share their workload and let's face it … sharing has never been easier with the availability of all the digital platforms available for free on the net. Quality lessons need quality preparation and if teachers team up, co-design their schemes and divide their lesson preparation they are more likely to come up with vibrant lesson ideas which they can then share with their colleagues. This also helps in my opinion to considerably reduce the emotional stress and burnout related with lesson preparation and it is therefore an essential key for teacher retention and a stimulus for professional growth.

Having said that, it is not so easy to integrate an NQT in such a collaborative culture, because of the way in which the school is run. Since induction *is a relatively new concept, some schools might not simply know what to do with their NQTs—apart from having a professional learning community established, do they have a supportive community? This notion has become evident to me in my staffroom. The new teachers have not fully integrated with other staff, who apart from a warm smile, keep their distance. Thus, the whole concept of, it takes a village, is spectacularly lost as everyone keeps to themselves.*

Moreover, while the school leadership team at my school has been there to 'lend an ear' and listen to any concerns, they haven't actively given any support to the NQTs in my school. As a result, for me, the best way schools can support this initiative is to get involved with the NQTs. At the moment, apart from issuing timetables and signing their progress sheets, they have not been active in their growth. Therefore, having an active role or taking interest is a way in which schools can support both the NQT and the mentor. (April 2020—excerpt from a reflective log kept by the teacher mentor)

Discussion and Conclusion

Mentoring is seen as one of the most important components in teacher professional learning (Bullough Jr., 2012; Ingersoll & Strong, 2011; Langdon et al., 2014). Through mentoring, prospective and beginning teachers are guided to develop knowledge about practices of teaching, and they develop a professional identity (Ingersoll & Strong, 2011). This

chapter explored the experience of six mentors who supported NQTs in Malta with the aim of understanding whether the school contexts they inhabit are providing the required support to teachers in a crucial stage of their career.

As these narratives suggest, teachers, as mentors, have a critical role to play in the induction of beginning teachers. However, there are other important factors which should be kept in mind. NQTs should participate and be included in the school community in a binding way. The mentors in this research study report positive development when the school they work in has a good cooperation culture; they expect the head of school to be a key player in the NQTs' successful socialisation; and they also identify the head of school as a key source of support and guidance.

On entering the school's working environment, the NQT goes through a process during which he or she is assimilated into an existing environment. The NQT needs to negotiate and adjust to develop an understanding of the working environment in the school (Wenger, 2004). This understanding of learning builds on Wenger's sociocultural perspective on how the NQT enters and becomes part of a community of practice (Lave & Wenger, 2000, 2003; Wenger, 2004).

School leadership is an important factor in facilitating the professional development of teachers. However, there appears to be a need for the school leaders to take seriously not only administrative but also professional issues (Tiplic et al., 2015; Brown & Flood, 2020). Knowledge and expertise in the socialisation of NQTs into the teaching profession can encourage school leaders to develop a professional culture in their schools (Bayer & Brinkkjær, 2011). This demands openness in the culture, and the experiences and professional knowledge of NQTs must be used more often as resources for learning and development in schools. Ensuring that teachers (and not just mentors) are collaborating and providing social support may be seen as a precondition for NQTs coping with their work. This requires school leaders to communicate their expectations that NQTs will be mentored/supported; reminding everyone that the NQTs must be given the chance to contribute their ideas; and that they will need support (Harju & Hannele, 2018).

The narratives also seem to suggest that school leaders in Malta have an impact, perhaps much more than they are aware of, when it comes to the

well-being of NQTs. School leaders have special responsibilities for refreshing and expanding subject- and pedagogical-content knowledge and for keeping informed and updated about developments in schools and society. They should also be expected to have enough knowledge and insight to socialise NQTs into the teaching profession (Youngs, 2007).

The scope of this chapter does not permit a comprehensive review of the literature on the notion of mentoring and supporting NQTs, however, some of the main issues and the ways they are explored in recent literature are highlighted. Reaching a full understanding of the role and work of mentors and also of school leaders is challenging, more so because of the fact that different educational systems have different expectations of both these roles. In a small context like Malta, one can still find disparities across schools as to how NQTs are supported and the kind of expectations placed upon them.

Although there are limitations in drawing conclusions from this study with its small, local data set, the narratives of these teacher mentors shed light on complex issues of collaborative learning and workplace learning. The notions highlighted raise implications for policymakers, teacher educators, school leaders, those responsible for professional development in schools and other stakeholders in the struggle to retain teachers. In particular, the following recommendations can be drawn:

- For an effective system of mentoring, it is important that mentors are allocated sufficient time for them to meet their mentees; observe their lessons and give them feedback; and engage in reflective practice. This is particularly important in the primary sector, where teachers have class responsibilities for nearly the whole day. It is also important that members of the school leadership team, and the Education Directorates (in case of state schools) appreciate what mentoring entails so as to be able to provide the required support, in terms of relieving mentors of some of their daily tasks to allow them to go in their mentees' classes, and helping to foster a culture of collaboration in schools. When the other members of staff understand what the needs of the mentees are and how they are working with their mentors, they would be willing to collaborate and also to become mentors themselves.

- If we are expecting NQTs to collaborate frequently with mentors, then they need to be allocated a lighter working load, at least in their first year of teaching, so as to allow them to focus on their professional growth and, in a tangible manner, visit their mentors' classrooms and observe their practice. As the data shows, the mentoring approach being adopted is one of enquiry, which admittedly will require more time to observe lessons and reflect on practice. Such support will facilitate a process whereby the beginning teacher explores effective strategies and be receptive to experiment on varied routes for success, rather than resort to ways of surviving with learning new things and coping with a full teaching schedule.
- The current mentoring system is providing a much-needed support to beginning teachers, especially when compared to the recent past where NQTs were left to their own devices, unless mentored informally by some other staff member or the school leadership team. Yet, the narratives also suggest that a more consistent and concerted effort should be in place for this system to function effectively.

Embedded in the day-to-day work of every school there is a rich mine of expertise which should be drawn upon in the professional education of each new generation of teachers. Mentoring other teachers is undoubtedly a challenge. In this particular context, teacher mentors carried out their mentoring duties in conjunction with the responsibilities they already had towards the students in their class, and in conjunction with other roles they have in school. Their experiences strongly suggest that when the expertise of practising experienced teachers is acknowledged, valorised and sustained by school leaders, the whole school community will benefit as a result.

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Mentoring as a Professional Practice: Inquiry, Sense-Making, and Collaboration

Anthony Clarke, Amanda Fritzlan, and Scott D. Robertson

Introduction

Throughout the world, classroom teachers volunteer to serve as teacher mentors (TMs) to teacher candidates (TCs) on practicum. The practicum in North America, similar to many other jurisdictions in the world, constitutes up to one third of a TC's Bachelor of Education program. In classrooms throughout the province of British Columbia, Canada, where this study takes place, TMs supervise TCs for 12 weeks of practicum experience: an introductory 2-week practicum in first semester and a 10-week extended practicum in the second semester. Unquestionably, the practicum is a vital part of all teacher preparation programs and TMs play a large role in determining the success or otherwise of TCs in these programs. However, there is typically little if

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any professional development for TMs and scant recognition of their contribution to teacher education. Zeichner (2002) suggests that "more than providing access to a classroom or modelling a particular version of good practice, [being a good TM] involves active mentoring" (p. 59). Yet mentoring, despite widespread agreement over its importance, remains one of the most neglected elements of teacher education (Mattsson et al., 2011; Sullivan & Glanz, 2009; Zeichner, 2002). As a result, TMs as school-based teacher educators often work in professional isolation.

Even within the academy, teacher education professors have faced a historically inverted status when measured by their proximity to schools (Lanier & Little, 1986); that is, the work of preparing teachers has relatively low status compared to other dimensions of their academic life (Zeichner, 2002). However, despite the often ignored and undervalued role of teacher education in school and university contexts, the stakes are high: For our school students to have the best possible teachers tomorrow, our teacher candidates need the best possible teacher mentors today. To that end, this study examines teacher mentoring as a professional practice in light of two specific dimensions: (1) practitioner inquiry, and (2) *a knowledge base* (Hargreaves, 2001). Hargreaves (2001) argues that these two attributes distinguish professional practice from other categories of employment such as labor or technical work (where daily tasks are typically prescribed in advance and require little judgment on the part of the practitioner). Absent these two elements, as was shown to be the case for 70% of mentors across Canada in earlier studies (Bariteau & Clarke, 2006), classroom teachers often "mentor as they were mentored" without thinking critically about why they do what they do (Hobson et al., 2009). Mentoring from this perspective is not only indifferent to the contexts in which beginning teachers learn their craft but antithetical to teaching as a professional practice. Further, without a curiosity about one's practice or any attempt to draw upon a knowledge base for mentoring, TMs typically fall back on instinctual and atheoretical approaches to their work as school-based teacher educators (Kent, 2001; Clarke et al., 2014). Under such circumstances, TMs:

- Fail to identify the characteristics of learning to teach that are relevant to today's TCs (Smith, 2005).
- Fail to effectively communicate such characteristics to TCs (Hastings, 2004).
- Fail to attend to such characteristics in TCs (Swennen et al., 2008).

When mentors are irrelevant, ineffective, and inattentive, they also fail as stewards of the profession. Research shows that mentors who are not curious about their practice 'Pass' twice as many students on practicum as do their more professionally prepared counterparts (Clarke, 2003). Given Kent's (2001) suggestion that mentoring "must continue into the initial teaching years if the ultimate goal of supervision, professional autonomy, is to be realized" (p. 244), then the reasons are all the more compelling for TMs to be professionally prepared and ready for their work as school-based teacher educators. In an attempt to address this concern, this study provides the opportunity for mentors to articulate the assumptions that underlie their practice (an important first step in practitioner inquiry) and then examine and reflect upon those assumptions in the light of their understandings of mentoring (a critical step in constructing a knowledge base for mentoring).

Theoretical Framework

The theoretical framework for this study emerged from our previous work with mentors. This framework reflects Sarason's (1996) perspective on practitioner inquiry and Hegarty's (2000) perspective on *knowledge bases*. In particular, when taken together, we argue that these two dimensions provide the dynamic interplay that underpins mentoring as a professional practice. We refer to this interplay in terms of a 'mentoring kite' where our hope is that all mentors are either at or moving toward the apex of the kite (Fig. 1).

The two dimensions of the mentoring kite—practitioner inquiry and a knowledge base—delineate four realities for mentoring in practicum settings: professional, theoretical, practical, and inept. Mentors whose practice is professional have a keen appreciation for mentoring based on an intentional examination of their practice and a critical engagement in

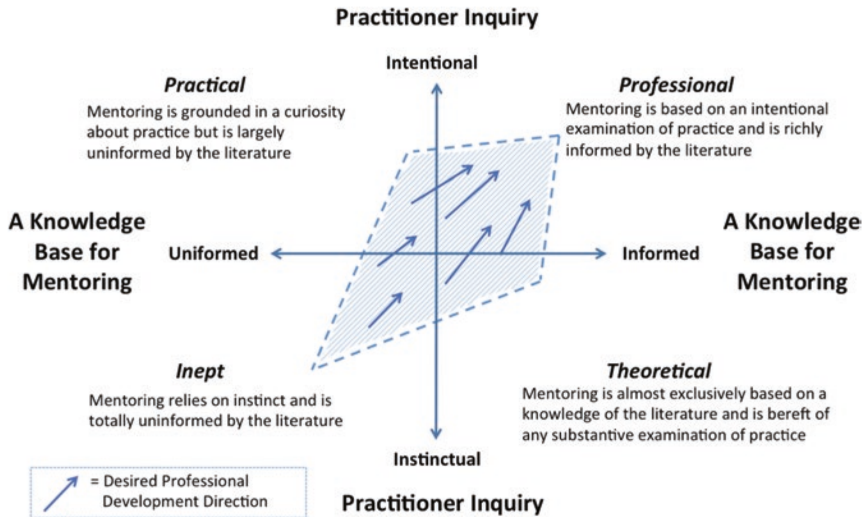

Fig. 1 The mentoring kite

the knowledge associated with that practice. Diagonally opposite are those who show little interest in their work as school-based teacher educators. Their mentoring is largely instinctual and uninformed. As TMs, they are largely inept. The remaining group of mentors fall somewhere within the practical or theoretical quadrants. We argue that these two quadrants provide important grounding for a shift to the professional quadrant. However, TMs who remain solely in either of these two quadrants run the risk of their mentoring being lopsided or asymmetrical.

We acknowledge that there are other elements (e.g., ethics) that are important in any conceptualization of mentoring as a professional practice. However, we believe that many of these elements are embedded to varying degrees in the interplay of the two dimensions outlined above. The goal of this study, therefore, is to explore the mentoring kite as a way of thinking about mentoring as a professional practice. Two questions guide this exploration. First, with regard to practitioner inquiry: In what ways are TMs inquisitive about their practice (i.e., do they attempt to make explicit and examine their assumptions underlying mentoring)? Second, with regard to a knowledge base: To what extent do TMs explore and develop a knowledge base for mentoring?

The Study

To address the questions posed above, an interview-based study was conducted in British Columbia from March to May, 2018. The timing of the study coincided with the TCs' ten-week extended practicum. The TMs recruited for this study supervised TCs from a UBC elementary teacher education program option called *Community and Inquiry for Teacher Education* or CITE (https://www.cite.cste.educ.ubc.ca). The first author, Clarke, has a long-standing relationship with the CITE program. This relationship allowed ready access to TMs and TCs. At Clarke's request, the CITE coordinator, a seconded teacher from the school district in which the study took place, nominated 12 TMs whom she believed would be interested in participating in the study. All 12 were invited to participate. Eight volunteered. Authors Fritzlan and Robertson conducted the interviews with this purposive sample (Palys, 2008), each working with four mentors.

The mentors were interviewed on four occasions over the course of the extended practicum. The interviews were semi-structured allowing Fritzlan and Robertson the freedom to pursue aspects of mentoring that arose during the interviews and that may not have been explicit as part of the initial interview protocol. All interviews were audio-recorded and subsequently fully transcribed by each interviewer. Detailed field notes, recorded after each interview, captured the overall impression of the interviews along with other contextual details relevant to the study. Drawing on the constant comparative method for qualitative data analysis (Lincoln & Guba, 1985), the transcripts and associated field notes were read and reread by the respective interviewer to discern emergent themes. As the analysis evolved, eight meetings of all three authors were held during the collection and subsequent analysis of the data: four meetings were held during data collection and four meetings were held after the data collection.

As with all qualitative work, there are important limitations that need be acknowledged at the outset. First, the TMs in the study were all elementary school teachers therefore the outcomes are related to this particular context. Second, the study drew on a purposive sample, therefore the claims emerging from the study must be tempered by the fact that the

TMs in this study constituted a convenience sample (Saumure, 2008) compared to, for example, a random sample. Finally, the act of interviewing TMs constitutes a perturbation at the research sites that meant the context in which this study took place was different from regular practicum settings. All these limitations need to be kept in mind when considering the outcomes of this study.

Analysis

Below, five themes are presented as illustrative of the ways in which the TMs in this study responded to their role as teacher mentors in terms of their curiosity about mentoring and the knowledge developed or drawn upon in their role as mentors. The themes represent common concerns, considerations, and, in some instances, prevailing questions that the mentors shared with the interviewers about their practice.

Gatekeepers of the Profession

The TMs in this study regularly referred to their role as "gatekeepers of the profession" (Clarke et al., 2014, p. 176). The TMs' decisions about the success or otherwise of their TCs was based on the simple question: Is my TC suitable to be a teacher of children? By the third interview all mentors had used this or similar terms in reference to their role as mentors. Illustrative excerpts include:

Eileen: How important are we …? Oh, very important, gatekeepers-of-the-profession important.

Tara: This is going to be your child's teacher, your friend's teacher… really making sure that we maintain the integrity of the profession, for our sake, for the children's sake, for the community and the public's sake as well.

Sam: I have the knowledge of what it means to be an educator. I have the knowledge of what it means to be a parent. And I put those two things together. Would I trust my child in their classroom?

