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The importance of starting well: the influence of early career support on job satisfaction and career intentions in teaching

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ABSTRACT

Across the UK and internationally high rates of attrition among recently qualified teachers has focused attention on strengthening early career support. Policy attention has shifted from recruitment to the issue of sustainability. While the importance of induction is widely recognised, few studies investigate the components of early career support that new teachers deem most effective and the contextual conditions that support professional growth. This article explores the complex relationship between perceptions of pre-service preparation, school context and induction experience on the continuing learning needs, job satisfaction and career intentions of teachers at the end of their first year post-qualification. The analysis draws on 382 survey responses from teachers undertaking statutory induction in primary and secondary schools in the North West of England and Scotland in 2019. The findings suggest that the quality of initial teacher education is the strongest predictor of continuing development needs at the end of induction. High quality preparation has the potential to sustain new teachers across diverse employment contexts and the many challenges of the early career phase.

Introduction

In the last two decades, increasing policy attention has focused on how well systems of teacher education prepare new teachers for a career in education (Murray, Kosnik, and Swennen 2019). Studies of teacher turnover, that is moving between schools (migration) or leaving the profession (attrition), indicate a loss of neophyte teachers with negative effects on the school communities left behind in terms of capacity, collegiality and student performance (Craig 2017; Ronfeldt, Loeb, and Wyckoff 2013). High rates of early career attrition of between thirty and fifty per cent are reported in Australia (Kelly et al. 2019), the United Kingdom (UK) (Allen and Sims 2018), and the United States (Sutcher, Darling-Hammond, and Carver-Thomas 2016). Teacher turnover is an issue of concern in Norway (Tiplic, Brandmo, and Elstad 2015), Sweden (Toropova, Myrberg and Johansson, 2021) and New Zealand (Ministry of Education 2019). As a result, policy deliberation has shifted from diversification of recruitment strategies to address the problem of 'teacher sustainability' (Schaefer, Hennig, and Clandinin 2020, 3) or 'quality retention' (Gu and Day 2007, 1314).

The learning and support needs of new teachers are complex. Factors associated with self-efficacy, job satisfaction and risk of attrition operate at individual, classroom and organisational levels. Teachers are required to identify and support diverse learning needs in a changing work environment. International research evidence suggests early career teachers (ECTs) (defined as

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teachers with less than three years of experience) feel under-prepared to teach in multi-cultural settings (OECD 2020), to support socio-economically diverse learners (Mayer et al., 2017), students with additional support needs (Florian and Pantić 2017; Mintz et al. 2020), and students for whom English is an additional language (López and Santibañez 2018). In addition to school composition and size, locational challenges such as neighbourhood deprivation and social and geographic isolation of schools contribute to ECT migration and attrition (Camacho and Parham 2019; Clandinin et al. 2015; Lindqvist, Nordanger, and Carlsson 2014; Ovenden-Hope and Passy 2020).

School-level support for early career teachers extends beyond ensuring threshold competence in the classroom. Research on professional socialisation highlights the relational and emotional dimensions of teacherhood, and the importance of teacher cooperation and a supportive workplace culture (Caspersen and Raaen 2014; Day 2017; Kelchtermans 2017; Ainsworth and Oldfield 2019). Successfully navigating school politics, norms and culture as a novice teacher requires 'micropolitical literacy' (Kelchtermans and Vanassche 2017, 445). Relational resilience is fostered where professional relationships are based on 'mutual trust, respect, care and integrity' (Le Cornu 2013, 2). Not surprisingly, new teachers who develop a sense of professional belonging, who experience collegial support and have a positive perception of their self-efficacy are more likely to stay in the profession (George, Richardson, and Watt 2018).

The external policy environment has been associated with impending teacher shortages (Ingersoll 2017). Teaching is acknowledged to be a 'take home job' that demands 'increasing investment of unpaid personal time' (Beutel, Crosswell, and Broadley 2019, 607). The intensification of teachers' work, combined with erosion of teacher autonomy over decision-making, contributes to burnout and emotional exhaustion (Geiger and Pivovarova 2018; Toropova, Myrberg, and Johansson 2021). High rates of work-related stress, depression and anxiety are reported by the UK education workforce. Teachers recount heavy workloads, a poor work-life balance (working over 50 hours per week on average), the negative impact of school budget cuts, instrumentalism and bureaucracy on teacher motivation and job satisfaction, and insufficient support from school leaders in managing disruptive behaviour (Ofsted 2019; Flores 2020). Increased scrutiny and regulation of teachers' work has reduced space for professional judgment in the core areas of pedagogy, curriculum and assessment (Worth and Van den Brande 2020; Oosterhoff, Oenema-Mostert, and Minnaert 2020).

Critical scholars have associated attrition with the displacement of professional accountability with managerial and market forms of accountability (Gallant and Riley 2017; Stacey 2019; Perryman and Calvert 2020; Sullivan et al. 2020). Increases in attrition have accompanied the rise of a Global Education Reform Movement (GERM) that has promoted high stakes accountability and privatisation of public education systems (Sahlberg 2011; Ellis, Steadman, and Trippestad 2019). Tension between professional values and performative work cultures can create identity dissonance for new teachers. As Stronach et al. (2002) observe, disharmony accrues from a mismatch between 'an 'economy of performance' (manifestations broadly of the audit culture) and various 'ecologies of practice' (professional dispositions and commitments individually and collectively engendered)' (p.109). In addition, employment insecurity (under-employment, temporary or intermittent employment) and the availability of graduate employment outside education further influences intentions to leave (Hulme and Menter 2014; De Neve and Devos 2016).

Given significant public and personal investment in educator preparation, protective factors with the potential to mitigate high rates of attrition merit investigation. Research addressing new teachers' perceptions of how well their training prepared them for their first posts is sparse (Hatlevik 2017; Gordon 2020). This is the case in contexts that have invested in diversification of initial teacher education (ITE) pathways, and national and regional systems of mandated induction (Allen et al. 2014, 2016). Although the importance of school context on teacher development is widely recognised (Day 2017), few studies examine the interaction of level of preparedness from ITE with induction experiences in specific school settings. As a result, extant research provides weak evidence to discern between alternative approaches to induction support in diverse settings (See

et al. 2020a, 2020b). This research addresses the need for more evidence on the components of early career support that new teachers deem most effective, and the contextual conditions associated with positive outcomes.

The article is structured in four sections. First, the landscape for initial teacher education and early professional learning in England and Scotland is briefly outlined. This is followed by the research aim, guiding questions and method. The third section presents the results in relation to each research question, with acknowledgement of limitations. The concluding discussion revisits the literature and highlights implications for improving early career support and, in turn, quality retention.

Background: new teacher support and retention in England and Scotland

Teachers in England and Scotland enter the profession on successful completion of an under-graduate or postgraduate programme of initial teacher education, or in England only, through a range of school-led, employment-based pathways. Teachers entering the profession via a 36-week postgraduate route in England spend a minimum of 24 weeks in school, compared with 18 weeks in Scotland. National models of induction support in England and Scotland vary in terms of method of school assignment, new teacher employment status, timetable reduction, and teacher Standards (DfE, 2011; GTCS 2012, revised from 2021).

School leaders in England have a high degree of autonomy over their involvement in ITE and the recruitment of Newly Qualified Teachers (NQTs). NQTs are hired on the open market with associated recruitment costs to the school or multi-school Trust. School-led ITE expanded rapidly from 2012 to address local challenges with teacher supply (DfE, 2016), although recruitment targets were missed each year before 2020. By 2021, there were nine routes to Qualified Teacher Status (QTS) in England: university-led postgraduate and undergraduate courses, School Direct fee paying and salaried, Postgraduate Teaching Apprenticeships (salaried), School-Centred Initial Teacher Training (SCITT), Teach First (salaried), Troops to Teachers and Researchers in Schools. Salaried routes need not be supernumerary and are more likely (though not guaranteed) to result in employment on completion (Allen et al. 2014, 2016). Teachers undertaking statutory induction in England are assigned an induction tutor and should expect a reduced timetable of no more than 90% of the timetable of the school's existing teachers on the main pay range (DfE, 2018). As part of the *Teacher Recruitment and Retention Strategy* (DfE, 2019a) a two-year structured programme of support, the *Early Career Framework* (ECF) (DfE, 2019b), was introduced nationally from September 2021. The ECF provides central funding for mentor training, extends timetable reduction (5% off timetable) into the second year of induction, and funds 20 hours of mentoring across the year for early career teachers.

In contrast, *Teaching Scotland's Future* (Donaldson 2011) reaffirmed the critical involvement of universities in the professional education of Scotland's teachers. The universitisation of teacher education in Scotland was completed in the 1990s (Shanks 2020). There has been some diversification of pathways to qualification from 2017 but new programmes have only recruited modest intakes (collective intake below 400, i.e. less than 10%) (Scottish Government 2019). Scottish students training to teach are not charged tuition fees and are eligible for a one-year probationary teaching post through the Teacher Induction Scheme (TIS), introduced in 2002. New teachers are assigned to one of five local authorities they rank in order of preference at the end of their initial training and join school communities temporarily as provisionally registered probationer teachers. Teachers on the TIS programme have a maximum timetable equal to 82% that of a full-time teacher and have access to an experienced teacher as a mentor. The General Teaching Council of Scotland (GTCS), established in 1965 and fully independent from 2012, has a stronger role in teacher development than the Teaching Regulation Agency in England. The GTCS regulates cross-border mobility of teachers and does not recognise employment-based routes to qualification. Candidates qualifying without a Postgraduate Certificate in Education (PGCE) on school-led routes in England who wish to teach in Scotland are encouraged to complete a top-up PGCE programme.

In both countries, early career teacher retention has fallen in the maintained sector year-on-year. Early career teachers in England are most likely to leave between their NQT year and their second year in teaching (Worth 2020, 10). Twenty-two per cent of NQTs who started teaching in 2017 are not recorded as working in the state sector two years later; the five-year out-of-service-rate for 2014 entrants is 36% (DfE, 2020). In Scotland, the employment rate for new teachers has fallen in each year after the first year following probation since 2014/15 (Scottish Government 2019, 12). Eighty-four per cent of teachers on the 2018/19 Teacher Induction Scheme were in employment in publicly funded schools in Scotland the following school year (September 2019); a fall of 3% from the previous year (Scottish Government 2019). Although retention records exclude new teachers who move into the independent sector or education-related work, or who take a teaching post in another country, the records are concerning for policy makers and schools. In England, it is estimated that 9,000 more teachers are needed by 2025 to cope with the predicted increase of 15% in the number of pupils in secondary schools (DfE 2019a). In Scotland, there are persistent teacher shortages in some subjects and specialisms, especially in rural and remote locations (Scottish Parliament 2017). There is also concern over limited ethnic diversity within the teacher workforce (Scottish Government 2018).

Purpose of the study

This research was undertaken to explore the interaction of factors influencing job satisfaction, career intentions and professional learning needs. Specifically, regression analysis is used to examine the relationship between self-reported level of preparedness through ITE, the impact of induction and school context on the continuing learning needs, job satisfaction and career intentions of teachers at the end of their first year post-qualification (Figure 1). In addition to national context and school type, the analysis incorporated training pathway (school-based England, University England, and University Scotland), and teacher characteristics (Table 1).