At UBC, both the TM and the university faculty advisor (FA) (who visits each TM once a week during the practicum) are responsible for deciding if a TC successfully completed the practicum, but the TM's decision carries the most weight in this process. Six of the eight TCs assigned to the TMs in this study successfully completed the practicum. Two TCs self-selected to withdraw from the practicum during the seventh week. Both fell well short of meeting the expected requirements for a 'Pass.' Both were given the option of repeating the practicum in the following year and were required to undertake additional course work beyond the regular B.Ed. course work to improve their knowledge and skills for teaching (e.g., their pedagogical knowledge, their language skills, etc.) The two TMs who decided that their TCs were not ready to be certified as teachers found it very difficult to communicate this to their TCs but were reassured about their decision by their commitment to their role as gatekeepers of the profession.

Rachel: You feel bad because you think, "Oh my gosh, I've destroyed somebody's hopes and dreams"… But then you do say, you know what, that was the right thing to do. It was the right thing for my students.

Real and immediate consideration of the requirements to become a teacher played out in the interviews. Gatekeeping was both personal and professional extending from individual sense-making to a broader articulation of the challenges, duties, and demands entailed in teacher mentoring. The TMs also noted that engaging in difficult conversations was not something that they were prepared for or about which they had a deep knowledge.

In relation to the gatekeeper role, the TMs reflected on the fact that "schools [are becoming] increasingly diverse, both with regard to student population as well as teacher population" and that, therefore, we "need to explore the ramifications of these changes" (Wenner & Campbell, 2017, p. 139) for those we certify for the profession. Thus, even seemingly benign circumstances are perhaps the very reason that TMs look and look again at what exactly is sustained or stifled, encouraged or discouraged by existing norms and practices of mentoring. Nonetheless, their focus on

the well-being of students underscored the importance of an ethic of care in their work as mentors (Akiba, 2017). In all of this, the mentors displayed both a curiosity about their mentoring practice and a desire to develop their knowledge base for mentoring.

Reflection as an Essential Component of Becoming a Teacher and a Mentor

Throughout the interviews, the TMs explained the ways in which they fostered reflective practice by asking TCs to routinely examine their practice. This, in turn, became part of the process for TCs to build upon pedagogical and curricular theory/practice and to embody an inquiry-based teacher identity. TMs further spoke of the TCs' openness to change and growth as being a vital part of the mentoring process.

Eileen: It [i.e., the TC's experience] is not hierarchical. It's understanding what it means to be a learner.
Tara: I would rather have a TC come in with some sense of modesty and humility because it means they're open to growth.

A TC's lack of openness to inquiry or tendency to mindlessly duplicate a TM's teaching practice triggered the question: How do we as TMs encourage a reflective disposition in our TCs? This led to an examination by the TMs about expectations for 'success' in the classroom and the fear or avoidance of 'failure' on the part of TCs. As much as TMs embraced success for its obvious feelings of accomplishment and fulfillment, they revealed their thinking about failure in terms of it being an opportunity for learning. For example, Sam tried to explain this to his TCs in the following excerpt:

Sam: You just watched me fail at a lesson, and that's going to be okay because I'm going to learn something from it… It's the ability to reflect on a lesson and say that worked or that didn't work.

Throughout the study, such remarks are traces of the TMs' emphasis on humility within the context of teaching; that is, recognizing that 'what

you don't know' is as important as recognizing 'what you do know.' And making this explicit was part of being a good teacher and for the TMs it was part of being a good mentor. At times, this concern was manifest in how some TCs were overly defensive when receiving feedback:

Eileen: If you hear the TC say something [in response to feedback], and you're kind of going, "Oh boy, I don't think you realize how that might be perceived by a very experienced colleague," or an action or something… then I would call [the TC] on it. And not in, like, a calling-out way but in a mentor's way.

This sense of openness was mirrored in the TMs' reflections on their own teaching practices:

Adrienne: As a mentor, I have to share my experiences and my values, beliefs, and my way of teaching with a potential colleague, making sure that that person does his or her best, so the growth has been quite significant for me. I have to be aware of what I say, how I present myself. I have to make sure that I am teaching currently and trying new strategies, learning and growing, reading and research… it's helped me become more reflective in my practice.

Moreover, the TMs appreciated the study's intervention as it provided a conversational space for their sense-making of mentoring. Curiously, this opportunity was made easier because of the time for reflection afforded by having a TC. The TMs noted that too often when they stepped away from their classroom duties for the benefit of the TCs' independent practice, they tackled an onslaught of other duties and tasks. However, the study presented a chance for them to talk about and reflect upon their mentoring. This reminder emphasized a more pragmatic challenge of mentoring in practicum settings: the lack of time necessary for examining and developing one's mentoring practice. Thus, the possibilities for inquiry into one's mentoring practice are limited by the time available. Nonetheless, when given the opportunity, the TMs displayed a hunger for this opportunity.

The Gleaning of Knowledge

Just as teachers are expected to continually update their classroom skills by engaging with TCs, it might be reasonable to expect that TM's would continually update their mentoring skills as part of their commitment to the practicum. However, it was the former that was noted more frequently than the latter in our interviews with teachers. For example, the TMs in this study noted an exchange of knowledge between TCs and themselves regarding classroom practice:

Rachel: I think [the TCs] do bring in new knowledge and new ideas. And technology is one area that I've really found that I learn every time one comes in.

Sam: [The TC's] passion for something was really neat to see. And it made me look at things in a new way. So when they say, "I'd really like to teach this," I'm like, "Oh, okay, let's go for it." And I always learn something new from them, the same way I learn new things from my students. They come in and say they want to learn about something, and then it sparks an interest in the classroom. And then we all go off on a tangent in another direction. Being a teacher means being a life-long learner. And, if you can't daily find something new that you've learned, well then, what's the point, right?

Thus, while the practicum is structured as a learning experience for TCs, the reciprocal professional development benefits for TMs (e.g., exposure to new teaching strategies) were very much evident in this study. By extension, we wondered about the impact of the university faculty advisor on the TMs' mentoring practice. However, any reference to the FAs by the TMs indicated that their interactions were usually very brief and primarily about practicum administration. Thus, the potential opportunity for professional learning about mentoring through engagement with the FAs was not evident in this study.

In sum, gleaning knowledge from TCs about new teaching ideas and practices was significant for the TMs in this study. However, for the purposes of this study, the TMs' demonstration and modeling of

open-mindedness in terms of learning from their TCs was instructive. To the best of our knowledge, this demonstration and modeling of open-mindedness by TMs has not been reported extensively in the literature. This professional disposition—foundational to practitioner inquiry—underscores an important dimension of mentoring as a professional practice.

Promoting TC Autonomy

The TMs in this study described the complex work of providing an environment in which TCs could develop their professional autonomy. TMs recognized the value of proceeding from a TC's unique strengths and experiences toward this end. Common approaches emerged during the interviews, such as patiently allowing TCs to flounder at first before finding their feet in order to help them understand and form a more self-assured approach to their teaching. TCs were encouraged to take risks, try different things, and find out what worked for them. All eight TMs held a career-long perspective where "what is more important than preparing student teachers for their first year of teaching… is preparing them for all the years that follow" (Kent, 2001, p. 244). In this respect, TCs simply emulating TMs' practices was not valued as a mentoring outcome by the TMs:

Rachel: They have this really beautiful sense of, "Oh I want to be like you!" And it's like, "No, I've been teaching for eighteen years, you know?" So, it's really about helping support people to enter and be confident in starting their own path.

The TMs expressed the importance of TCs' own meaning-making processes. The TMs, who all had many years of teaching experience, expressed the development of autonomy as something gained over time:

Tara: I think teaching is such a personal thing. Of course, we need to coach [TCs] and supervise them and give them ideas, give them feedback. But in the end, you know, they're the ones that are

going to be living the job. And it's not going to be the same for them as it is for me, so they need to kind of figure out what they *do* want to take from me and what they *don't*…. Talking about it is really valuable, just talking through things, and not even so much me giving feedback as hearing them give feedback.

During our analysis, a question arose among the researchers as to the TMs' various perceived meanings of autonomy and, thereby, its significance not only to teacher mentoring but to the broader educational culture in which 'learning to teach' occurs. As a part of this discussion we recalled Eileen's remarks about what autonomy means in terms of the differences she observed between being the teaching cultures of Finland and Canada.

Eileen: [Finland's teaching culture] is around professional learning … it's all about professional autonomy. But BC teachers, … it is not long before someone [misguidedly] says: "Autonomy? Do you mean, just do whatever you want?" So we're mentoring people but what are we mentoring them *in*? Not only 'doing well' … but on thinking and going into your practice and learning about how kids learn, and being responsive. Teaching in different ways.

For Eileen, being a TM means having a clear sense of one's intentions as a teacher mentor. TC autonomy for TMs, then, takes on added significance within the context of mentoring. For the teachers in this study, supporting TC autonomy was an important feature of their mentoring practice. TMs tried to articulate, expand upon, and describe why autonomy was important to TCs. Finally, as they tried to make sense of the notion of autonomy within the context of the 'learning to teach' this presented some challenges due to fine line between 'being there' for TCs one the one hand and then 'letting them find their own feet' on the other hand.

Communities of Practice

The TMs in this study articulated the broader concepts of collaborative practice within the school community as key components in career-long learning within the profession. They described their awareness as role models in demonstrating how to work collaboratively with others (teachers, administrators, teaching assistants, counselors, etc.):

Adrienne: It's not always a very collaborative profession, but it really should be. I mean, that's how we learn and grow.

The TMs' focus on collaboration is reminiscent of the Clarke et al. (2014) claim that TMs are 'conveners of relation' within practicum settings. As such, TMs are responsible for introducing TCs to the school community and helping them to build professional relationships "with other actors within the practice context" (Clarke et al., 2014, p. 180). In as much as TCs are newcomers to the profession, the analogy of second-language learners is appropriate here: TCs learn a new language, of sorts, expressed by TMs from within the culture of schooling. For second-language learners, Richards (1980) concludes that gaining "conversational competence" (p. 430) is open-ended and just as important as the more technical, grammatical features of individual fluency. By analogy, being a teacher is not limited to technical dimensions (e.g., planning, management, assessment, reporting) but also to the relational aspects of schooling. More broadly, moving beyond strictly collegial to collaborative responsibilities becomes one way to enhance professional learning (Lave & Wenger, 1991).

However, what stimulates a TC's response to collaboration can become a source of tension in the mentoring relationship, however mild or severe. As a TM noted, the practicum is a meeting of two "spirits":

Ryan: When I compare it to past TCs, the interactions [this time] got heavier when things aren't moving in a way that you'd think they should go. I guess we have some natural expectations of growth. When the two spirits haven't met, [and they have to] grind it out together, then it just doesn't seem to work as well. Maybe each [TM/TC pairing] is building something together.

For TMs emphasizing the need to be collaborative is quite different from actually being collaborative. It takes time, effort, and modeling:

Tara: Model it, like we do with our students. It's a skill you need… when you realize you need help, or there's something you want an opinion on. It's a strength to go and ask for it.

Adrienne: [My TC] has done a lot of co-planning with another teacher candidate. It's just been a wonderful working relationship. We've done some co-teaching, kind of mixed the two groups up and done a lot of work together.… The kids see that modelling, too. It helps them work together, if we're working together and they see it.

TMs in this study also noted the importance of TCs being involved in extracurricular collaboration with other teachers and administrators in the school such as coaching teams, chaperoning field trips, providing breakfast to students before school, and working with school choirs. The idea that the TM, alone, is the sole mentor of a TC was something that the TMs in this study dismissed. Assuredly, the TM plays a primary role, as does the university FA, but the TMs in this study emphasized that learning to teach is always a collective endeavor:

Christine: It's sort of a village, right? We're all working towards improving our profession and holding it to a high standard, which is what we should do, especially now that jobs are so easily and readily available.

Ryan: My role is to understand… what my strengths are and weaknesses, to be as honest as I can with [the TC] on those, to provide spaces where I can show her some strengths and what that might look like, and also to let her go and explore with other people some things that I'm not so good at.

In sum, the TMs saw collaboration as important for learning new competencies, skills, and abilities. In this regard, the notion of 'communities of practice' was seen as beneficial for both TCs and TMs although TMs warned that the opportunity for them were limited in terms of learning

about mentoring. To this end, the notion of collaboration that arose as a result of the TMs' engagement with the researchers in this project is explored later in this chapter as an area for future study.

Outcomes

The Mentoring Kite: Revisited

The outcomes of our analysis resulted in substantive change to the mentoring kite. Without doubt the eight TMs in this study were all engaged in a form of practitioner inquiry (the vertical axis) as their mentoring unfolded over the course of the ten-week practicum. However, from reading the transcripts and reviewing the field notes, it became clear that the way in which we originally described the upper and lower extremes of this axis fell short of what we witnessed during the practicum. Notably, our study revealed that while 'intent' was an important part of practitioner inquiry, 'instinct' was not its polar opposite. In an attempt for greater clarity, we have revised the labels for each end of the practitioner inquiry axis to read 'interested in and curious about practice' and 'largely indifferent about practice,' respectively (Fig. 2).

Further, the eight TMs did not simply draw on exclusively codified information in terms of a specialized knowledge base for mentoring but rather were actively constructing their own knowledge base for mentoring throughout the practicum. Thus, we revised the label for the horizontal axis as 'sense-making' as this descriptor better captured how and in what ways TMs were developing their knowledge about mentoring. The descriptors for each end of the horizontal axis were also revised accordingly.

The revisions to the two axes had a ripple effect across the kite resulting in other important changes. For example, we felt that our rendering of the four realities delineated by the two axes was better represented by the following descriptors: professional, conceptually conversant, practice-driven, and unaware. In making these changes, we found the idiom "talk the talk and walk the walk" (i.e., the ability to back up one's words with equivalent actions and vice versa) to be a particularly good shorthand for summarizing the overall impact of these revisions on each quadrant.

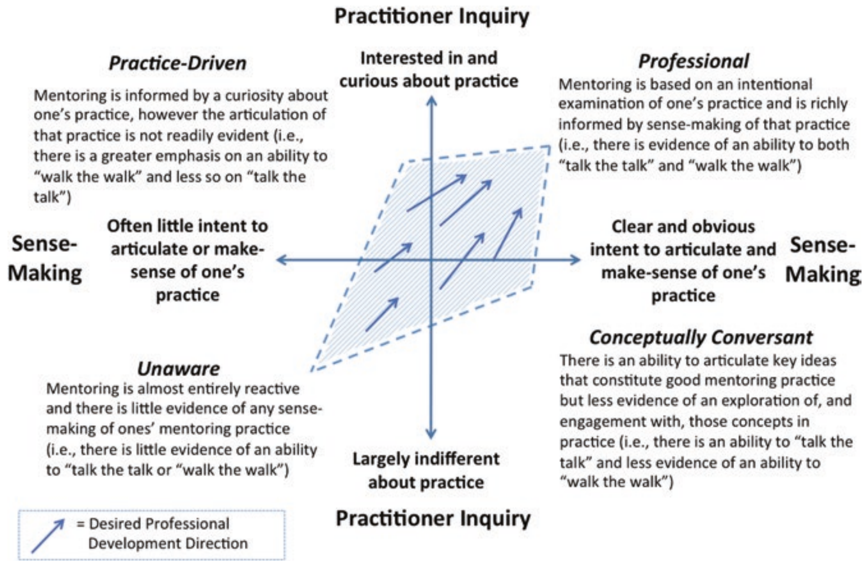

Fig. 2 The mentoring kite: revisited

Mirroring, Conversations, and Collaboration

As we reflected on the changes to the mentoring kite, we were reminded that six out of the eight TMs reported having to be convinced to become mentors when they were first approached to take on this role earlier in their careers. They felt, in all humility, that they were unqualified for the task. They believed that someone tasked with the role of mentor needed to be a master teacher with the appropriate skills. Once they agree to take on the role, they anticipated that they would be mentored in their new role but unfortunately found that they were largely left to their own devices. It was at this point in our analysis that we realized that we were no longer simply curious about "To what extent do TMs inquire into their practices and work with a knowledge base?" (which was the original framing of the research question). Rather, our focus shifted to a curiosity about the *ways in which* TMs conceive, develop, and carry out these professional descriptors of their practices (the wording of which is now reflected in the current framing of the research question). Two

interrelated notions characterize this 'play of ideas' for the mentors in this study: *mirroring* and *conversation*. These two notions revealed for us an even more significant outcome from this study: the essential role of *collaboration* between and among all parties. We now see this as a third critical dimension of mentoring as a professional practice.