The following research questions are addressed:

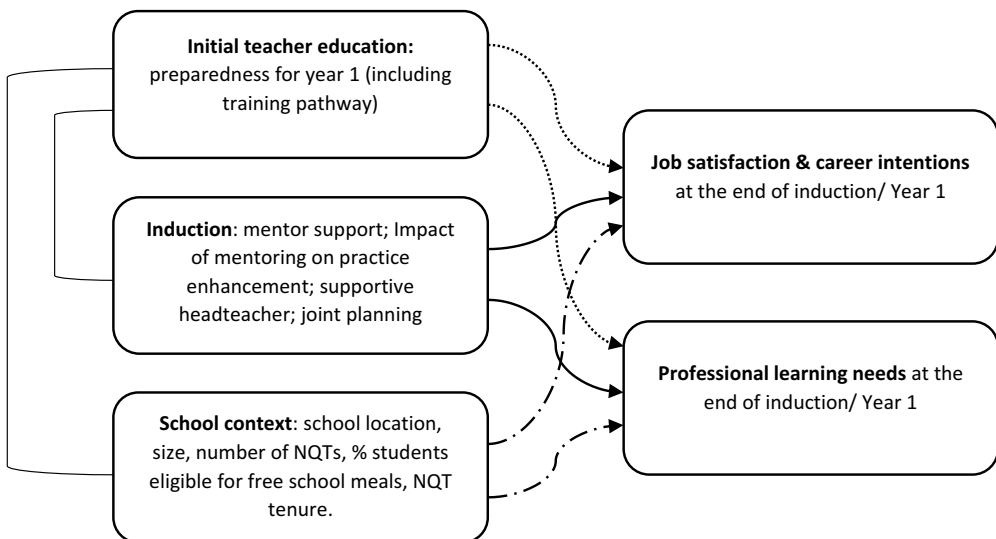(1) Is self-reported level of preparedness through *pre-service teacher education* related to job satisfaction?

Figure 1. Model exploring the interaction of factors influencing job satisfaction, career intentions and professional learning needs.

Table 1. Demographic data.

	Total	England	Scotland
Number of respondents	382	226	156
Teacher characteristics			
Gender: Male	75	43	32
Gender: Female	298	179	119
Age: under 25	133	88	45
Age: 25–34	162	94	68
Age: 35–44	52	31	21
Age: 45–54	29	9	20
Age: over 55	3	2	1
Ethnicity: White	343	195	148
Ethnicity: Mixed/multiple ethnic groups	6	5	1
Ethnicity: Asian/Asian British	16	15	1
Ethnicity: Black/African/Caribbean/Black British	2	2	0
Ethnicity: not given	10	6	4
School sector			
Primary	226	146	80
Secondary	156	80	76
School location			
Urban	173	129	44
Suburban	124	65	59
Semi-rural (small town)	68	28	40
Rural	17	4	13
Tenure			
Full time	353	213	140
Part time	14	8	6
Short-term supply	4	0	4
Long-term supply	11	5	6

(2) What is the impact of in-school early career support on *professional learning needs* reported at the end of induction?
(3) What is the influence of *school context* on professional learning needs, job satisfaction and career intentions?
(4) What is the influence of initial training *location and pathway* on job satisfaction and professional learning needs reported at the end of induction?

Method

To address the research questions, an online census survey was administered to all teachers registered for induction in the North West of England and Scotland during 2019. The total survey population was 4,723 (1,636 NQTs undertaking induction in the North West of England, and 3,087 probationers in Scotland). Local Authority induction managers distributed a link to an online survey via workplace emails to teachers registered for induction in 13 local authorities in the North West of England. The General Teaching Council of Scotland distributed the link to teachers undertaking induction in the 32 local authorities of Scotland. The survey remained live for four weeks in June 2019. Participation was entirely voluntary. In total, the survey achieved 382 responses (an overall response rate of 8%); 226 (14%) teachers responded in the North West of England, and 156 (5%) responded in Scotland. The age, gender and ethnic profile closely matches the wider teacher population in both contexts. The demographic details of survey respondents are presented in Table 1.

The survey was structured in six sections: your school; your teaching at this school; professional learning and development; working conditions; teaching as a career; and, about you. The instrument was subject to expert and respondent pre-test. In-country versions were reviewed to ensure the instrument was country-sensitive and culturally specific while retaining a common core. The full survey contained 48 questions. Items relevant to the research questions that are the focus of

this paper are presented with the analysis. For example, the survey items for preparedness (Q13), support for professional learning (Q16, Q17) and job satisfaction (Q31) are presented in Table 2. Attitudinal responses were sought using a four point Likert scale. Closed-ended questions were deployed as time efficient, with open-ended responses limited to response options requiring further explanation. Data collected using Jisc online survey software was imported into SPSS (Statistical Package for the Social Sciences) for preliminary descriptive analyses, correlation analyses, reliability analyses and regression analyses. The research was conducted in line with the British Educational Research Association's ethical guidelines (BERA 2018) and ethical approval was obtained from the Education Research Ethics and Governance Committee of the investigators' university.

Results

RQ1. Is self-reported level of preparedness through pre-service teacher education related to job satisfaction?