Mirroring

In their role as gatekeepers of the profession, the TMs tried to help the TCs understand what is broadly considered appropriate practice and behavior for a beginning teacher. To do this, the TMs relied on the prompts and provocations from the TCs' own practicum experiences. In many instances, mirroring was used as the starting point for these discussions. For example, a video recording of the TC's lesson could be used as a mirror for the TCs to reflect upon their practice. Further, the TMs noted that their classroom observation notes also acted as mirrors to the TCs' practices. This practice of *mentoring by mirroring* rather than *teaching by telling* was important for the mentors in this study. However, when the TM provides a mirror for the TC, the TC still had to be aware of and consciously examine what they saw in 'the mirror.' The mirror does not merely replicate practice. Rather the viewer is involved in a reconstruction of practice, a type of sense-making, as they apprehend what they see in the mirror. Mentoring as mirroring emerged a powerful part of the mentors' practice in this study. For example, in the case of Christine:

Researcher: Again the mirror thing… that supportive element, that sounding board. In as much as there's mentoring going on, it's everybody kind of helping and mentoring everybody.

Christine: Yeah, because I often said, "Is it just me? Am I seeing things that are not happening? Am I being harsh? Am I being…" So it was really nice to have others have somewhat the same… [response/reaction]

However, as the TMs' use of mirroring prompted TC reflection, they also found that the TCs' reactions provoked the TMs to reflect on both their classroom teaching and their TC mentoring, for example:

Megan: As you're observing [the TC], you're thinking, "Oh, do I do that?" or "Do I say these things?" or "Do I have long pauses in that way?"

This complicates matters insofar as who is prompting reflection for whom. Similar to Schön's (1987) 'hall of mirrors,' participants continually shift their frame of reference "seeing it in its own terms and as a possible mirror of the interaction the [other] has brought" (p. 297). Ironically, TCs might be unaware of their potency in this regard perhaps because a common view of mentoring is of the TC as protégé and the TM as maître. Although this view of mentoring still exists in teacher education, it is gradually being supplanted by more collaborative and reciprocal understanding of the learning that takes place in practicum contexts (Holloway, 2001). Yet it bears mentioning again, but this time in terms of TMs, that the mentor must be willing to spot themselves in their observances of the TC, or else their mirroring effects are much diminished.

A second kind of reflection that arises from the notion of mirroring is a self-conscious awareness of responsibility that comes with being a mentor, which Christine expressed in the wake of her TC's decision to withdraw.

Christine: In some ways, I thought—you know, if someone was mirroring, or had a mirror on me, how would I be doing as an advisor? So I've been thinking a lot about that.

Not only was Christine already bearing the weight of responsibility for her TC's fate, Christine was now also considering, after the fact, her complicity in the outcome of her TC's withdrawal. More broadly, one suspects the mirror effect must stir TMs' memories of their own practicum experiences as well as empathy for the stress and anxiety that TCs inevitably feel in the practicum context. Taken together, self-awareness and self-consciousness on the part of a TM act as a check on the power dynamic embedded in the mentoring relationship.

Conversation

A significant observation arising from this study was the potency of conversation afforded by our presence as researchers. TMs noted that the research interviews provided a valuable, and otherwise rare, opportunity to talk about mentoring. Our initial intervention as researchers changed into a valuable interaction from the perspective of the TMs as there was a hunger for a conversation about mentoring (Henstrand, 2006). As the study unfolded, we found that our role as researchers (who were also part-time practicing teachers) positioned us at the conjunction of two different sorts of discourses; we were "involved in social constructions via interactions with the participants of the study and with intellectual colleagues that have helped formulate the framework being used in the study" (Albert et al., 2006, p. 83). This well describes our combined relationship with the eight TMs. Unexpected but nonetheless welcomed, the liminality of our position "[represented] neither this nor that but both and more" (Aronowitz et al., 2006, p. 64). This again invites the mirroring imagery as one's words and actions are seen in another's responses and reactions. Since conversations are generally informal and open-ended, the interlocutors must sustain intentional interest in the conversation as it unfolds. Observing that "no one knows in advance what will come out of a conversation" (p. 383), Gadamer (2004) suggests that the potentiality of a genuine conversation is its dynamic and unpredictable nature.

Within this liminal space lies an equalizing force that enables those involved in the conversation to lean in and out during their engagement with each other. As Wright (2015) describes, "the [one] interlocutor grasps the point of view of the other in order to bring it into relation with his own perspective" (p. 92). In this respect, Tracy (1998) reminds us that "we understand at all insofar as we understand differently" (p. 600) in the course of our interaction with others. The goal of what is learnt in this back and forth within mentoring contexts is "a higher universality that overcomes not only our own particularity but also that of the other" (Gadamer, 2004, p. 304). Wright (2015) refers to this as a "*hermeneutic conversation* that... aims to find a common language and a shared understanding of a subject matter" (p. 92, original emphasis). What ultimately seems to matter about conversation is its organic authenticity, "[a]

process that puts the dialogue partners in the way of something that is not predetermined because it comes 'to us'… through the dialogue itself" (Arthos, 2008, p. 185). The TMs in this study mentioned that conversations such as ours were far from typical occurrences in their schools. That they might occur with university researchers who possessed a vested interest in their practice was a bonus from their perspective.

Collaboration

As we looked back over the study it became increasingly clear to us that, as intervenors in the practicum, the TMs viewed us not as researchers but as collaborators. For example, one TM extended an invitation to continue the conversation beyond the study:

Sam: You can come back next year if you like. It feels good. It's like a debrief time.

Being viewed as collaborators was probably the result of our use of semi-structured interviews. This data collection strategy allowed the TMs to have a sense of agency in our investigation of mentoring that might not have been possible with other more rigid data collection methods. Regardless, it was the sense of collaboration (i.e., working with each other in the best interest of the TCs) that emerged as significant in terms of how the TMs inquired into and made sense of their practice as they interacted with us. This sense of collaboration was so pronounced by the end of the study, that we felt it went beyond what could be captured in the two dimensions of the mentoring kite. Indeed, we now consider collaboration as something akin to a third axis in any consideration of mentoring as a professional practice (Fig. 3).

This notion of collaboration as an essential component of mentoring is something we look forward to exploring further as part of our ongoing research program with mentors in practicum settings.

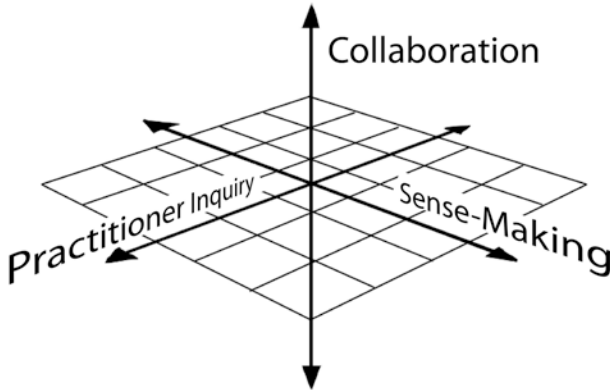

Fig. 3 Collaboration: a third axis in conceptualizing mentoring as a professional practice

Final Word

As researchers, we set out to study mentoring by prompting TMs to articulate assumptions that underlie their practice as a first step to practitioner inquiry and from there to identify ways in which they drew upon and developed a knowledge base for mentoring. We deliberately approached the TMs in the most collegial way possible as a mark of respect for their professionalism and to allay any anxieties they might have about our intervention as university researchers. The results of our study offer a revised version of the mentoring kite that initially framed our study as one way of conceptualizing mentoring as a professional practice. Additionally, the notion of collaboration emerged as an important element of what and how the TMs made sense of their mentoring as they participated in the study. We offer both the revised mentoring kite and the notion of collaboration as two contributions in our attempt to make sense of mentoring as a professional practice in practicum contexts. We trust that these ideas will promote further discussion and debate in support of the important but sadly too often neglected work that mentors do in ensuring the future of the profession.

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Classroom Interaction Challenges as Triggers for Improving Early Career Teachers' Pedagogical Understanding and Competencies Through Mentoring Dialogues

Auli Toom and Jukka Husu

Introduction: Objectives and Research Questions

The research on early career teachers' professional concerns, challenges and strengths as well as mentoring has grown significantly during the last decades (Kagan, 1992; Feiman-Nemser, 2001; Beck & Kosnik, 2014, Gordon, 2020). Early career teachers have been shown to be enthusiastic

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and capable of doing teachers' work, interact with pupils as well as having potential to renew the school's professional community and promote pedagogical innovations at school. While early career teachers are able to notice routines and challenges that may hinder their professional learning and development in their school communities, they are also in vulnerable position during their first years in teaching (Savill-Smith, 2019). Especially complexities in classroom management, demanding interactions with pupils, colleagues and parents as well as experiences of professional inadequacy are shown to be challenging during the early years (Heikonen et al., 2017a). These encounters can develop so serious that novice teachers may become unsure about their work and even consider leaving the profession (Kelly et al., 2019). Previous research has discussed the relevance of pre-service teacher education, how it prepares early career teachers for the work of teaching (DeAngelis et al., 2013; Lejonberga et al., 2018), and what kind of professional and collegial support teachers learn to receive and provide (Väisänen et al., 2016), as well as what they still need when they enter the profession (Louws et al., 2018; Wexler, 2020). The findings raise questions of, how early career teachers can better learn such a reflective and proactive stance towards their work in order to be able to perceive both successful and challenging classroom interactions and experiences as further starting points for their professional learning and development.

This chapter focuses on early career teachers' professional concerns and needs for mentoring identified from their classroom practices. We aim to clarify mentoring dialogues by addressing the following two research questions:

1. What challenges do the early career teachers identify in their classroom interaction?
2. How do the early career teachers and their supervising mentors in teacher education explain challenges in classroom interaction in dialogue?

Our focus on early career teachers' teaching concerns and challenges (Fuller, 1969; Bullough & Draper, 2004), and experiences and responses the early career teachers share with their mentors in teacher education

(Cochran-Smith & Lytle, 2009; Orland-Barak & Wang, 2020) aims to connect mentoring with early career teachers' pedagogical understanding and competencies, and further their professional agency (Toom et al., 2015).

The chapter opens up perspectives on the professional potential among early career teachers, and how it can be enhanced and encouraged through mentoring during teacher education (Stanulis & Bell, 2017; Stanulis et al., 2018). Adding to the previous research, the chapter shows how the mentoring activities matter in the early career teachers' learning to teach processes, and how the early career teachers can be supported to overcome their professional concerns (Rodriguez et al., 2020). The chapter also presents what experienced colleagues and school communities can learn from early career teachers through collegial mentoring activities (Schwille, 2016; Bressman et al., 2018). We give examples of how early career teachers in school communities process information and make shared decisions, especially in situations they face uncertainties and confusion, which often address whole communities and require all teachers to deviate from prevailing practices. These educative experiences can push the whole school community towards inquiry and growth (Eros, 2011; Bennet et al., 2013).

Theoretical Framework

Challenges in Classroom Interaction Among Early Career Teachers in Teacher Education

Recent studies on early career teachers indicate that functioning classroom interaction plays a central role in teachers' work (Doyle, 2006; Spilt et al., 2011; Voss et al., 2017; Carstensen & Klusmann, 2020). Teachers do most of their work in the classrooms with students and most of their time is spent in the classroom in a variety of ways. During teacher education, several courses aim to enhance student teachers' capabilities for classroom interaction, for example mastery of various teaching methods, maintaining good learning atmosphere and classroom management

techniques (Mena et al., 2016; van Tartwijk et al., 2017). Maintaining classroom interaction is a basic teaching skill requiring a variety of possibilities to learn in teacher education (Vermunt, 2014). It benefits from theoretical understanding and hands-on practice (Janssen et al., 2015) and systematic, repeated reflection with experienced mentors (van Ginkel et al., 2016). Capabilities in maintaining interaction with pupils are related to experiences of lesser inadequacy and turnover intentions (Heikonen et al., 2017a). In turn, challenges in the classroom interaction may weaken teachers' self-efficacy and experiences of professional capabilities. This sets high demands for teacher education and mentoring practices to provide early career teachers with capabilities in managing classroom interaction successfully as well as overcoming both present and future challenges (Solheim et al., 2018).

During teacher education, teaching practice supported with sufficient and competent supervision and mentoring is a key arena for learning classroom interaction (Saariaho et al., 2016). Building supportive learning environments and engaging pedagogical practices for students requires teachers to put all their capabilities and skills in use in classrooms. While interaction develops as smooth and functioning, it further empowers teachers to develop teaching in line with students' needs (Broadley et al., 2019). At some points, the process can also be difficult and tensioned, and challenge teachers' knowledge and views in many ways. Early career teachers' interpretations of the challenging situations often vary, and their behaviours and strategies tend to be diverse. The research shows that novices tend to utilize reactive and rigid strategies, and end up solving the challenging classroom interaction situations quickly without much monitoring or searching for alternatives (Heikonen et al., 2017b; Wexler, 2020). This may further damage the classroom climate and make the early career teachers' work even more complex. Thus, for early career teachers' professional learning and development, it is vital how they can handle and overcome those challenges and difficulties in their classroom interaction (Gotwals & Birmingham, 2016; Heikonen et al., 2017b). When they learn to perceive challenges as integral and unavoidable part of classroom interaction (Lampert et al., 2013), they are able to make use of them as learning opportunities (Ward et al., 2013).

Mentoring Dialogues in Teacher Education: Understanding Early Career Teachers' Challenges in Classroom Interaction

While critical events related to teacher learning and reflection with mentors and peers have been utilized as ways to broaden early career teachers' understanding of their practice, challenges in classroom interaction have been less in focus in research on mentoring dialogues (Heikonen, 2020). The emphasis is important because challenges in classroom interaction capture both the teachers' and the students' mutual perspectives (Allen, 2009), and when enriched with different knowledge and practical views in mentoring dialogues, the classroom interactions are powerful vehicles for learning both for early career teachers and mentors in teacher education, and allow complementing each other's perspectives. They also make it possible to extend the impact of the solutions to the whole school community. As Milton and her colleagues (2020) state: "It takes a school to grow a teacher" (p. 12). Honig (1994) speaks about "dilemmatic space" which highlights the wider context in which the incidents occur, instead of specific and disconnected situations. Teacher educators and student teachers often engage in conversations around incidents in classroom interaction during teacher education courses. However, the cases are often discussed as individual negotiations disconnected from practice—often taking place in practicums—as the space that generated them. Thus, this study aims to unpack those dilemmatic spaces to examine how negotiations of classroom interaction situations can support student teachers' agency and professional development.

In line with Biesta et al. (2017), we analyse agency in an ecological sense, as enacted in relation to concrete settings and conditions where teaching happened. The incidents in classroom interaction can be seen as frames of practice, involving procedures that establish and maintain teaching and learning in schools and classrooms, and which also establish relationships with student teachers and mentoring teacher educators. As frames of practice, Giddens (1984) notes, classroom incidents provide possibilities to extend practice in both practical and discursive ways. The former refers to the capacity to be aware of events that are happening during the instructional process, while the latter refers to being able to

discuss those events and the ways of participation in the process. A combination of different frames of practice gives rise to different perceptions and enables participants to become involved and engaged in different meanings of classroom interactions (Burridge et al., 2016).

Mentoring dialogues focusing on challenges in classroom interaction require mutual trust and respectful relationships between teacher education mentors and early career teachers as different practical approaches, varied experiences, and theoretical understandings come in to play in the mentoring dialogues (Orland-Barak, 2003; Russell & Martin, 2017). In those conversations, constructive and open atmosphere is necessary as both parties want their dialogues to serve their learning and professional development. The elaboration of the classroom challenges, understanding the threads in individual cases thoroughly, and transforming complexities into professional learning experiences can be a demanding task both emotionally and cognitively (Mena et al., 2016).