In order to examine the effect of early career support on job satisfaction, a parametric data set was created by summing the scores for each item of Q31 (12 items) to form an overall *Job satisfaction* score. This score is composed of a number of questions that address school culture and working conditions. The scores were also summed for (Q13) *Preparedness from initial teacher education* (19 items), (Q27) *professional learning needs at the end of year 1* (where year 1 is the first year of employment after initial teacher education) (19 items), (Q16) *mentor support in year 1* (7 items) and (Q17) *impact of mentor feedback on practice enhancement* (6 items) (See Table 2). By summing the scores for each of the sub-items within the questions, a global score was generated that represents the overall impact of each of these items for the subsequent analysis. To check the validity of these overall scores for each question we subsequently generated the Cronbach's alpha for each scale: Cronbach's alpha for (Q13) teacher training α = .934, (Q27) NQT training needs α = .948, (Q31) job satisfaction α = .915, (Q16) mentor support in year 1 α = .937 and (Q17) mentor feedback on practice enhancement α = .953. Cronbach's alpha is a test conducted to reveal internal consistency, and values greater than .70 are considered acceptable.

In order to examine the factors which might predict *Job satisfaction* (Q31) we ran a Bootstrapped (2000 samples) multiple regression with Q13 (teacher training – overall score), Q15 (ordinal number of hours with mentor per month: <2 hours, 2–4 hours, 5–7 hours, 8–10 hours, >10 hours), Q16 (mentor support in year 1), Q17 (impact of mentor feedback on practice enhancement), Q20 (supportive headteacher – categorical yes/no), Q21 (opportunity to plan with senior teachers – categorical yes/no), Gender (Q45 – Male/Female), and Age (Dummy coded so that 25–34 and over 35 are separately compared to those who are under 25) as the predictors. Multiple regression is undertaken to explain the relationship between multiple independent or predictor variables and one dependent or criterion variable, in this case the relationship between the above predictors and job satisfaction. The regression showed that taken together these factors did predict job satisfaction (F (9, 251) = 23.26, $p < .001$), and this predicted 44% (adjusted R^2 = .435) of the variance in job satisfaction. A p value, or probability level, below .050 is considered significant.

Individually preparedness from teacher training positively predicted job satisfaction (B = 0.13, t = 3.07, p = .002, CI = 0.04, 0.22) as did overall mentor support (B = 0.55, t = 3.85, $p < .001$, CI = 0.25, 0.88), impact of mentor feedback on practice enhancement (B = 0.43, t = 3.25, p = .001, CI = 0.14, 0.71), having a supportive headteacher (B = 3.94, t = 4.35, $p < .001$, CI = 1.99, 5.70) and having the opportunity to plan with senior teachers (B = 2.43, t = 2.62, p = .009, CI = 0.46, 4.32). However, how much time ECTs spent with their designated induction mentor did not significantly predict overall job satisfaction (B = 0.37, t = 1.07, p = .284, −0.30, 1.09). Nor did gender (B = −0.44, t = 0.45, p = .655, −2.50, 1.62) or the age comparisons to under 25 year old teachers, age 25–34 (B = −0.13, t = 0.14,

Table 2. Survey items for preparedness, support for professional learning and job satisfaction.

Q13 ITE preparedness/ Q27 Professional learning needs for Year 2	Q16 Mentor support in Year 1	Q17 Impact of mentoring on practice enhancement	Q31 Job satisfaction
Meeting the needs of diverse learners	School policies & procedures	Deepened my subject knowledge	Opportunities for collaborative professional learning
Managing challenging classroom behaviour	Classroom management	Improved my skills in addressing pupil needs	Level of professional challenge
Supporting students with specific additional learning needs	Lesson planning	Increased my ability to use data effectively to support pupil progress	Level of collegiality among school staff
Working with others in the classroom (Teaching Assistants)	Teaching strategies	Supported identification of professional development goals	Recognition – acknowledgement of good work
Designing curriculum plans (medium term)	Assessment practices	Equipped me to conduct practitioner enquiry	Opportunity to build positive relationships with children and young people
Planning individual lessons	Inclusive pedagogy	Supported the development of my research literacy	Level of autonomy over class-level decisions/scope for innovation
Supporting child-led experiences	Impact evaluation		Quality of the physical environment/school accommodation
Using a variety of assessment strategies			Access to resources to support learning
Selecting the most appropriate teaching strategy			Class sizes
Working with parents			Workload and work-life balance
Working in culturally diverse settings			Positive workplace – support for teacher wellbeing
Safeguarding children and young people			Salary
Embedding health and wellbeing in the curriculum			
Using digital technology to support learning			
Promoting social and emotional health in children and adolescents			
Using data to support pupil progress (assessment data, student data, evaluation data)			
Time management			
Completing Individual Education Plans (SEND)			
Taking responsibility for a class as the only teacher in the room			

p = .890, −1.88, 1.74) and over 35 years (B = 0.67, t = 0.59, p = .557, −1.46, 2.97). Overall, the strongest predictor of job satisfaction was overall support from mentors in different areas (Q16, β = .261). The standardised beta, β, is used to show which variable had the strongest influence.

RQ2. What is the impact of in-school early career support on professional learning needs reported at the end of induction?

In order to examine the impact of the same predictors on self-reported professional learning needs at the end of the induction year we conducted a further bootstrapped multiple regression. This showed that overall, these factors did predict training needs (Q27) (F (9, 288) = 3.72, p < .001) and predicted 8% (adjusted R^2 = .076) of the variance in training needs. Individually only teacher training positively predicted training needs (B = 0.29, t = 4.01, p < .001, CI = 0.14, 0.43) although there was also a negative effect of gender (B = −3.72, t = 2.12, p = .035, CI = −7.16, −0.30). Males reported marginally lower levels of training need at the end of induction. In contrast, the following factors did not significantly predict overall training needs at the end of induction: impact of mentor feedback on practice enhancement (B = −0.12, t = 0.54, p = .593, CI = −0.57, 0.33), having a supportive head-teacher (B = 0.94, t = 0.59, p = .554, CI = −1.99, 3.97), having the opportunity to plan with senior teachers (B = −0.52, t = 0.33, p = .745, CI = −3.24, 2.29), how much time you spent with your mentor (B = 1.10, t = 1.81, p = .071, CI = −0.11, 2.29) and overall mentor support (B = 0.02, t = 0.07, p = .944, CI = −0.44, 0.44). Similarly, age comparisons did not predict reported development needs (of teachers 25 year old teachers, age 25–34 (B = −2.09, t = 1.29, p = .199, −5.42, 1.16) and over 35 years (B = −3.24, t = 1.62, p = .106, −7.21, 0.74). Overall, the strongest predictor of professional learning needs at the end of the induction year was the level of preparedness from teacher training (β = .247).