For this reason, it is crucial how both mentors and student teachers approach the classroom challenges to be discussed: what kind of opening and additional questions they present, which aspects and how they comment the challenge, how they tackle on student teacher's role in situation, how they comment, sum up and conclude the dialogue, and whose interpretations of the situations are noticed and valued. All these elements contribute to the atmosphere of the mentoring dialogues. In the beginning of the mentoring relationship and dialogues, the mentors are responsible for the quality of the dialogue although the setting can become gradually more collegial. In case the dialogues are positive, both early career teachers and mentors may contribute equally to the process and make it a developmental pathway for their shared learning.

Successful mentoring dialogues are guided by student teachers' learning goals and support needs, which provide extensive possibilities to learn. In negotiations, the mentors have an important role in balancing how they show their open care and will to help, and at the same time, how they challenge student teachers and promote their learning (cf. Rajuan et al., 2008). The dialogues are sensitive, since student teachers are learning new knowledge and skills, and thus may feel vulnerable in the middle of the challenges. Appraising student teachers' behaviour, seeking solutions to challenges faced with pupils and understanding the challenges thoroughly (cf. Mena & Clarke, 2015; Peercy et al., 2020) are all needed in the

process of learning to become a teacher. In the best case, the mentoring dialogues build functioning conditions both for student learning and for their own professional learning and development together with their peers and communities (Payne & Zeichner, 2017; Peercy & Troyan, 2017).

Methodology

Research Context

The study was conducted among early career teachers and mentors in Finnish university level teacher education. All student teachers in Finland complete a five-year academic master programme (300 ECTS)[1] which includes orientating studies (25 ECTS), major studies in educational sciences (120 ECTS), teaching practice (20 ECTS), multidisciplinary studies in subjects taught at comprehensive school (60 ECTS) and optional studies (75 ECTS). This is a requirement for receiving a formal teacher qualification. Student teachers are intensively supervised and mentored especially during the teaching practice by the teacher of the class in the regular schools in which they complete their teaching practice periods. They do the teaching practice with their peer student, and thus, they learn to teach and support their peers already during teacher education. They take turns in their teaching, and every student teacher receives individual feedback and mentoring. In addition, they also learn to co-teach as well as provide and receive feedback with their peers intensively about their teaching.

Data Collection

The video and video-stimulated mentoring dialogue (STRM) data were collected from 41 pairs of early career teachers (mean age 26 years; 36 females and 5 males) and their mentors (mean age 52 years; 39 females and 2 males). The procedure of guided reflection (Husu et al., 2008; Toom et al., 2019) consisting of videoed lessons, choosing one

[1] The European Credit Transfer and Accumulation System (ECTS) is a tool of the European Higher Education Area for making studies and courses more transparent. It helps students to move between countries and to have their academic qualifications and study periods abroad recognised.

challenging classroom event from the video and having mentoring dialogue on it, allowed the participants to ground dialogues to practise of classroom interaction. The early career teachers chose the challenging classroom events from their video recorded lesson and thus defined it as challenging for themselves. The video helped the early career teachers and their mentors to elaborate the extracted challenging event in detail. The data consisted of challenging classroom events identified by the student teachers and the dialogues between the student teachers and the mentors which were linked to the challenging events.

Data Analysis in Three Phases

The data analysis of challenging classroom events and related mentoring dialogues consisted of three phases. The challenging classroom events (f=41) early career teachers identified were extracted from the video material. The mentoring dialogues were transcribed and divided into the meaning units (1294 analysis units). In the first phase, the challenging events early career teachers identified were analysed into two exclusive categories: *social challenges* and *academic challenges* (Pianta & Hamre, 2009). The core of the events were interpreted from the early career teachers' descriptions, and the aim was to find out whether the challenge was related to the social aspects and relations between the teacher and students or among the students, or was it related to the academic issues, learning and teaching. In the second phase, the mentoring dialogue data (1294 units) were analysed with a framework including the three aspects of dialogues: *appraising*, *solution-seeking* and *understanding* (Mena & Clarke, 2015; Peercy et al., 2020). In the analysis, the characteristics of the mentoring dialogue were especially analysed, and the aim was to find out the main emphases and qualities of the dialogues. In the analysis of the dialogues, special attention was paid to the following four dimensions: 1) the way in which the challenging events were approached, 2) the quality of the questions and additional questions, 3) quality of the responses and 4) the quality of the conclusions that were drawn during and in the end of the mentoring dialogues. These aspects and how they emerged in the different dialogues are presented in the results.

Results

Early Career Teachers' Experienced Challenges in Classroom Interaction

The results show that early career teachers mainly identified *academic challenges* (61%) in the classroom interaction. The academic challenges focused especially on the organization of the learning environment in the classroom, use of teaching methods, instructing students, and individual guidance provided for students in line with the curriculum. The complexities in presenting curricular contents as well as challenges in using of learning and demonstration materials were also typical academic challenges. Early career teachers experienced these challenging to solve while trying to maintain functioning classroom interaction.

Early career teachers also experienced *social challenges* (39%) in classroom interaction. The category included challenges related to atmosphere in the classroom and classroom management. It also pointed out to disagreements and complex relationships with students that emerged in the interaction, some of them being longer-term difficulties that appeared in the current lesson. Also, some of the transitions during the lesson were experienced as challenges, because they made some of the students restless. The classroom interaction should be paced down before focusing on pupil learning.

Qualities of Mentoring Dialogues Triggered by the Classroom Interaction Challenges

In *appraising mentoring dialogues* (42%), early career teachers showed a tendency to evaluate themselves when analysing the challenging event, and found several aspects from their behaviour, presence, interaction with the students or work in the classroom that they perceived requiring improvement. Early career teachers pointed out various details from the event as they had experienced it and what they had felt in the classroom, and presented evaluations and sometimes relatively harsh judgements of it. Mentors' questions regarding the challenging event were either evaluative or descriptive, and they did not help the early career teachers to further analyse and understand the event. Despite the efforts, mentors

did not succeed in changing the tone of the dialogue. In some cases, the mentors' questions and responses even strengthened the evaluative elements of the dialogue, which may have hindered both the early career teacher and the mentor to proceed further in the conversation. The dialogue remained on a relatively superficial level, and the possible reasons behind the challenges, more general understanding of the challenges or possible solutions to them were not grasped. Conclusions drawn from the challenging event and discussion related to it were thin. In the following excerpt, this kind of mentoring dialogue is demonstrated:

ECT: Here is the small group work situation, and I had remarked the group that they should concentrate on their own tasks. Their attention slipped and they had challenges in proceeding in their group work. I went to talk with them and tried to help in a very constructive way. I tried to help them in many different ways—asked the reasons for the challenges, guided in writing, guided with concept map, encouraged in reading the text—but nothing worked out. For some reason, it was extremely difficult. They only laughed for everything.

Mentor: But you really helped them then.

ECT: But then I just went away. The boys did not listen at all and I could not find any solution.

Mentor: What did you think in the situation?

ECT: I thought that I have to go back and get them focused. But then, for some reason…

Mentor: Did you think something … you tried different ways…?

ECT: Well, I just watched—I did not know what was going on. Nothing worked out. I tried to be relaxed and refocus their work. But it did not… somehow I gave up.

Mentor: Did you think about the reasons behind the pupils' and your behaviour?

ECT: Yes, both the subject matter and group work were difficult for them. I do not know.

Mentor: When did you notice that you actually did not take care of the situation?

ECT: Yes, I noticed it during the lesson… but I also lost my concentration. But I have tried to improve my own behaviour in

the similar situations in the class in order to help them to be more concentrated.

Mentor: Have you discussed this kind of classroom interaction situations in the theoretical courses?

ECT: Yes, to some extent. In principle I am aware of these, but they are always so different when you face them in practice.

The *mentoring dialogues emphasising understanding* (33%) represented a more comprehensive view of the challenges. Early career teachers were able to perceive and focus on more general aspects when analysing the challenging situations instead of sticking into the details of the classroom interaction. They pondered reasons behind their own behaviour, their decisions that had led to the current challenging situation, as well as underlying factors and reasons for students' behaviour. Mentors succeeded in presenting such questions, further questions and conclusions in the dialogue that encouraged early career teachers to analyse the possible contextual and backgrounding aspects related to the challenging event. These helped the early career teachers to observe the challenges from the broader perspective instead of mere superficial details. They were able to draw such conclusions from the discussion that broadened their understanding of the event in the classroom. The following excerpt demonstrates this kind of mentoring dialogue.

ECT: We have just changed from one activity to another, it is a little bit chaotic and we are collecting things. Then it is time to calm down. I stand still and observe what is going on. Then when proceed to the task that takes time. I reflect on the benefits and relevance of the task, was it too long and boring, or was it functional for the students. I can see that I filter and weigh my thoughts.

Mentor: What are your aims in the situation? What are you trying to assure?

ECT: I try to be fully engaged in the students' activities and perceive what is going on. I try to notice those who need immediate attention in order to keep them on the track.

Mentor: What did you notice?

ECT: Many small things, pencils and books were missing. Someone needed more detailed advise.

Mentor: How do you perceive the atmosphere in the classroom?

ECT: It is quite good. For some reason, I was a little bit excited and tried to relax.

Mentor: How do the students work in the situation? What kind of observations you make based on the students' behaviors?

ECT: I did not make so many observations. I was so focused on my own behavior in the class. I noticed that I try to keep the balance between the students with needs for extra advice and the rest of the class. I somehow felt that the lesson will suffer if I focus too much on individual students.

Mentor: So you try to take care of the whole lesson and the individual students.

ECT: Yes, I try to notice single students who do not concentrate on the lesson or have not opened the books although the lesson has progressed. I feel that I could not take care of this effectively or reasonably enough.

Mentor: What do you mean by noticing here?

ECT: I am sometimes afraid that the lesson could extend so that I cannot manage at this point. I am really unsure about the substance of the lesson, and I try to compensate it. I try to stick to the basic things and the materials as concretely as possible.

Mentor: I am surprised about what you said because it cannot be observed from your teaching. The lesson progresses smoothly and the impression is that you balance between the whole class and individual students.

ECT: And actually here, the boy in green shirt, has often challenges in opening the books. I have tried not to point him out negatively and tried to reward him as much as possible. He raised his hand and I noticed that it has been worth rewarding him.

Mentor: Have your observations of him had influence on your behavior?

ECT: Well, I identify so many of my own characteristics in the students and try to not make them as problems. I try to find ways to support them on their own terms and avoid confrontations, and this requires understanding them.

Mentor: You skilfully and analytically elaborated the reciprocal relationship between teacher and students in the classroom interaction. And also, when your attention is focused on yourself, it is away from the students.

Only 25% of the *mentoring dialogues* were *solution-seeking*, where the emphasis was on formulating strategies to overcome the challenges and be prepared for teachers' work. Early career teachers together with their mentors were able to analyse and understand thoroughly the challenge in the classroom, but also find a variety of solutions to the situation from different perspectives. They were able to find links between the classroom challenges, their strategies and solutions and the theories, which allowed them to progress with the reflections even further. Mentors asked such questions that encouraged early career teachers to perceive the key aspects of the classroom events. Mentors did not push them with their own interpretations but rather tried to help in analysing, searching and finding solutions for the challenges. They also aimed at helping through emphasizing the potential and strengths they perceived in student teachers' expertise, behaviours and elaboration of the situations. The mentors helped early career teachers to draw such conclusions from the analysis of the challenging events that would help them further in similar classroom situations in the future and also construct broader understanding of themselves as teachers in classroom interaction. The next excerpt demonstrates this kind of mentoring dialogue.

ECT: There is one girl who has slowly learnt to read, she has some mistake that I try to make her understand. What is said here and what should be there. She reads for a while, but then understands what is in the text.

Mentor: What did you think as a teacher when you realised the situation?

ECT: I thought that now I need to act in a way that she would understand herself. So that she would have the experience of understanding herself. I also thought that at some point, I will help her to overcome the difficulty if she does not under-

stand. I thought that I just give the answer. And she can correct it. I thought about her motivation, about encouraging her, and her experience in solving the challenge and correcting the mistake herself. And having the feeling that "I can do this".

Mentor: Why is this so important to you? It clearly is.

ECT: I think that it is a starting point for learning, You cannot learn if you do not receive experience of efficacy when doing things.

Mentor: You worked for quite a long time with the student. How did you try to help and advise her?

ECT: We hyphenated it together, I tried to articulate it, I made her listen to the hyphens, we read it together, I made her read and listen again. Nothing exceptional, but always when she succeeded I tried to encourage her.

Mentor: How did you feel about the student and thought about the situation afterwards?

ECT: Quite good, although I thought that it was sensitive and maybe too much focus on the mistake only. I was afraid that it was too discouraging. But she was ok and happy about being able to read herself.

Mentor: How much have you discussed and analysed these issues related to individual support in your studies?

ECT: Mmm, a bit yes. We have discussed about constructing motivation and individual progress, and why motivation is needed. But less about meeting individual students with their needs.

Mentor: And you said very well that the theoretical approaches—for example related to constructing motivation—become realised in the practices in the classroom.

ECT: I really did not think about the motivation theories, but more about my behavior as a teacher in the situation. Do I encourage the student about her personal characteristics or how she managed to solve the challenge in the situation. So focus clearly more on the efforts rather than personal characteristics.

Significance of the Work to Quality and Professional Learning in Teacher Education

Our study shows that challenging classroom events identified by early career teachers can serve as a vehicle for productive mentoring dialogues and allow a variety of learning opportunities both for early career teachers and for mentors in teacher education. The mentoring dialogues contained both the evaluative, elaborative and the foundational elements of the classroom challenges. Surprisingly, concrete and practical strategies were not merely at the core in the mentoring dialogues. Rather, the early career teachers had also a need to understand the challenges thoroughly and clarify both the students' behaviour but especially their own behaviour in the classroom interaction profoundly.

Our analysis and results of the teaching practicum as a dilemmatic space (Honig, 1994) or as frames of practice (Giddens, 1984) supports the need to extend mentoring discussions in teacher education. As student teachers' and their teacher education mentors' capacities to notice events are developed, both are more able to discuss incidents of classroom interaction and develop ways for shared negotiation. Whilst Burridge et al. (2016) note, "as teaching practice is expanded, framing will be strengthened and new frames initiated. …[and] it is this totality of human engagement with learning environments that comprise teacher quality in schools" (p. 158).

It is important that early career teachers learn to identify, analyse and understand the challenges in the classroom interaction already during their pre-service teacher education as well as learn how to cope with them in a variety of ways. This would allow them to perceive the challenges in classroom interaction as a genuine part of it and as issues to be solved, not as failures that could or should be avoided. Otherwise, early career teachers might experience the first years in the profession too burdening. The challenges may become overwhelming in relation to their growing professional capabilities, and they may be in the risk of leaving the profession (cf. Heikonen et al., 2017). These threats can be partly buffered with the effective and systematic mentoring during pre-service teacher education.

When having this kind of capabilities and strategies for overcoming the challenges, they might even be of help for their future colleagues.

Our study also shows how demanding it is for the early career teachers to analyze and understand one's own behavior in the classroom interaction and reasons behind it even with the help of experienced mentors. Thus, attention should be paid to the ways classroom interaction and learning are organized in order to promote them in pre-service teacher education and in-service teacher development. Teachers' capacity to build and promote safe and functional professional relationships in their professional communities facilitates their professional learning. Hence, mentoring programs should also include elements of social support and take into account the varied capacities of professional communities to deal with challenges enhancing teachers' mentoring dialogues. While teacher education programs seem to succeed, at least to some extent, in providing student teachers platforms for mentoring classroom practices, there are aspects that need to be considered in teacher education pedagogy. We highlight the early-career teachers' need to employ their pupils and colleagues as resources for testing and renewing classroom practices. Although academic courses may not always be helpful, versatile mentoring opportunities for analyzing classroom interaction have shown the capacity to promote teacher's professional learning.

Mentors play a key role while trying to support early career teachers' strivings to understand and learn from their practice. Focusing on the challenges in the classroom interaction requires trust and confidentiality in the mentoring relationship that needs to be built systematically. We emphasize the need to carefully consider and monitor the quality of the mentoring dialogues in line with the learning needs of early career teachers.

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What Remains of Mentor. Investigation on the Former Trainees Involved in Mentoring Program at the University of Bari, Italy

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Objectives and Research Questions

International documents (European Commission, 2012; OECD, 2016, 2020) and specific research (Oancea, 2014; He, 2010) highlighted advantages in linking preservice training, induction, and professional development and recommended:

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- Extension of mentoring beyond the preservice phase, in which novice teachers are followed by experts at educational institutions—compare in Italy, the so-called direct traineeship.
- Collaboration between school and training institutions, within the colleges in sharing of reflection and practices, to guarantee effective professional development.
- Possibility of informal and self-directed learning (Caena, 2014).

In order to support early career professional development and assure retention, countries have mixed the traditional mentoring of induction programs for novice teachers (European Commission, 2012;; OECD, 2016, 2020) with other formative tools, such as peer network at individual and organizational level (Pultorak, 2014; Lee & Lee, 2013), expert input also in seminar form (Feiman-Nemser, 2001; Du Plessis, 2019), self-reflection on the practice (e.g., dialogue with the supervisor), 'reflective' (Morisse & Lafortune, 2014), or 'professional' (Perla, 2012) writings.

Also OECD expanded the meaning of mentoring, inspired by the *professional learning community* (PLC) model of socio-constructivist system (OECD, 2016)—named 'peer feedback' by Pultorak (2014) or 'collaborative network' by Lee and Lee (2013)—and recognized a double function of *developing* (cognitive and instructive requests) and *supporting* (orientation requests in the disputed and leadership) (OECD, 2020).

This confirms an ongoing change in the forms of mentoring: from the expert's *exclusive guide* for the inexperienced teacher (Calderhead, 1988; Leshem, 2012)—inspired by 'two-dimensional' model (Daloz, 1986)—to the *network mentoring* carried out by other school workers, both at an educational and organizational level (Pultorak, 2014; Lee & Lee, 2013)—inspired by systemic (Keller, 2005) and socio-constructivist models.

OECD has argued that mentoring can no longer be understood as the 'exclusive' and formal mentor-mentee relationship—having a *one-to-one* relationship—but integrated within deconstructing and open forms of 'peer network' (OECD, 2016, p. 160)—having a *one-to-many*, or *many-to-many* relationship—extending to the entire school community.[1]

[1] As mentioned above, the OECD describes types of mentoring in which a one-to-one relationship is prevalent, linked to the in-service training phase, but forms of mentoring that involve multiple relationships are beginning to become more and more numerous: a. a mentee/several mentors or

In Italy the trainee tutor—the expert teacher who guides the teacher in initial training during the internship within the school context—called 'mentor' at an international level—has only recently been clarified in terms of functions and skills. Although this function was already provided by the first law that made initial teacher education at university level compulsory (Ministerial Decree 153/1998), as general support to the trainee teacher, only in 2010 its profile was finally clarified (Ministerial Decree 249/2010, art.11, paragraph 3), as the coordination of the training activity within the school context, and distinct from the other roles (supervisor-tutor and coordinator-tutor).

The trends highlighted by international documents (OECD, 2016, 2020) and the research evidence (Pultorak, 2014; Lee & Lee, 2013) prompted an investigation on *networking* mentoring in Italy, starting from the local Bari reality.

General questions have been posed: is there any form of networking mentoring in Italy in recent times? If so, what features does it have?

The objectives of the investigation conducted at the University of Bari were therefore:

- Knowing what kind of mentoring the former trainees of the qualification course have experienced
- Knowing, in particular, if the former trainees have experienced network mentoring

Theoretical Perspectives

In the development of novice teachers mentoring has the irreplaceable function of offering 'opportunities to learn within the context of teaching' (Lai, 2005, p. 12; OECD, 2016). *Mentoring* is recognized as a key

more mentees from the same educational institution; b. more mentee/more mentors also from different school institutions, linked by specific conventions (i.e., networking)—where more expert teachers offer mentoring service to one or more novices, often in specific areas of professionalism—Sweden, Austria. These 'multiple' forms of mentoring are mainly organized in the transition phase that goes from the end of induction to the beginning of real professional development (Heikkinen, Jokinen, Tynjala, 2012; OECD, 2020, Box II 4.2).

device in teacher training, necessary in order to improve beginners' pedagogical skills and collaboration with colleagues (OECD, 2020), to develop that 'practical wisdom' (Caena, 2014), both in the initial phase and for the first professional development (Ashby et al., 2008; Orland-Barak, 2016; Spooner-Lane, 2017).

As already stated (Feiman-Nemser & Parker, 1993; Eraut, 2007; Goodnough et al., 2009), mentoring is actually an important component of induction programs, wider and more flexible (see seminars for new teachers, focusing on specific teaching areas, participation in external networks of colleagues, etc.), 'which provide support, guidance for new teachers in the transition to their first teaching assignment (…) and in the introduction into the professional network' (OECD, 2016, p. 31). Trainee teachers consider mentoring an effective way, in general, to acquire professional knowledge and skills as a teacher (He, 2010) in 'protected' conditions (Hascher et al., 2004) but also to build a variety of beliefs and representations that have complex interactions and dynamics (Hawkey, 1997). Many times research (Maynard & Furlong, 2001; Wang, 2001; He, 2010) highlighted that the different perception about the relationship with the mentor developed by mentees during the mentoring program has an influence on the consideration about learning process, even on expectations of teaching.

Maynard and Furlong (2001) described the student teachers' school-based learning as a conflicting but necessary transition from pseudoconceptions to appropriate ways of thinking, talking, and behaving, mainly based on external influences—especially the behavior and discourse of their teachers and the organization of school community. Also for this, exploring the trainee teachers' representations, built during the mentoring program, would allow to know how much the mentoring experience operates on a conceptual level—as a guide, influencer on the way of seeing the whole teaching.

In the perspective of cognitive science, representations are internal mental constructions that represent external reality (Henrich & Boyd, 2002), having the function of shaping the internal mental states and acting as intermediaries between the observing subject and the observed

entities, also thanks to abstract symbolic structures having their own syntax and semantics (Fodor, 1994; Pinker, 2005). They are elaborated in the form of maps that influence the consideration of oneself and others and can be influenced by social categories (Bruner & Goodman, 1947; Alan & Gary, 2011).

Phenomenological orientation studies (Textor, 2019; Duncker, 1947; Husserl, 1928), on the other hand, have become interested in the so-called experienced objects. These are considered free from the limits of space and time and almost independent from mental processes, as they are linked to significant experiences of the person, which persist over time and changing circumstances.

Educational research on teacher training has also been concerned with what influences, on the mental and experiential level, student teachers enrolled in a preservice teacher education program and has used different constructs—memories, assumptions, beliefs—(Kane & Russell, 2005; Kane, 2002; Guskey & Huberman, 1995; Guskey, 2002) in order to refer to specific aspects of such representations. As for the persistence aspect, Kane and Russell pointed out that 'enduring nature of student-teachers' beliefs and preconceptions, formed predominantly without understanding of pedagogical principles and theories' (Kane & Russell, 2005, p. 350). Some investigations, on the one hand, have justified the persistence of teacher trainee representations as a way to address change—for example, ongoing curriculum reforms (Earl et al., 2011), improved use of ICT (Minelli de Oliveira et al., 2011). Other investigations, on the other, from a hermeneutic-phenomenological perspective (McCloughe et al., 2013), have shown that the representations of trainee teachers face a 'enduring evolutionary process', as a journey strictly connected to lived time, which holds together present, past, and future. According to Y. He (2010), the mentors-mentees relation occurred in the past through meaningful social communication, interactions, and practice in reaching co-constructed goals becomes a strength and a positive resource for the novice teacher, with the function of encouragement and support, also with a view to professional growth—as suggested by Feiman-Nemser's model of 'educational mentoring' (Feiman-Nemser, 2001).

Methodology

The unit of analysis chosen has been the former trainees, who in the last three years have carried out the internship in the university course for teaching qualification in primary school. Such internship articulates 450 hours of school practice divided into three years under the guidance of a mentor, that is an in-service teacher with at least five years of experience. It is a gradual process of insertion into professional practice: from observing the mentor' actions and the contest organization to taking responsibility for the interventions in the form of projects, always supervised by the mentor.

A synthetic question has been asked to former trainees: what experience of mentoring in the form of networking did they experience during the internship? An object of investigation has been memories of past training experience, which would influence the current representations of school reality and expectations on teaching.

Data Sources

A random survey was conducted among graduates of the last three years (2018–2020) to qualification courses in 'primary education' of the University of Bari. In the survey 77 former trainees were involved (43% of the 180 graduates of the last three years) with the following characteristics: 100% females (n. 77), 83% belonging to the age group 22–30 years (n. 64—Fig. 1a), 81% having the diploma qualification (n. 62), 69% without previous teaching experience (n. 53—Fig. 1a, b, and c).

A CAWI (computer-assisted web interviewing) questionnaire was proposed to former trainees, a data collection method that is based on the compilation of a questionnaire via web provided through a link, a panel, or a website. The 'ad hoc' mixed questionnaire (Gillham, 2008) tool was articulated in 27 items—25 closed-ended (5 rating scale and response alternative), 2 open-ended. In this chapter, the focus is on the analysis of the questionnaire answers relating to the mentor function:

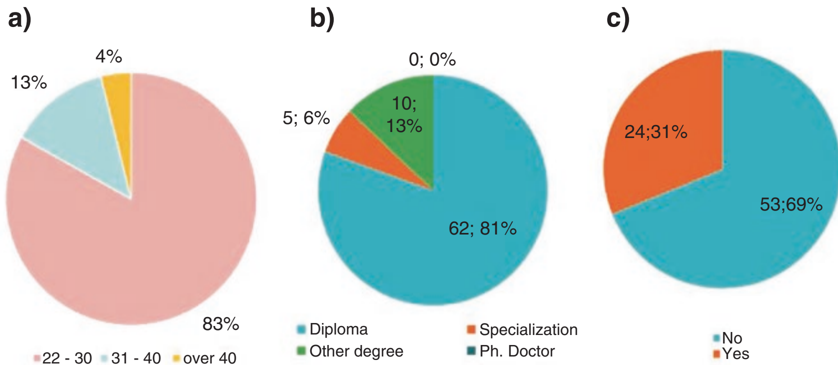

Fig. 1 Age (**a**), previous qualification (**b**), and previous teaching experience (**c**) of former trainees involved (answers: n. 77)

- Item 1—*From a general point of view, how useful do you consider your traineeship experience in the school(s)*? 1 (none)–5 (completely).
- Item 4—*How useful do you think the support of your mentor was?* 1 (none)–5 (completely).
- Item 9—*In which of the following support areas do you consider the mentor was effective?* Orientation within the practices in the classroom; orientation on the organizational structures of the school; accompanying in the management of teaching processes; accompanying class placement.
- Items 14–18 on usefulness of mentor in building the trainee's competences: disciplinary (teaching subjects), psycho-pedagogical (relationship with students, management of class dynamics, didactic communication), methodological-didactic (planning and organization of didactic activities, learning environments), organizational-didactic (working in teams, collaborating with families, relation with territory), documental-evaluation (criteria and evaluation methods, reporting interventions).
- Item 27—Free description of the type of mentoring relationship experienced.

Anchors used in the item n. 9 are taken form Ministerial Decree n. 249/2010—art. 11, par. 3—that describes the functions of the mentor

(defined as 'tutor of trainees') and distinguishes it from other figures involved in the initial teacher training (see 'supervisor-tutor' and 'coordinator-tutor'). Anchors for item nos. 14–18 are taken form art. n. 26 CCNL (National Collective Labour Agreement) that describes the competences related to the teaching function: 'realizes the teaching/learning process aimed at promoting the human, cultural, civil and professional development of pupils, on the basis of the aims and objectives set by the school systems defined for the various orders and degrees of education'.

Data Analysis

The synthetic analysis was carried out on the quantitative data of the closed answers by means of a descriptive statistical procedure, on the other hand, on the qualitative data of the open answers by means of a textual analysis based on a 'grounded procedure' (Charmaz, 2006).

For the representation of the quantitative data—answers to question nos. 1, 4, and 9—'pie' diagrams were used which report absolute numbers and %. For the answers to question nos. 14–18, relating to the effect of mentoring on professional teaching skills, 'radar' representation was used both for attitudes regarding each individual skill (and represented by means of the area) and for the weighted average between skills. A focused analysis—via inferential statistic procedure—has been conducted also on item n. 17, which refers to the organizational-didactic competence. The related answers were correlated with a specific characteristic of population ('previous teaching experience'); through the calculation of the student's t-value and correlation index.

Quantitative Data Analysis: Closed-Ended Items

Three years later, 89.6% (item 1) of former trainees consider useful the experience of the internship and 78% (item 4) the support of the mentor (Fig. 2a, b).

The areas in which the former trainees received the most relevant support have been considered (Item 9): orientation within the practices in the classroom (36%), orientation on the organizational structures of the

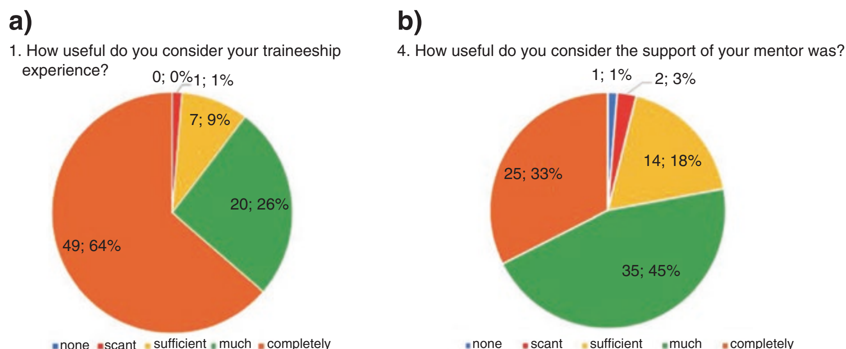

Fig. 2 Usefulness of traineeship experience (**a**) and (**b**) mentor supports (answers: 77)

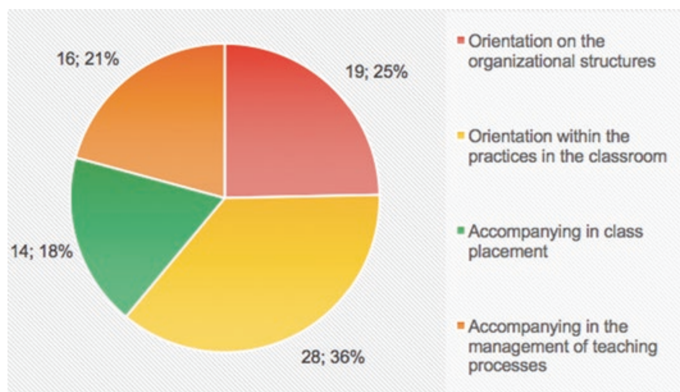

Fig. 3 Areas of greatest mentor support (answers: 77)

school (25%), accompanying in the management of teaching processes (21%), and class placement (18%)—see Fig. 3.