The survey asked ECTs how well their initial teacher education had prepared them for specific aspects of their role as a new teacher (Q13), and their training needs in these same areas at the end of their first year in the classroom (Q27). The instrument therefore offers a retrospective pre-test method of measuring change. On the 19 items repeated in Questions 13 and 27, respondents indicated their level of preparedness (coded as 4 = very well prepared; 3 = adequately well prepared; 2 = relatively unprepared, and 1 = very unprepared); and their assessment of whether these remained training needs after one year (where 4 = no need at all; 3 = low level of need; 2 = moderate level of need; and 1 = high level of need). Three areas of professional practice emerge as the most challenging areas for new teachers: these are meeting the needs of diverse learners, managing classroom behaviour, and supporting students with specific additional needs (Table 3).

RQ3. What is the influence of school context on job satisfaction, professional learning needs and career intentions?

Five variables were used to investigate the influence of school context (Table 4).

Three regressions were conducted to investigate whether school context affects the job satisfaction of NQT's, and how likely they are to stay in teaching. We ran a Bootstrapped (2000 samples) multiple regression with Q4 (school location), Q5 (number of students in school), Q6 (how many other teachers in school who are newly qualified), Q8 (number of students eligible for free school meals), Q9 (NQT employment status) (Table 3) and Q13 (ITE experience) as the predictors. This showed that overall, these factors did influence job satisfaction (Q31) (F (6, 244) = 6.53, p < .001). The model explained 12% (adjusted R^2 = .117) of the variance.

Individually only level of preparedness from teacher training positively predicted job satisfaction (B = 0.32, t = 6.10, p < .001, CI = 0.20, 0.43). In contrast School Location (B = −0.28, t = 0.04, p = .965, CI = −1.31, 1.33), number of students in the school (B = −0.15, t = 0.29, p = .773, CI = −1.13, 0.87), how many other teachers in the school are new (B = 0.38, t = 0.55, p = .582, CI = −0.93, 1.66), the number

Table 3. Examining responses to what aspects of training continued to be a training need.

	Pre and post NQT	Mean	Median	N	Range	SD	Z-score	Significance
Meeting the needs of diverse learners	Pre (Q13)	3.02	3.00	379	3	.747	−10.675	< .001
	Post (Q27)	2.37	2.00	378	3	.815		
Managing challenging classroom behaviour	Pre (Q13)	2.91	3.00	380	3	.888	−8.021	< .001
	Post (Q27)	2.45	2.00	378	3	.924		
Supporting students with specific additional	Pre (Q13)	2.71	3.00	381	3	.911	−10.429	< .001
learning needs	Post (Q27)	2.08	2.00	377	3	.811		

Table 4. Survey questions for school context.

Q4. School locality	Q5. School size/ enrolments	Q6. Number of NQTs in school	Q8. More than 20% of students eligible for Free School Meals	Q9. Employment status of NQT
Urban	Less than 300 students	Only NQT	Yes	Full time
Suburban	300–599	2–3 NQTs	No	Part Time
Semi-rural (small town)	600–899	4–5 NQTs		Short term supply (less than one term)
Rural	900–1,200	More than 5 NQTs		Long term supply
	Over 1,200			

of students eligible for free school meals (B = 0.85, t = 0.60, p = .553, CI = −2.44, 3.92) and the NQT's employment status (B = −0.23, t = 0.21, p = .834, CI = −3.31, 2.16) did not significantly predict overall job satisfaction.

Career intentions

In order to examine whether these same predictors affected whether NQTs would recommend teaching to others we conducted a bootstrapped (2000 samples) logistic regression between those who would and would not recommend teaching. This showed that overall, these factors did predict whether they would recommend teaching as a career (Q34) (χ^2 (6) = 27.35, p < .001). The model explained 20% (NagelKerke R^2) of the variance and correctly classified 76% of cases.

Individually only preparedness from teacher training positively predicted whether NQTs would recommend teaching as a career at the end of their first year in the classroom (B = 0.08, p < .001, CI = 0.05, 0.13). In contrast School Location (B = −0.03, p = .905, CI = −0.49, 0.45), number of students in the school (B = −0.20, p = .264, CI = −0.62, 0.16), how many other teachers in the school are new (B = 0.44, p = .848, CI = −0.38, 0.50), the number of students eligible for free school meals (B = 0.22, p = .638, CI = −0.88, 1.18) and the NQT's employment status (B = −0.46, p = .290, CI = −18.28, 0.27) did not significantly predict whether they would recommend teaching as a career.

Finally, in order to determine whether these same predictors affected how long the NQTs expected to stay in teaching we conducted a bootstrapped (2000 samples) multiple regression between those who would and would not recommend teaching. However, this showed that these factors did not predict how long they expected to stay in teaching as a career (Q35) (F (F (6, 251) = 1.63, p = .140). The model explained just 1% (adjusted R^2) of the variance. No association was found between likelihood to recommend teaching as a career and how long NQTs intend to stay in teaching.