The professional skills, on the other hand, with respect to which former trainees have received the most support are (items 14–18):

The radar representation shows the 'enduring' representations area: settled on low values, for the documentary-evaluative competence, markedly positive for the disciplinary competence (see Fig. 4a). The analysis of averages (see Fig. 4b) also allows to highlight the high level of disciplinary and psycho-pedagogical competence, the good level of methodological

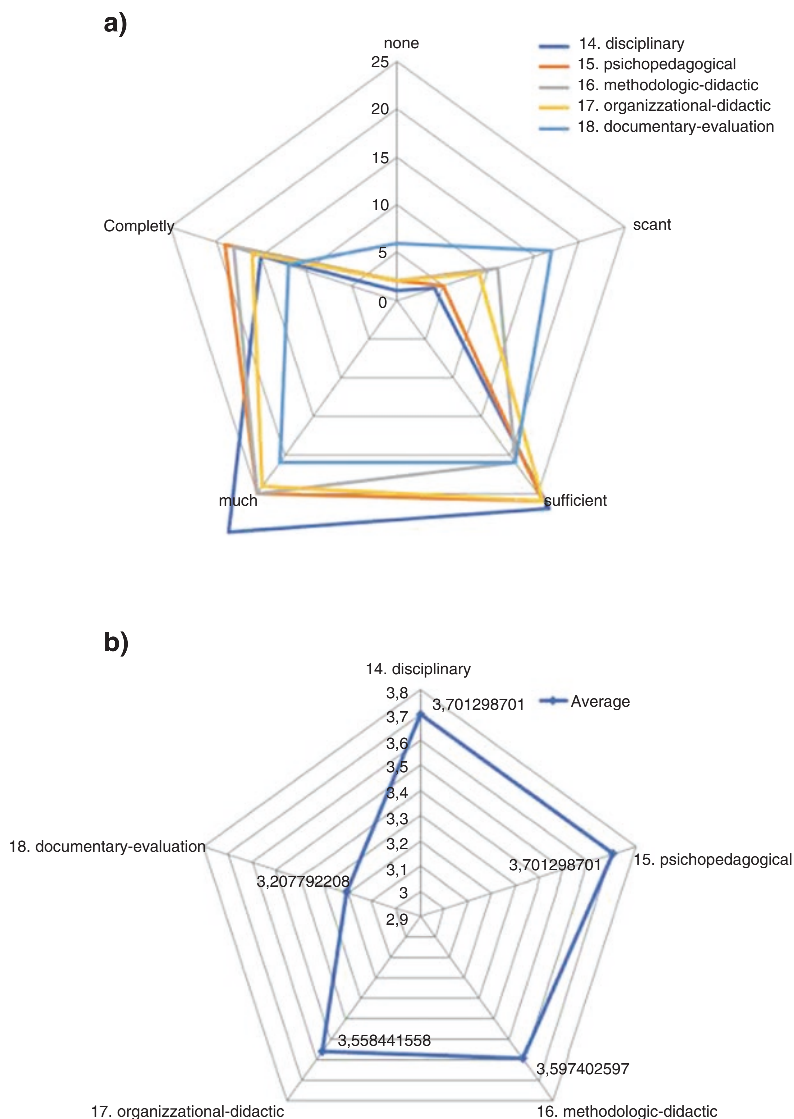

Fig. 4 (**a**) Areas of competences. (**b**) Average of competences. Representations of competences supported by mentor (answers: 77)

Table 1 Effect of mentoring on teaching professional competences (n. and %)

Competences	Negative answers	Sufficiency	Positive answers
Disciplinary	5 (6.5)	27 (35.1)	45 (58.5)
Psycho-pedagogical	7 (9.1)	26 (33.8)	44 (57.2)
Organizational-didactic	11 (14.3)	26 (33.8)	40 (52)
Methodological-didactic	13 (16.9)	21 (27.3)	41 (48.9)
Documentary-evaluation	23 (29.9)	21 (27.3)	33 (42.9)

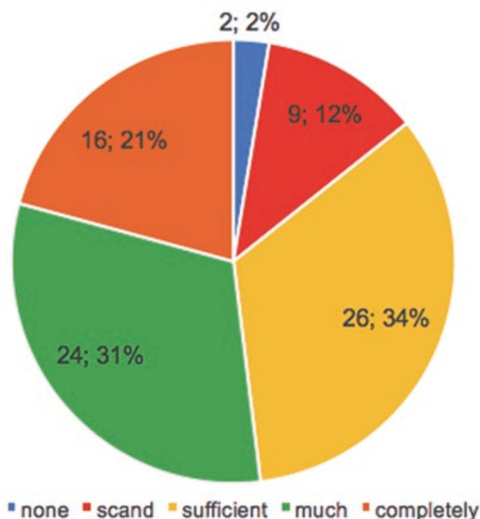

Fig. 5 Representations of the mentor's support for didactic-organizational competence

and organizational-didactic competence, the low level for documentary-evaluative competence.

A focused analysis has been conducted on item 17, which refers to the organizational-didactic competence that involves team work and contact with families and territory (see Table 1 and Fig. 4).

As illustrated in Fig. 5:

The answers to question no. 17 were correlated with the data of 'previous teaching experience' (see Fig. 1c). People without experience express an average level of preference of 3.47, while the ones with experience an average of preference of 3.75. The difference is 0.28. Student's *t*-value for

Table 2 Correlation analysis on 'organizational-didactic competence' and 'previous teaching experience'

A 'with experience' average	B 'without experience' average	Delta A–B	*t* student	*t**es	Correlation index
3.75	3.47	0.28	1.665	0.25	0.41

a sample of 77 elements, with a confidence level of 0.95, is 1.665. Since the difference of the averages is less than the product t*es (= 1.665 × 0.25 = 0.41) it can be assumed that there is no relationship between the two variables taken into consideration (see Table 2).

This moderate linear correlation index (0.41), referred to the previous teaching experience, does not allow to completely rule out that the tendency to remember the mentor's limits—in supporting networking and contact with the context—depends on the previous experience of trainee. It could be a clue that deserves further study with subsequent investigations.

Qualitative Data Analysis: Open-Ended Items

The treatment of textual material of the open answer (item n. 27)—see Table 3—took place through qualitative analysis, based on Grounded Theory (Charmaz, 2006, 2008, Cohen et al., 2007), according to which the data with which to analyze the phenomena emerge from the situations contextual from which to obtain some interesting evidence. With the qualitative method it was possible, through the phenomenological approach whose goal is to know particular events and situations, to achieve a better interpretation of the reality investigated. Specifically, we proceeded through:

- Localization of all textual data and segmentation of textual materials into first *significant categories*, that are excerpts with references to the topic of the analysis (e.g., mentor)
- Coding of the segmentations through an *axial coding* of the meaning of the selected textual materials
- Network's identification of relationships between codes
- Network's identification of codes

Table 3 Categories and codes of open-ended answer

Category	Axial coding	Excerpt
Participation of the trainee	Little involvement of trainee	*I noticed that the figure of the trainee is often not very appreciated during class councils, interclass, and teaching colleges.* *In four years of internship, albeit positive, I did not find constructive participation in colleges and boards.*
	Low regard of trainee	*Individualist tutor, often taken from competition with other classes and from the "race to the program." Welcoming the first day, "screamer," directive and elusive afterwards.* *(…) I think that if the tutors to whom we are entrusted should first be prepared for their role; many difficulties that students encounter could be avoided tutor (…) should involve us more*
Role of the mentor as a networker	Poor self-awareness of mentor	*I noticed a low awareness on the part of the tutors about their role. I think that if there was this greater awareness, the connection between the university and the school world would be stronger (…).* *The tutor was simply not aware of his role and the role of us trainees and this made the connection between the university and the school difficult.* *Among 4 tutors, 1 showed knowledge of their role and functions. He constantly revealed awareness of his teaching choices and involved me in his designs.* *Going to school and meeting tutors who are aware of ours and their roles, who know what a training project is, who know how important their contribution can be to our growth path, would make the transition from university to school and from indirect training to direct training more natural, more "communicative," even more formative.*
	Differentiation of mentors	*I have had tutor-teachers different from each other, as people and as professionals. (…) each taught me indirectly something.* *Each colleague teaches me something indirectly and little by little all these professional meetings are building the model of teacher that I want to be.*
	Poor mentor preparation	*In the rest of the experiences, the tutors, except for requests for mere help and support in the management of the activities, have not been able to involve me and guide me along the way.* *The welcoming tutor (…) should (…) refuse the role if he cannot manage the tasks due to time and will limits.*
	Reflection on educational and didactic practice	*Each tutor that I assisted allowed me, for better or for worse, to reflect on the educational action and on the different teaching styles for which the internship experience is fundamental in this degree course.*

The analysis identified two macro categories: *participation of the trainee* and *role of mentor as a networker*, within which two axial codes (*last involvement of the trainee* and *low regard of the trainee*) were determined for the first macro category and four axial codes (*low self-awareness of the mentor*, *differentiation of mentor*, *poor mentor preparation*, *reflection on educational and didactic practice*) for the second one.

Results

The former trainees have been able to retrospectively analyze the professional training program and to reflect—and judge—which previous training experiences have had positive or negative effects on current teaching practice. The mentoring relationship, in general, is considered essential in order to enter the profession and to develop a personal way of teaching. This fully confirms the assumptions of the surveys and research (Feiman-Nemser, 2001; He, 2010; OECD, 2020).

Three years after the internship experience—took place in a context of general positivity (89.6%)—the support received from their mentor is always considered useful by 78% of former trainees. The positivity mainly regards classroom management activities—'orientation within the practices in the classroom' (36%)—but also orientation within school structures—'orientation on the organizational structures of the school' (25%)—see Fig. 3.

As regards the teaching skills most influenced by the mentor, former trainees mainly refer to those of a disciplinary type (58.5% of positive answers, see Table 1), followed by psycho-pedagogical (57.2% of positive answers, see Table 1) and organizational-didactic ones (52% of positive answers, see Table 1); only the evaluative-documentary ability is considered to be little influenced (42.9% of positive answers, see Table 1). This shows that the mentor's influence is represented as very broad, more effective on disciplinary knowledge, less on evaluative ability.

However, it is to be noted that the former trainee teachers' representations regarding the effects of mentoring on the organizational-didactic competence—the one most closely linked to context and network aspects—according to the sample (43% of the n. 180 graduates of the last

three years at the University of Bari), do not seem to depend directly on previous teaching experience of trainees (see Table 2 and average correlation index). More extensive and cross-contextual investigations may confirm or deny the evidence.

Although present, networking activities do not seem to characterize the mentoring experienced by teachers in initial training so much. The former trainees regret not having participated in moments of socialization in the learning community, as emerges above all from the analysis of the open answers: in general, little importance for the trainee's participation in the assemblies (see Table 3—axial coding 'poor involvement of the trainee'). They also complain of the mentor's lack of awareness of having to/be able to act as a networker, mainly due to a lack of preparation (see Table 3—axial coding 'lack of self-awareness of the mentor'). However, former trainees clearly affirm the importance of dealing with multiple experts who, for better or for worse, always "teach something indirectly" (for example, about different teaching styles)—as significantly expressed by the following passage:

> *I have had tutors different from each other, as people and as professionals. No one treated me with little respect, I was given a small glimpse of freedom of action, each indirectly taught me something. This is the second year that I work at school in the north* (n.r. of the country) *as a support teacher and—just like it was for my mentors—, each colleague teaches me something indirectly and little by little all these professional meetings are building the model of teacher I want to be. I can say that I have observed both negative and positive models and I still have professional figures who for me are my models and to whom I am emotionally linked. The welcoming figure showed openness to the territory and communication with the family.*

Research highlighted the collaborative programs effectiveness (Helms-Lorenz et al., 2013) as a form of mentoring. However, mentoring programs are not as widespread in countries: one out of two teachers did not participate within the induction program at formal or informal activities, and one out of five teachers was not supervised by a mentor in preparation for the profession (OECD, 2020, pp. 40–41)—see Table 4 with Italian data and the average of OECD countries (OECD, 2020, pp. 40–41).

Table 4 Number and types of induction programs

	Induction program (formal or informal activities)	*Mentoring*	Collaborative learning
Italy	75	5	18
Average OECD countries	54	22	21

Source: OECD, TALIS, 2018. Database Tables I.4.39/64/24/48/47

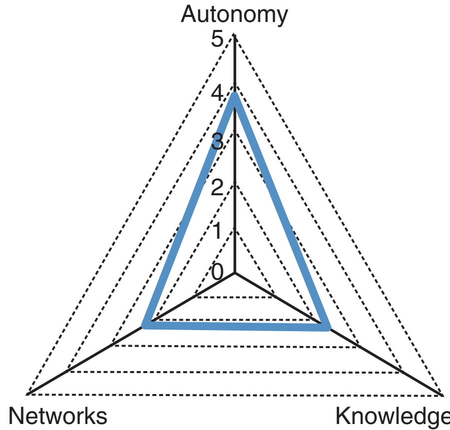

Fig. 6 Italy triangle graph (ISCED 2). (Source: Database Fig. 2.12 [see OECD, 2016, p. 59])

Furthermore, Italy has even adopted as an emblem of the so-called professional model of 'high autonomy' (see OECD, 2016—model 2, p. 59) in which teachers have a significant decision-making power and the peer network component is relatively low. As Fig. 6 illustrates, for the purposes of teachers' professional support, while the updation of knowledge and network support is relatively low (<2.3), the ability to act in autonomy is significant (= 4).

Researches and international reports highlighted the characteristics and dynamics of induction and mentoring within the 'PLC—*professional learning community*'—from the socio-constructivist perspective. According to this, every member of the organizational group, therefore also every novice, participates in the path of professionalization through more or less structured forms of socialization, *peer feedback* (Pultorak,

2014), collaborative *network* (Lee & Lee, 2013), which include forms of supervision and mentoring real.

The results of our survey on the representations of former trainees are therefore in line with international trends—which affirm the need for collaborative network mentoring (OECD, 2016; Lee & Lee, 2013)—but in contrast with the last description given by the 2013 OECD-TALIS (OECD, 2016)—see Fig. 6.

Discussion of Results and Significance for Professional Learning in Teacher Education

Today's mentoring cannot be reduced to the 'exclusive' mentor-mentee relationship but can extend to the entire school community (OECD, 2016, 2020). There would still be room to define mentoring even better, that is, 'mediator of professional learning' (Orland-Barak, 2016; Perla, 2012), as mediation-agent 'between people and content in contexts of practice loaded with value' (Orland-Barak, 2016; see also, Ashby et al., 2008; Orland-Barak, 2016; Spooner-Lane, 2017).

The mentor should *guide* the student teacher in managing the needs of the class of students but also be a *networker* capable of introducing the trainee to the complex context of the school, in the socialization dynamics. This is what the policy documents (OECD, 2016, 2020), the research (Pultorak, 2014; Lee & Lee, 2013; Lai, 2005) and the former trainees involved in the study ask for.

The former trainees involved in the investigation perceive the trainee's participation in school assemblies and, above all, the mentor's networker role as factors that favor entry into the school system. However, it is necessary—they emphasize—that the mentor is, first of all, deeply aware of the importance of this role and, then, he/she is adequately prepared for it. The former trainees recognize the importance of the multiple professional relationships (defined as 'professional meeting') developed over the years, regardless of the quality of relationship (positive or negative) or role (formal—the one who accompanies the entry into the profession—or informal—a colleague who works in the same school context). Former

trainees understand the usefulness of extending the mentoring functions to more people and over a period of time that brings together preservice training and professional development.

As stated by international documents (European Commission, 2012; OECD, 2016, 2020) and specific research (Oancea, 2014; He, 2010; Vaillant & Manso, 2013), a 'continuous' model of teacher training that links preservice training and professional development and that extends mentoring beyond the preservice phase, through collaborations between schools and training schools and more or less informal forms, to ensure effective professional development (Caena, 2014), should be adopted. These considerations reveal a link between the organization of mentoring programs and the renewal of the entire teacher training system, aimed at professional development, up to the entire professional training system.

The teaching practice matured over time allows the novice teacher to assume more and more the perspective of the mentor, almost take the role of him/her ('*just like it was for my mentors*'), in order to better recognize the differentiation and, above all, to choose the one suitable for his/her personal style ('*model of teacher I want to be*'). A differentiation of relationships, specifically, should be ensured, in other words the possibility for the trainee to deal with multiple figures of mentor (see Table 3—category 'Role of the mentor as a networker', axial coding 'differentiation of mentors'). Former trainee teachers consider having access to a role-aware mentor an opportunity for professional growth as this offers—more or less consciously, more or less directly—action models, problem-solving criteria, but also styles that will have an inevitable impact as the experiential background in the future teaching practices. The comparison with different examples and models favor future teachers in understanding and choosing their own ways of doing and teaching: not as a sample in which to choose, but as an original amalgam that holds together—in different quantities and values —the mentors met ('*each … teaches me something indirectly*').

The quantitative and qualitative data clearly highlight the dual need of the trainee to grow on the level of class management, teaching skills but also on the level of knowledge of the complex school system, in the relationship with the territory. For this reason, the interventions to be adopted at the teacher education system level should concern, on the one hand, a

better preparation of the individual mentor—to be trained adequately to the different facets of the role—on the other, a plurality of references from which the trainees can draw inspiration for their actual future practice.

The investigation also confirms that the representations of former trainees persist in current practice and reemerge in the form of memories or opinions acquired with respect to previous training and work experiences. This is also why the training system adopts a continuous mentoring model, not limited only to the initial phase of the training course but which holds together every phase of the life of the teacher-professional, with a view to continuous professional development.

In conclusion, two considerations are emphasized - on the enduring representations of the former trainee and on the condition of the professional support of teachers in Italy.

Based on the aspects that emerged, aspects, the enduring representations, to be understood as beliefs that give meaning and connect present and past experiences—inspired by the tradition of teachers' thought studies (Shulman, 1986; Henrich & Boyd, 2002), extended from the socio-cognitive perspective applied to mentoring (Pultorak, 2014; Lee & Lee, 2013), and integrated by phenomenological theory of intentionality (Garcìa-Gòmez, 2014)—seem useful in order to investigate the evolutionary but persistent aspect of teaching professional development (McCloughe et al., 2013, p. 301).

These aspects concern both the link between change and personal beliefs (Guskey, 2002) and the possibility of overcoming mental closures (Kane & Russell, 2005). Investigating on the persistent beliefs, the enduring representations, from a socio-cognitive and phenomenological perspective, favors the discovery of the intra- and inter-subjective continuity (Brough, 1972; Dainton, 2010) between novices and mentors, between former trainees and colleagues, and thus, to deepen the professional ways of adapting to complex contexts and to the multiplicity of relationships.

Better understanding of how teachers in training could enter into relationship with different mentors and several times during the development of their professionalism, in a framework of 'permanent transformation' (McCloughe et al., 2013), would then be useful, as required by a more systemic and network mentoring model, as reported

in the research and policy documents (Pultorak, 2014; Lee & Lee, 2013; OECD, 2016, 2020) and as emerged from the former trainees' answers.

Compared to the situation of professional support for teachers in Italy, where the 'autonomous' prevails over the 'networking' component (OECD-TELIS 2016, see Fig. 6), the investigation carried out, however, showed the former trainees' need for network relationships—not limited to formal mentoring—thanks to which they can grow from a professional point of view. This emerged aspect, in contrast with the current assumption, suggests conducting future surveys on differentiated populations of teachers, who probably experience their teacher training programs, induction/mentoring, and school contexts quite differently, for better explaining the object and approach of study, to avoid generalizations of too specific data.

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Virtual Mentoring for Teacher Education: Mentors and Mentees Learning Together in the Third Space

Cheri Chan

Introduction

Beginner and pre-service teachers both need a safe liminal space to transition from being a novice to a teaching professional (Orland-Barak, 2016; Zeichner, 2010). They should feel 'safe' discussing teaching tensions and complex dilemmas associated with connecting theories to practise with mentors. This process of talking through problems with more experienced teachers in a supportive professional community is not only important for learning, but also vital for a sense of self. Literature has shown problematising dilemmas and teaching problems during teacher induction and the practicum can help beginner and pre-service teachers develop strong professional identities and teaching philosophy (Carter & Francis, 2001; Ganser, 1997; Hudson, 2013; Maunganidze, 2015; Orland-Barak, 2010b; Sowell, 2017; Zeichner, 2010). Studies have also shown that

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mentoring and mentoring conversations are crucial to mediate learning for beginner teachers (Orland-Barak, 2010a, 2014; Rachamim & Orland-Barak, 2016). Mentoring conversations not only can provide beginner teachers with emotional and social support, they can also help them understand why teaching problems occur and how to resolve them (Mena & Clarke, 2015).

However, in Hong Kong, there is currently no requirement for schools to provide mentoring support for beginner teachers (during induction) and pre-service (during the practicum). There are also limited opportunities for in-service teachers who want to mentor to acquire mentoring skills and knowledge. This chapter examines how the creation of a virtual mentoring community offered three groups of teachers (in-service, beginner and pre-service teachers) a safe 'third space' (Oldenburg, 1989) to learn together by engaging in dialogues to resolve tensions associated with teaching English as a second language (ESL) in Hong Kong classrooms. In the study, experienced and beginner ESL teachers enacted the role of virtual external co-mentors to pre-service teachers during their practicum. Findings suggest the co-mentoring experience enabled ESL beginner and expert teachers from diverse backgrounds and different levels of expertise to acquire mentoring knowledge together. The findings also showed the online mentoring dialogues built both beginner and pre-service teachers' capacity to resolve problematic ESL teaching tensions in their own school domains.

Tensions in Traditional School-Based Mentoring Practices in Hong Kong

Although teacher induction and the teaching practicum should be promising spaces for expert and new teachers to engage in professional conversations and learn to grapple with teaching dilemmas together, literature also shows the traditional dyadic relationship between the school-based mentor and mentees can be rooted in power and "collegial control" (Avis, 2005, p. 66), thus limiting the scope for mentees to question their

mentor's viewpoints or challenge problematic practices that they might encounter in schools (Chan, 2019). In a previous study examining school-based mentoring practices in Hong Kong schools, findings suggest mentors and mentees may be confined to certain types of 'formal' positions and assigned roles in school settings, which may then reinforce differences in status, creating invisible barriers, hindering relationship building and open communications between pre-service teachers and their assigned school-based mentors (Chan, 2019). A breakdown in mentoring relationship can lead to lost opportunities for learning for both mentors and mentees (Valencia et al., 2009). More research is needed to examine alternative mentoring spaces in which the hierarchical structures and inherent power roles associated with mentoring are made less visible.

In Hong Kong, the theory-practice dilemma is acutely felt by inexperienced ESL teachers (Chan, 2019, 2020; Chan & Lo, 2017). Challenges include contextual constraints, traditional school cultures and untrained mentors who lack the skills to help beginner and pre-service teachers deal with the tensions and perplexities of teaching English as a second language to diverse learners from different social, linguistic and cultural backgrounds in local schools (Chan, 2017, 2020). For example, pre-service teachers are often expected to comply with the practicum school's ESL teaching and learning culture and follow the practices of the school-based mentor, which may be in conflict with their own personal teaching beliefs and visions as educators. This can create tension and stress for trainees, who must then figure out how to meet the assessment demands of university programmes on the one hand, and the conditions stipulated by the mentor and practicum school on the other. So although the induction and the practicum should be fertile grounds for learning to teach (Akkerman & Meijer, 2011; Alsup, 2006), in reality, beginner and pre-service teachers may have limited opportunities to interrogate tensions and complexities associated with ESL teaching with assigned school-based mentors. Studies have also shown very few beginner ESL teachers receive quality mentoring support or have opportunities to engage in critical dialogues associated with teaching with experienced teachers inside or outside their schools during induction (Mann & Tang, 2012).

Locating a Third Space for Mentoring: Theoretical Perspectives on Teacher Induction

In this study I used third space as a theoretical lens to reconceptualise traditional understandings of mentoring space and spatiality. Third space theory was useful for my study because it encouraged me to question familiar, yet problematic spaces used for teacher mentoring in the Hong Kong sociocultural context. The premise of third space theory draws on the concept of hybridity proposed by Bhabha (2006). Hybridity in its simplest form means mixing (Bhabha, 2006; Gutiérrez et al., 1999). This implies in a third space, identities and roles may be more fluid, flexible and transient, making it easier for those residing in the community (e.g. the online mentoring groups) to reject binary labels that may reinforce stereotypes and take on hybrid identities. This aligns to Bhabha's point that (2006) boundary crossing, shifting of roles and identities and the disordering and disruption of "known truths" and dominant hegemonic thinking and practices are made more possible in the third space. In a third space for mentoring, practices and roles may be less bounded by institutional cultures, making it easier to blur the boundary between formal and informal learning. For example, *new* and *expert* teachers may be less constrained by the dominant knowledge and ideas associated with and used in traditional mentoring spaces, making it more possible for mentors and mentees to take on new "hybrid" identities and practices that may be more enriching for learning than traditional "either/or" roles (Soja, 1996). For example, in a third space community, beginner teachers can take on the roles of both experts and learners. Moreover, mentors may also find they are more able to mediate tensions and increase understanding between school and university learning because they can "shed" traditional roles, identities, language, practices, relationships associated with these two domains. Third spaces have "no primordial unity or fixity" so they are more likely to offer greater opportunities of becoming a "a space of praxis" (bringing together practice and theory) (Bhabha, 2006, p. 37), for example, making it more possible for beginner teachers to disrupt dominant hegemonic thinking and problematic practices associated with ESL teaching in the Hong Kong sociocultural context.

Background: The Virtual Mentoring Project

In response to a request for more mentoring support for ESL teachers in Hong Kong, between 2016 and 2018, I created an online mentoring community as part of a university-based research project to provide a third space for three distinct groups of ESL teachers with different levels of teaching experiences (pre-service, beginner and expert teachers) to learn together. The data in this chapter are taken from a larger two-year online mentoring project that involved 40 ESL pre-service and 40 in-service teachers (beginner and expert teachers). Two rounds of data were collected from two teaching practica in the larger study. Each practicum block spanned eight weeks. Participation in the project was voluntary.

The first goal of the project was to provide supplementary external mentoring (during the practicum) for pre-service teachers enrolled in a four-year English language teacher education programme. Another goal was to create a third space (outside the traditional school-university domains) for beginner and expert ESL in-service teachers to learn together as virtual co-mentors. Literature suggests co-mentoring can broaden mentees' knowledge base, allowing them to gain multiple perspectives on specific issues (Daly & Milton, 2017; Huizing, 2012). For example, mentees were able to draw on the experiences of the different mentors and consider multiple ways to resolve teaching problems (Heikkinen et al., 2012; Huizing, 2012). Co-mentors (beginner and expert ESL teachers) can also learn from each other.

I held meetings with external mentors before the start of the practicum to ensure they had an understanding of the goals of the project, the principles of mentoring, and their roles as external online mentors. Mentors and mentees were also encouraged to meet up informally (either in person or using video conferencing) before the practicum to build rapport and learn more about each other. A user-friendly text and voice message app which allows messages and audio/video one-to-one or group calls on both desktop and mobile devices was used to host the mentoring groups. The app also allows members to share resources (e.g. lesson plans, teaching materials and videos).

To provide more detailed and deeper analysis of what learning occurred for mentors and mentees in this chapter, I will share extracts of data from six online mentoring groups (each group comprising an experienced, a beginner and two pre-service teachers) collected from one eight-week practicum block in the project. My intention is not to use the data to "prove" online mentoring is more effective than school-based mentoring, but rather to present "meaningful illustrations" from the study, including the "voices" of the virtual mentees and mentors (Mason, 2002, p. 177), to argue why mentoring spaces need to be expanded beyond traditional institutional boundaries to enrich learning for teachers.

Research Design and Method

The research design followed qualitative and interpretative research paradigm and principles (Cresswell, 2007; Mason, 2002; Merriam, 1998) because I wanted to gain deeper understanding of how mentors and mentees learnt together in a virtual third space environment. I collected data that offered rich insights into participants' personal experiences of the online mentoring process. Data included transcripts of conversations from the online mentoring groups, post-practicum written reflections and semi-structured interviews with mentors and mentees. Transcripts of mentoring conversations were extracted verbatim from the app for analysis. In addition, mentors and mentees were invited to complete a written reflection after the virtual mentoring experience. Semi-structured interviews were also conducted as spontaneous conversations with open-ended questions and structured prompts to allow the in-service and pre-service teachers to follow up answers during the interview (Kvale, 1996). Ethical clearance for the research was granted by the researcher's university. Signed consent forms were collected from the teachers and pseudonyms are used in this chapter.

The data were analysed as texts to identify emerging themes and categories in response to two research questions:

RQ1: What happens when mentoring is enacted in a virtual 'third space' beyond the traditional school and university institutional domains?

RQ2: What learning occurred for virtual mentees (pre-service teachers) and virtual external mentors (beginner and experienced teachers)?

Thematic analysis (Braun & Clarke, 2006) is well cited in the literature for analysing qualitative data. To gain deeper insights into how mentoring was enacted and what learning took place in the virtual mentoring spaces, I read and reread transcripts of online data, written reflections and interviews from each mentoring group multiple times before breaking the texts into chunks and assigning initial category labels and then broader themes (Braun & Clarke, 2006). Both close and distant reading of the textual data were adopted during the analysis process so as not to lose sight of the context (Maxwell & Miller, 2008). Member checking was also conducted when clarifications were needed (Stake, 2006). Reflexivity is important in conducting qualitative research. I used a set of guiding questions as suggested by Mason (2002) to help me reflect on the overall research process, the analysis and reporting of the data in this study.

Findings

I now share extracts of data from six online mentoring groups to illustrate what learning occurred for the three groups of teachers (experienced, beginner and pre-service) in the online mentoring community. In the first section, three mentees (Peng, Eric and Maggie) share their external mentoring support experience (what they learnt from the beginner and expert teachers as co-mentors).

In the second section, two beginner teachers (Chung and Lin) and two expert teachers (Patricia and Andy) will share what they learnt from the co-mentoring experience. These extracts of data were selected because they provide vivid and rich descriptions of how the process of virtual co-mentoring enabled beginner teachers during induction to rethink complexities associated with ESL teaching in the Hong Kong sociocultural context.

What Learning Occurred for Virtual Mentees?

An interesting finding from the project was how the external online mentoring community offered mentees (pre-service teachers) a "safe" space to disclose problems and discuss dilemmas. Peng was placed in a school where the approach for English language teaching was quite traditional and there was strong expectation from her school-based mentor for Peng to "be strict" with the students. However, Peng felt uncomfortable following her school-based mentor's practice of disciplining her students, but she also struggled with finding alternative ways to "manage" learning. This was her post to the online mentors (Cassie and Martin) after her first lesson observation by her university tutors:

> [2:05 PM, 11/3] Peng: Hi Cassie and Martin, Everything's ok!
>
> I had my supervisory visit yesterday and to be honest, I don't think it went well 🙈. Some students were off task, and the class was very noisy during and after group work. I've been trying hard to work on classroom management but still the class was not really attentive. And some weaker students are quite reluctant to do speaking activity in pairs since they can't really read out the words. Apart from going to their seats and help them by their side, what other things can I do to help them?
>
> Some students were playing with the board rubbers in class, how should I deal with this? My mentor would directly call out their names and ask them to stand up for the whole lesson but my supervisor and I don't really like this method, are there any other possible ways to stop disruptive behaviours? (Online Mentoring Group Chat, text sent by mentee to virtual mentors)

Peng's call for support was followed by a number of messages from Cassie (beginner teacher) and Martin (experienced teacher) offering her social and emotional support (e.g. "I'm sure it went much better than you thought") and practical support (e.g. "What scope do you have to get the students to change seats? Can you have the class sitting in groups by English language level? That way you can actually give a graded task to students who need more support, and as they are grouped together it should be easier to manage."). Cassie also helped Peng to think about what the learners need to feel motivated about learning (e.g. "Perhaps

you can also provide more scaffolding like guided questions, or a script, or a word bank with visuals? Scripted speech may help them cuz at least they have something to refer to or even just read aloud. Begin with an achievable task first to boost their confidence! The learners may have been suffering for a long time and feel frustrated"). Cassie also suggested to Peng to talk to students after class to get to know them better as individuals (e.g. "you can talk to students individually after class and get to know them better, while at the same time you tell them what you expect from them in class"). Virtual mentors also shared their own personal experiences with mentees (e.g. "I remember how tough it was when I first started teaching 2 years ago. Everything was new to me. I didn't know what I should know or how I should teach"). In the post-practicum interview, Peng explained why she found it easier asking her online mentors for help when she encountered a problem:

Peng: Yeah, I think it's easier for me to ask for help from the online mentors because one of my school-based mentors was quite strict in teaching and didn't allow a lot of modifications on the teaching materials, all the things were planned. But I think my e-mentors are more flexible in how they were teaching English. So, I think I got a good balance and understanding of how I can approach the teaching of English between them. (Post-practicum interview with Peng, virtual mentee)

So, although the virtual external mentors offered mentees lots of support and practical ideas, what Peng appreciated was that they did not impose a particular approach for teaching English (unlike their school-based mentors). This was important as it broadened the mentee's understanding and gave Peng the confidence to consider a different path/alternative approach to teaching and building relationships with her learners in her practicum school:

Peng: I think probably how to deal with the classroom management…was the biggest problem I encountered during my teaching practice. I think what the school teachers do is quite different from the e-mentors, like what they suggested. My school-based

mentors will just shout at them, shout at the students, and I think it's because they are quite strict. But if I were the students, I don't think I would like the teaching because the teacher has all the authority, but for the e-mentors, they suggested to me to find out reasons why the students were not behaving well, what might be the reasons causing them not to listen or chat in the English class. I think it is two different ways or approach. (Post-practicum interview with Peng, virtual mentee)

Through her online chat with the external mentors, Peng also learnt she can deal with her challenges by exploring ways to build positive relationships with her students first, getting to know them as learners rather than just focusing on "controlling" their behaviour in class as she had observed her school-based mentor had done.