RQ4. What is the influence of initial training location and pathway on job satisfaction and professional learning needs reported at the end of induction?

The analysis examined whether there were any significant differences in the perceptions of new teachers working in the North West of England and Scotland. A series of independent bootstrapped (2000 samples) t-test's compared the survey results for each of the following variables: (Q13)

Table 5. Training location: means and standard deviations for each survey variable.

		Mean	SD	N
Preparedness from initial training	England	59.40	9.97	186
	Scotland	54.28	10.87	135
Induction mentor hours (per month)	England	3.22	1.38	186
	Scotland	3.54	1.26	135
Induction mentor support	England	23.81	4.99	186
	Scotland	22.86	5.11	135
Impact of mentor feedback on practice enhancement	England	18.26	4.81	186
	Scotland	17.84	4.93	135
Job satisfaction	England	48.34	9.39	186
	Scotland	45.83	9.57	135

preparedness from teacher training, (Q15) ordinal number of hours with a designated mentor each month, (Q16) support from mentors in different areas, (Q17) contribution of mentor feedback to practice enhancement, and (Q31) job satisfaction (see Table 4). An independent t-test (which compares the means between two unrelated groups on the same dependent variable) showed that new teachers in England reported a higher overall mean job satisfaction compared with Scotland (t (319) = 2.34, p = .020, 95% CI = 0.45, 4.54), and a higher level of preparedness from ITE (t (319) = 4.37, p < .001, 95% CI = 2.82, 7.48). NQT's in England though had a lower number of hours with their mentor than probationers in Scotland (t (319) = 2.13, p = .034, 95% CI = −0.60, −0.02). However, there was no significant difference in the impact of mentors on practice enhancement between England and Scotland (t (319) = 0.76, p = .446, 95% CI = −0.64, 1.49) or the types of support (feedback in specific areas, Q16) offered by mentors (t (319) = 1.67, p = .096, 95% CI = −0.15, 2.13) (Table 5).

In order to further examine any potential differences between self-reported induction experiences in England and Scotland, we conducted Chi-square tests of association between each of the following variables and the location of the NQT (England or Scotland): Q14 (do they have a mentor), Q20 (supportive headteacher), Q21 (access to planning with more experienced teachers), Q22 (timetable reduction for NQT status). Examining the relationship between location and whether the NQT's time was protected showed that there was not an association between these two variables (χ^2 (1, N = 382) = 0.02, p = .891). There was also no association between location and having either a supportive headteacher (χ^2 (1, N = 382) = 1.28, p = .258) or access to planning with more experienced teachers (χ^2 (1, N = 382) = 0.90, p = .344). However, there was a marginal association between location and having a mentor (χ^2 (1, N = 382) = 3.57, p = .059) (Table 6). Having access to a supportive and qualified mentor was higher than expected for England but there were more participants who did not have a mentor than expected for Scotland.

Because the initial preparation of new teachers varies *within* as well as between national jurisdictions, we investigated whether there were significant differences between training pathways. In order to complete this analysis, we grouped five broad training routes: England school-led (School Direct salaried and fee-paying, Teach First, School Centered Initial Teacher Training, Researchers in Schools), England university-led undergraduate with QTS, England university-led postgraduate, Scotland university-led undergraduate (4-year undergraduate BA/BSc/BEdMus/MA/BTechEd in Education) and Scotland university-led postgraduate (Professional Graduate Diploma in Education).

Table 6. Association between location and whether the NQT had a supportive and qualified mentor. Observed and (expected counts).

	England	Scotland
No	24 (30)	27 (21)
Yes	202 (196)	128 (135)

Table 7. Training pathway: means and standard deviations for each survey variable.

		Mean	SE	N	Bootstrapped CI 95%
Preparedness from initial training	England School-led	58.78	1.16	68	56.37–61.00
	England UG	58.82	1.48	55	56.00–61.72
	England PG	59.06	1.20	80	56.60–61.30
	Scotland UG	59.20	1.92	25	55.10–62.93
	Scotland PG	53.06	1.00	111	51.17–55.03
Impact of mentor feedback on practice enhancement	England School-led	17.08	0.62	75	15.83–18.26
	England UG	18.97	0.60	58	17.71–20.07
	England PG	18.40	0.44	90	17.52–19.25
	Scotland UG	17.64	1.03	28	15.57–19.65
	Scotland PG	17.50	0.45	126	16.61–18.41
Job satisfaction	England School-led	47.26	1.16	72	44.91–49.53
	England UG	48.65	1.18	57	46.29–50.94
	England PG	47.57	0.98	90	45.62–49.53
	Scotland UG	46.11	2.01	28	42.13–50.04
	Scotland PG	45.66	0.84	123	43.97–47.31
Training needs at the end of induction	England School-led	53.29	1.35	69	50.57–55.97
	England UG	54.38	1.81	53	50.69–57.87
	England PG	49.93	1.61	82	46.66–52.95
	Scotland UG	53.15	2.26	26	48.50–57.32
	Scotland PG	50.35	1.00	116	48.36–52.27

Once we had grouped the training routes into five broad categories we ran a series of bootstrapped (2000 samples) Independent ANOVA's with training group as the independent variable and job satisfaction (Q31), preparedness from teacher training (Q13), contribution of mentor feedback to practice enhancement (Q17) and training needs at the end of induction (Q27) as the dependent variables (Table 7).

The Bootstrapped independent ANOVAs comparing training route showed no significant main effect for job satisfaction ($F_{(4, 365)} = 1.12$, $p = .311$, $\eta^2P = .013$), and training needs at the end of induction (Q27) ($F_{(4, 341)} = 1.76$, $p = .136$, $\eta^2P = .020$), or mentor feedback on practice enhancement (Q17) ($F_{(4, 372)} = 1.63$, $p = .167$, $\eta^2P = .017$).