The interviews with the mentees also showed that they valued the personal teaching experiences and the creative teaching ideas shared by the virtual mentors. For example, Eric shared what kinds of support he found useful from chatting with his online mentors, Ting (beginner teacher) and Chris (experienced teacher):

Eric: I think there were two kinds of support, one would be socio-emotional support, for sure. And the other would be pedagogical professional support. I remembered there were one time I was texting to the online mentoring group, 'I'm planning a lesson to teach sequencing connectives, and I was thinking about doing an experiment because the broader unit is about experiment and scientists, and my virtual mentor Chris talked about learning about pasteurization of milk, the guy who invented the technique, and Chris just gave me an excellent idea and I did that in my lesson, and it was about colour changing milk, you put the detergent in the milk and put the three colouring drops in. And the lesson went very well. Everybody was on task, everybody felt that they owned their learning… And the students laughed.' (Post-practicum interview with Eric, virtual mentee)

Another interesting finding was how some of the mentees found they felt more comfortable disclosing their dilemmas and problems to virtual mentors because they did not have to worry about being 'judged'. In another mentoring group, Maggie (mentee) often shared her concerns and anxieties with the virtual mentors, Karen (beginner teacher) and Dan (experienced teacher). Maggie struggled with following the school's policy of teaching English through English in her school. She found many of her learners could not follow her lessons without using Cantonese, but according to the school's language policy, English teachers should teach and manage learners in English only. Confronted with a group of learners from a different social, cultural and linguistic background to herself, Maggie was not sure how she would be able to teach English through English to her class during the practicum. Although Maggie's school-based mentors were kind and supportive in general, she felt awkward disclosing her concerns to them because she was worried they might think she was not a capable teacher:

Maggie: I could have asked my school-based mentors for help and they were very supportive, but then some of their suggestions were really not helpful. I know they were being practical, but then I had to meet the university demand like I have to implement things like this and that. And the mentors in my school may not be that aware of this [how to integrate university knowledge into practice]. And then I also thought, I am a student-teacher here, and I'm not supposed to approach you [school-mentors] to ask you how I should teach this class, because I am supposed to be trained. (Post-practicum interview with Maggie, virtual mentee)

Maggie's sharing reveals the complex nature of the mentor-mentee, expert and novice relationship between pre-service and in-service teachers when negotiated in the practicum school space. On the one hand, pre-service teachers need support to figure out problems, but at the same time, asking for help from mentors and university tutors (positioned as experts by pre-service teachers), who will also assess their teaching performance, can make pre-service teachers feel vulnerable:

Maggie: I didn't ask for support from the school-based mentors. I don't think I would have got quality support from them. And then, my university tutor, I dare not approach them because it seems like they would think that, 'ok, what have you learnt from our class?' So, I dare not to approach them, and then it seems like everyone is so busy like my tutors. It seems (my problems) are so distant from them. It's also to do with hierarchy, like I think you are my teacher, and you are very busy and you are professors, and I am not going to approach you and ask you things like that. That kind of feeling is like I am scared. But then for e-mentoring, then I know I have professional support from other teachers. I know they are well-trained teachers, they are PGDE students so I know they will be OK to help me. It's like friends. Even though we haven't seen each other, like we didn't get to see each other, but using the app, it was like I was just texting my friends, sharing my problems with friends. Also the e-mentors were very friendly. They were always texting me to see how I was doing. I felt the e-mentors cared about us so I was willing to share with them. (Post-practicum interview with Maggie, virtual mentee)

Similarly, Peng also said while the school-based mentor did make time to have professional conversations with her during the practicum, they were also done in a more "formal" way. Whereas the virtual mentors' approach to supporting the mentees was more informal and casual, which created a safer environment for sharing:

Peng: Yeah… the school-based mentor will come to visit me at least once per week and she'll complete my feedback form and discuss with me on the way things could improve.

Interviewer: Did you find it comfortable asking for help from the e-mentoring community?

Peng: Yeah, it's a lot better, because I just have to ask in the online mentoring group, telling them the situation I was encountering, and they would give me feedback and some encouraging words right away. (Post-practicum interview with Peng, virtual mentee)

Peng and Maggie's experiences of the online mentoring community suggest that the mentees valued the 'safe' space to voice their concerns and ideas which may be different to the practices that they were observing in their practicum schools. Their comments show they appreciated the immediacy of the response from the virtual mentors. The mentees' voices suggest that the virtual mentoring third space enabled pre-service English language teachers to access professional knowledge from teachers outside their practicum school/across institutional boundaries (de Janasz et al., 2008; Hunt et al., 2013; Redman, 2015; Reese, 2016; Seabrooks et al., 2000). The data show that the online mentoring community provided pre-service teachers with a safe space to reflect on their teaching practices, rethink assumptions about teaching English to second learners and also ways to connect with learners during the practicum. Although support was provided by the school-based mentors, the findings show this support was inadequate because they also needed a safe and informal space to chat things over with more experienced teachers whom they felt would not judge them or pressure them to comply and conform to the practicum school's teaching culture. The data also revealed how the creation of a third space for mentoring conversations offered mentees practical support and mediation, which then helped them resolve teaching problems independently in their practicum schools. Engaging in professional conversations with external mentors from the same discipline (i.e. teaching English as a second language), but with different levels of experiences (beginner and expert teachers) and from different schools in Hong Kong, also broadened the student-teacher's knowledge base. This gave mentees the professional knowledge required and the confidence to address complex ESL teaching problems that arose in their classrooms (Daly & Milton, 2017; Huizing, 2012).

What Learning Occurred for Virtual Mentors (Beginner and Expert Teachers)?

The virtual mentoring space also led to new learning for virtual co-mentors. The data showed the process of diagnosing and discussing problems with pre-service teachers also enabled virtual mentors (beginner and

expert ESL teachers) to rethink complexities associated with ESL teaching in the Hong Kong sociocultural context together. For example, Chung, a beginner teacher, shared what new insights he gained interacting with co-mentor (an experienced teacher) in his mentoring group:

Chung: Mark and I, the mentors in the group, teach in very different contexts. I am teaching in a CMI [Chinese as a medium of instruction] school near the border with learners coming from disadvantaged backgrounds, whereas Mark teaches in a top-tier Band 1 EMI [English as a medium of instruction] school. While he believes it is not a good idea (and it is against the school practice) to use Cantonese in class, it is my practice to use Cantonese sometimes to manage learners, motivate demotivated learners or address diversity. The topic of code-switching in class is often avoided in school's English department meetings, and different teachers have their own concerns about the practice. It is therefore beneficial for both inservice teachers and mentees to exchange ideas on this topic, as this is an issue many teachers have to deal with on a daily basis. Though we both had no magic wand to solve the problem, discussions on the MOI [*medium of instruction*] in class in the online mentoring group was beneficial, insightful and reflective to both mentors and mentees. (Post-practicum interview with beginner teacher, Chung)

Chung's sharing illustrates how the process of diagnosing and discussing problems with his co-mentor (Mark) also helped him rethink complexities associated with ESL teaching in the Hong Kong sociocultural context, for example, tensions concerning language policy and medium of instruction (MOI) adopted in schools. Many schools, particularly English as a medium of instruction schools (EMI), have an "English only" policy. This can discourage ESL teachers from seeing learners' first language (e.g. Cantonese or Mandarin) as a resource that can be used to motivate and support learners in English lessons. Furthermore, the data also suggest that the online mentoring community provided a safe space for beginner teachers to share different perspectives on specific ESL

teaching problems that they were experiencing in their own schools. Lin is also a beginner ESL teacher and here she explains what she learnt through conversing with her co-mentor and mentees:

Lin: The online mentoring project placed two mentors and two mentees together as a group. All of us come from different schools with different policies, settings, students and curriculums. Because of that, I was able to explore situations and challenges different to my school context. It certainly broadened my horizons in teaching. I have also realized some possible challenges when teaching students with special educational needs. Hence, I can be well-prepared for the lessons and teaching strategies when teaching diverse learners in the future. Through the discussion with other mentors and mentees, I have learnt some new strategies on how to create a good learning environment for English in the classroom such as putting up picture cards around the classroom to enable visual aids for students. I have also given a chance to rethink about how to effectively motivate students in different classes. (Post-practicum written reflection from beginner teacher, Lin)

The data showed that group mentoring had enriched the professional knowledge of beginner teachers in several ways. First, co-mentoring brought together teachers from different school contexts and levels of experience in the online mentoring groups, which made it possible for experienced and beginner teachers to compare and contrast teaching experiences, something that they were not able to do otherwise. The following comments from Patricia and Andy (experienced ESL teachers) illuminate what new knowledge they had acquired from interactions with beginner and pre-service teachers in the virtual mentoring space:

> The challenges which the students shared consisted of cases which I had never experienced before. Because of this, they made me reflect on challenges in my own teaching context; some which I may not have paid as much attention to before. (Post-practicum written reflection from experienced teacher, Patricia)

> I feel like I gained a lot of useful knowledge and have a much clearer perspective of how to approach the teaching and learning of English. All the issues relating to Hong Kong Primary schools have been brought to my attention and it is clearer to me now how and why things happen the way they do. As I am already a practicing teacher who has been a part of these issues, I am now highly interested to discuss them and share with teachers who are less experienced. I am also enthusiastic about good methods and practices and the mentoring project provides me with a platform where I can channel my thoughts and advice. (Post-practicum written reflection from experienced teacher, Andy)

The reflections suggest experienced teachers who engage in professional conversations with beginner teachers in the same discipline also gained new insights into how to attend to problematic ESL teaching tensions in their own schools. Moreover, the online mentoring experience also helped expert teachers understand the value of mentoring and why beginner teachers need a safe space to voice their concerns during induction:

> The project made me realise how important it is to have a space where teachers can voice their concerns. I think just having the support and presence there is reassuring enough that you are not alone, and that the difficulties you are having are often shared by other teachers, no matter the level of their experience! Being a mentor really made me feel like I was contributing a valuable service to society by offering a space where new teachers could open up, ask questions and share their experiences. (Post-practicum written reflection from experienced teacher, Patricia)

Discussion

The findings of this study show beginner and pre-service teachers need a safe space to think through problems with experienced teachers, particularly in institutional settings that are largely traditional and hierarchical institutions, which can limit opportunities for expert and new teachers to engage in honest and open conversations. I have presented findings from an online mentoring project which offered pre-service, beginner and experienced ESL teachers with an alternative space to disclose problems

and gain access to professional knowledge that were otherwise unavailable in their own school domains. I will now discuss the key themes from the findings followed by the limitations of the study and implications for further research and practice.

Elimination of Barriers in a Third Space

Online mentoring eliminated geographical and institutional barriers, which offered greater flexibility and convenience to the teachers in the online mentoring community to connect and exchange knowledge as professionals (Redman, 2015; Reese, 2016; Savin-Baden, 2008). The mentees appreciated opportunities to 'hang out' informally with mentors (beginner and expert teachers) of diverse backgrounds and levels of expertise from outside the practicum school setting. While the professional support and the contents of the online conversations focused on resolving complex teaching challenges, the beginner ESL teachers were also able to forge new friendships with more experienced in-service ESL teachers from Hong Kong's teaching community. The findings show in a third space for mentoring, beginner and pre-service teachers were more able to 'pause' and rethink teaching practices collaboratively with expert teachers because they did not have to worry about their institutional or professional status (Oldenburg, 1989; Zeichner, 2010).

An Interplay of Formal and Informal Learning

The virtual mentoring groups included features of formal and informal learning spaces. As shown in the findings, the text-based interactions between virtual mentors and mentees seem more informal and social than the interactions between school-based mentors and mentees. The online chats were casual in nature, for example, they included features of spoken discourse and emoticons. In this formal and informal learning space, teachers felt "less threatened" disclosing and discussing sensitive topics because they did not have to worry about potential conflicts of interest (unlike their relationships with school-based mentors) (McIntyre & Hobson, 2016; Valencia et al., 2009). The power and status differences

between virtual mentors and mentees seemed more opaque than face-to-face mentoring (Gee, 2005; Johnson, 2006), making it more possible for mentees to challenge ideas if they did not agree with the external virtual mentors. As a result, the relationships cultivated in the virtual mentoring space (i.e. mentor-mentee or co-mentors) seem more democratic and less hierarchical than the relationships forged in the school space. It seems the informal nature of online interactions open up greater possibilities for reciprocal learning and the practice of "educative mentoring" (Feiman-Nemser, 2001; Norman & Feiman-Nemser, 2005).

A Safe Space for Disordering Knowledge

The online mentoring community also made it more possible for the three groups of teachers (pre-service, beginner and experienced) to disrupt traditional roles, relationships and practices (Bhabha, 2006). For example, the data illustrated how mentees and mentors were able to question and challenge more traditional ESL approaches for teaching learners in Hong Kong schools. The virtual mentors did not make judgements about what the mentees shared. Instead, they enacted the roles of "mediators" (Hobson & Malderez, 2013; Hudson, 2013; Orland-Barak, 2010a, 2014), often using questions and sharing personal teaching experiences to help mentees understand the complex connections between theoretical knowledge and practical knowledge (Britzman, 2003; Orland-Barak, 2010a, 2014). For example, after chatting with their virtual mentors, Peng, Eric and Maggie were more able to reframe their teaching dilemmas. The online mentoring conversations enabled mentees to rethink some of the commonplace assumptions and deficit discourses used to define learners in their practicum schools. In addition, beginner teachers Chung and Lin also learnt how to resolve teaching tensions from chatting with their co-mentors. So, while the mediation provided by expert teachers had helped pre-service and beginner teachers to challenge traditional constructions of simplistic binarism associated with ESL learners in the Hong Kong sociocultural context, it was also the provision of a non-threatening third space for mentoring conversations which made the mediation possible.

Reflections and Implications

The study also highlighted some potential challenges for virtual mentoring and third space learning for teacher induction and training. Participation in the project was voluntary so the frequency of interactions between the teachers (i.e. mentor-mentor and mentors-mentees) varied across the groups. The feedback showed where online interactions were more frequent, the teachers were generally more engaged and found the process of co-mentoring more rewarding. But in other groups, posts were sometimes infrequent, which can lead to external mentors experiencing uncertainties about their role. Another challenge concerned the nature of online messaging. Although a majority of the teachers reported they preferred interacting using their mobile devices, online text-based chat can be ephemeral and fleeting. In order for teachers to engage in deeper and more reflective conversations in a virtual community, text-based chats need to be supplemented with some additional face-to-face meetings. To strengthen virtual group mentoring, co-mentors and mentees can also be encouraged to meet in person (e.g. social gatherings or video conferencing). These face-to-face meetings would strengthen relationship building and create greater potential for virtual mentoring to be more meaningful and "educative" (Feiman-Nemser, 2001).

Conclusion

Technology has become a great leveller—it has reduced visible and invisible social and geographical barriers which may inhibit interactions between people. Mobile applications and web-based social media platforms have increased opportunities for professionals to learn together at any time and from any place. In this study I created a virtual mentoring third space for beginner, expert and pre-service ESL teachers in Hong Kong to engage in online conversations as a way to promote teacher mentoring and collaborative professional learning. Few studies have examined how ESL teachers with diverse teaching experiences can learn together in a virtual space. Using third space theory, the study offers useful insights into how virtual learning spaces could be leveraged to create

alternative mentoring communities in which the hierarchical structures and inherent power roles associated with traditional mentoring practices are less visible. In a safe and non-threatening environment, both new and experienced teachers are better able to think through complex teaching dilemmas, offer each other support and learn together as a professional community.

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