However, there was a significant effect of preparedness from initial training ($F_{(4, 334)} = 5.90$, $p < .001$, $\eta^2P = .066$). Bootstrapped (2000 samples) post-hoc comparisons with Bonferroni correction showed that teachers trained in postgraduate courses in Scottish universities felt significantly less prepared by their initial training than teachers trained in the three pathways in England: university undergraduate courses ($p = .009$, 95% CI = -9.27, -2.30), university postgraduate courses ($p = .001$, 95% CI = -8.97, -2.85) or schools-led provision ($p = .004$, 95% CI = -8.71, -2.50). Scottish postgraduate courses also showed a marginally significant lower score in comparison in terms of preparedness than Scottish undergraduate courses ($p = .084$, 95% CI = -10.26, -1.86). However, there was no significant difference in reported levels of preparedness between the training types in England or Scottish undergraduate courses ($ps > .999$).

Limitations

The analysis is based on reported beliefs about preparedness. Self-report studies cannot provide a direct insight into whether or how ECTs' reported beliefs influence actual classroom practice or teacher mobility. We do not have measures of performance or indicators of the participants' teaching skills and professional competence at the end of their ITE programme, or the proportion of beginning teachers by route who did not complete ITE. We do not have an appraisal of their competence within their current school context. Surveyed intentions, of course, may not equate with later decisions and actions e.g. to leave or stay. The analysis reported here focuses on ECT perceptions of the support they received from designated or formal mentors, rather than peer group mentors or informal support that is also significant (März and Kelchtermans 2020). It was beyond the parameters of this research to examine the ways in which different ITE programmes

and providers vary in relation to course design, institutional priorities, specialisms or staffing. Available data on ITE focuses on core content hours, rather than curriculum content (Scottish Government, 2017). Moreover, the data did not allow comparison within provider type e.g. between research-intensive or teaching-intensive higher education institutions; or between small school providers, large multi-school Trusts or Teaching Schools. While 382 responses was sufficient for statistical analysis, the response rate for online surveys is often low. The decline in survey response rates among UK teachers (e.g. Teacher Workload Survey, NQT annual survey, National Student Survey, course evaluation surveys) is attributed to administrative burdens and survey fatigue (Knibbs and Stobart 2018). Further qualitative work is needed to address dimensions of professional preparedness that are not addressed well through survey items. Many factors influence how well prepared teachers feel that are related to policy contexts, curriculum change, professional values, biography and inter-personal connectedness (Kelly et al. 2019). This single method exploratory study provides initial insights that merit further investigation through longitudinal multi-method and multi-perspectival enquiry.

Discussion and conclusion

This study examined new teachers' assessments of early career support and the influence of these on job satisfaction and career intentions. Overall, the strongest predictor of job satisfaction was overall support from mentors in the induction period (Q16, $\beta = .261$). This confirms the importance of positive professional relationships in helping new teachers negotiate the 'praxis shock' experienced in their first posts (Kelchtermans 2017). The findings show the importance of targeted mentor support that helps new teachers to enhance their practice and self-confidence. This research strengthens the claim that it is not greater time with a designated mentor per se that promotes self-efficacy and job satisfaction. Simply having access to a mentor is not enough; it is the mentor's capacity to support new teachers that matters (Ingersoll & Strong, 2012). This finding draws attention to the importance of mentor preparation and matching, and supports the claim that the development of mentorship skills is positively associated with new teacher resilience and retention (Callahan 2016; Kidd, Brown, and Fitzallen 2015; Ronfeldt and McQueen 2017). In this study, having a supportive headteacher was significantly and positively related to higher levels of overall job satisfaction. This finding provides further evidence that induction is enhanced through the engagement of senior staff in beginning teachers' work (Langdon et al. 2019; Kutsyuruba and Tregunna 2014). It follows that induction for school leaders would benefit from the inclusion of new teacher support (Flores, 2017).

Extant research suggests teacher characteristics, such as gender and age, are strong predictors of turnover (Nguyen et al. 2019). However, our findings do not provide evidence that males have lower overall job satisfaction than female teachers and might therefore be at greater risk of attrition. The flight of male teachers has been associated with the 'feminisation' of (especially primary) teaching (Skelton 2012). While this study focused on teachers' work, gender patterns in attrition are influenced by factors beyond school level. For example, there is some evidence that males may be more responsive to wages, and therefore affected by the decline in UK public sector pay since 2010, and the availability of employment opportunities outside teaching especially for STEM graduates (science, technology, engineering and mathematics) where males outnumber females (Fullard 2020). Our analysis does not raise concern in regard to particular age groups. Higher rates of attrition among younger entrants are sometimes associated with ambivalent commitment to the profession and openness to alternative career possibilities (Lindqvist, Nordanger, and Carlsson 2014). In contrast to earlier studies (Wilkins 2017), this study did not find negative perceptions of induction and mentoring among career changers.

Three areas of professional practice emerge as the most challenging and persistent areas for development reported by new teachers. Beginning teachers moving into their second year of practice identified meeting the needs of diverse learners, managing classroom behaviour, and

supporting students with specific additional needs as development priorities. This is consistent with earlier studies that point to the relation between behaviour and early career attrition (Kraft, Marinell, and Shen-Wei Yee 2016). It also affirms the importance of embedding inclusive pedagogy through programmes of professional preparation for intending and newly qualified teachers (Mintz et al. 2020; Florian and Pantić 2017). The development of pedagogies for inclusion are demanded by greater cultural, linguistic and socio-economic diversity. The persistence of these development priorities suggests novice teachers need on-going support within knowledgeable professional communities to develop the skills, knowledge and professional commitments to respond well to diversity and create equitable classrooms.

A key finding from this study is the importance of starting well. The results show the continuing significance of the level of preparedness achieved through initial teacher education. This is important given that decisions to stay are made most often within the first years of practice (Worth 2020). In this study, irrespective of training route, national or school context, initial teacher education is the most important predictor of the level of continuing development needs of new teachers at the end of their first year, and likelihood to recommend teaching as a career. The degree of induction support offered to new teachers and the characteristics of the employing school do not appear to compensate for the quality of initial preparation. A new teacher who enters a new school community feeling well prepared appears less likely to report high development needs at the end of the induction year. Equally, a new teacher who enters the labour market feeling ill prepared appears more likely to report continuing high professional learning needs at the end of their first year in the classroom. It may follow that thorough preparation through ITE can insulate new teachers from the adverse effects of more challenging work environments with higher teacher turnover.

If a strong foundation from ITE sustains new teachers across diverse work environments, the exclusion of high performing ITE providers from formal induction is unhelpful. Extending partnership work between networks of schools and local universities into the early career stage may prove effective in sustaining quality retention among early career teachers. Building mentor capacity would require adequate resource to avoid destabilising the quality of pre-service provision. The development of regional models of early career support in England through the Early Career Framework (ECF) (DfE, 2019b) from 2021 may bring greater coherence to the 'system of small systems' that has resulted from the marketisation of teacher education (Whitty 2014, 472). However, the intensification of inter-local competition between providers of ITE and early career support in England – as proposed in the ITT Market Review (DfE 2021) – is unlikely to address the complex causes of teacher turnover. While enhanced support through the ECF addresses pedagogical issues experienced in the classroom, it is not designed to address wider issues of workload, the negative impact of school budget cuts, high stakes accountability, and the contextual challenges of neighbourhood deprivation and 'educationally isolated' schools (Ovenden-Hope and Passy 2020, 98).

Concern has been expressed about the diversification of pathways to registration in England and the rapid growth in small school-led ITE providers (NAO 2016; HoC Education Committee 2017). The preliminary analysis presented here does not suggest that any one route is more effective than others in England. The development of school-led routes is associated with widening access and employability as an assumed outcome of longer immersive experience in one school and the adaptability of training to local needs. Critics have challenged the view that more time spent in school necessarily equates with a higher level of professional confidence and competence on entry to the profession (McNamara and Murray 2013; Hodgson 2014). In this study, new teachers entering the profession through school-led pathways in the North West of England appear no less prepared than their counterparts entering the profession via traditional postgraduate university pathways. The findings of this study are consistent with earlier research that records only modest differences in satisfaction outcomes between routes and variability within routes (Gorard 2017). Further research is

needed on the longer-term outcomes of different training pathways; particularly whether enhanced support through the Early Career Framework (DfE, 2019) will build capacity in mentorship and enhance retention.

Preliminary comparison of differences based on national location should be approached with caution given the wide range of potential contributing factors. Nonetheless, it is encouraging that teachers in England report comparable levels of induction support as their counterparts in Scotland. It is possible that the high profile afforded to a career-long developmental pathway, and a guaranteed one-year probationer post in Scotland, may raise expectations and skew perceptions. More detailed analyses and in-country insights will be yielded by the as yet unpublished findings of the Measuring Quality in Initial Teacher Education (MQuITE) project (2017–2022) that aims to examine the confidence and competence of early career teachers trained in Scotland in their first five years post-registration. The levels of preparedness reported by recently qualified teachers trained in England stands in contrast to the purported need for wholesale market reform of the ITE system (DfE 2021).

The findings from this study signal a need for further cross-sectional and longitudinal research examining the interaction of teacher characteristics, school characteristics, and alternative models of early career support. Follow-up surveys at a single point-in-time need to be supplemented by mixed methods that capture multiple perspectives (new teachers, mentors, school leaders, induction coordinators, teacher educators) on (often non-linear) professional learning journeys of over time. Longitudinal studies have been undertaken of the effectiveness of teacher education in relation to beginning teacher mobility and attrition in the Australia and the United States (Mayer et al. 2015; Buchanan et al. 2013; Kaiser 2011). However, funding for large-scale research in the field of teacher education that connects datasets on ITE, induction and new teacher retention is rare (Beauchamp et al. 2015; See et al. 2020b). An earlier longitudinal study, the Becoming a Teacher project (2003–09) found variation in preparedness from ITE in England was 'washed out' through school experience over time (Hobson et al. 2009, p.xii). Clearly, this outcome is dependent on continued service beyond induction. In a diversified teacher education market, this exploratory study suggests ITE is an important influence on NQT job satisfaction and hence quality retention in the short-term. Teachers who report higher job satisfaction are much less likely to leave their school, or the profession, by the following academic year (Sims and Jerrim 2020). By identifying early challenges, we can learn more about how to improve support for teachers at the start of their careers when the learning curve is sharpest. This is ever more urgent as the prospects of starting well are adversely affected by the disruption to practicum learning, and delays to recruitment and induction for beginning teachers through 2019/20 and 2020/21 due to the Covid-19 pandemic. Rolling school closures and the shift to remote learning reduced placement opportunities for pre-service teachers, disrupted the teacher labour market with fewer job opportunities for NQTs, and placed new and complex demands on newly qualified teachers and their mentors (la Velle et al. 2020; Page et al. 2021; Allen, Hannay, and McInerney 2020). In the context of widening educational inequalities and projected teacher shortages, it is important that research-informed support for early career teachers is not lost as a policy priority.

Disclosure statement

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