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The out-of-field phenomenon: Perceptive consequences and Support Needs Through the Lens of graduating second career preservice teachers

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The out-of-field phenomenon: Perceptive consequences and Support Needs Through the Lens of graduating second career preservice teachers

Abstract

Second career preservice teachers' perceptions about the out-of-field teaching phenomenon might influence career decisions, such as retention and attrition. A target group of 133 second career graduating Master of Teaching students voluntarily participated in this mixed method study which offered findings through analysed open and Likert-scale questions and semi-structured interview data. The pilot offers new information about second career preservice teachers' perceptions about their possible involvement in out-of-field teaching practices and the phenomenon's implications for capabilities, skills knowledge, self-efficacy, support needs and professional identity. A critical reflection on quality teaching and teacher training programs, and preparation for the teaching profession form the foundation for further research in this field. The analyses further stimulate a deeper understanding of the future second career teaching workforce and perceptions of support resources.

Practitioner Notes

1. What is the focus of development (capabilities, skills, knowledge)?
2. What is the role of reflective practice (in situ, post) for individual staff (reflecting on personal development, reflecting on the field of academic / faculty development)?
3. How do we resource the development of teaching practice?
4. How understanding teaching practice and the out-of-field teaching phenomenon will contribute to improving academics' views regarding the preparation of preservice teachers for workplace challenges and practice teaching
5. How can the information from this investigation develop teaching practice linked to possible out-of-field teaching positions to improve preparedness and support?
6. The pilot unveils information to support academics' critical reflection on the alignment of current workplace concerns to the reality of preservice teacher preparation.

Keywords

second career graduating teachers, knowledge, out-of-field teaching, developing preservice teachers' practice preparedness, self-efficacy, support

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Introduction

Out-of-field teaching is common in education systems worldwide and thus has implications for systems, teachers, and graduating teachers across international boundaries. It has been conceptualised as a *phenomenon* because of its widespread occurrence, and can be defined as the practice of assigning teachers to teaching positions for which they do not have suitable qualifications or/and the required relevant expertise, whether in a specific subject area and/or a specific year level (Du Plessis, 2015). McConney and Price (2009) clarify that teaching out-of-field means "teaching in a subject, field, or level of schooling for which teacher[s have] neither a major nor minor tertiary (university) qualification" (p. 86). This pilot study investigates the views of second-career, graduating pre-service teachers regarding their understanding of the phenomenon and confidence to teach in these kinds of positions.

Even though out-of-field teaching has attracted substantial attention from stakeholders and researchers, the agency of second-career pre-service teachers for these positions has not yet been considered by research. When coupled with the fact that graduate teachers are often assigned to out-of-field teaching positions (Du Plessis, 2019; Weldon, 2016) and that these positions are often complex, ongoing concern about teacher shortages and pre-service teachers' preparedness for the realities of the workplace suggests the necessity of investigating graduate teachers' perceptions on out-of-field teaching before they enter the workforce. This pilot research study focusses specifically on second-career pre-service teachers' perceptions and understandings about the phenomenon and its consequences for their workplace experiences and careers with the intention that these may be useful in developing both management and retention strategies in this cohort. In order to explore this research goal, an overriding research question was developed: *How do second-career graduating pre-service teachers understand and perceive the consequences of the out-of-field teaching phenomenon, and what kind of support do they value?*

Literature Review

Literature connects issues of pre-service teachers' preparedness for complex classrooms to their self-efficacy beliefs. Liebl et al. (2021), for example, examine the difference between out-of-field and in-field pre-service teachers in terms of self-efficacy and observe that the former display low self-efficacy beliefs. Siwatu (2011) notes a relationship between pre-service teachers' self-efficacy beliefs, challenging contextual factors, and teacher attrition. This link to pre-service teacher attrition is upheld by studies that have investigated factors affecting out-of-field teachers' career decisions, and many have identified perceptions of a significant increase in teaching workload and a lack of support as key reasons for teacher attrition (Campbell et al., 2020; Gallant & Riley, 2014; Howes & Goodman-Delahunty, 2015; Mason & Matas, 2015). Despite research that shows out-of-field teaching has real-life, detrimental implications for teacher's self-efficacy, confidence, feelings of belonging in the teaching space, and satisfactory classroom practice (Pendergast et al., 2022), other research shows that graduate teachers in their first few years of teaching are more likely to be assigned to out-of-field positions than more experienced in-service teachers (Weldon, 2016).

In their study of college students, Wurster et al. (2020) connect issues of self-efficacy to confidence, feelings of belonging, and academic success, while Brown et al. (2021) underline that "pre-service teachers' feelings of preparedness are often an important predictor of their ability to perform teaching tasks" (pp. 38–39). New teachers acknowledge that they are not confident and do struggle when assigned to positions for which they are not suitably qualified;

in such situations, they depend heavily on colleagues to guide them (Du Plessis, 2015). Teachers experience significant challenges in maintaining sustainable quality teaching in specialist areas when teaching out-of-field (Caldis & Kleeman, 2019). Restricted content knowledge and pedagogical content knowledge, a lack of confidence, stress, and feelings of being inadequately prepared for teaching out-of-field (Cinkir & Kurum, 2015; Lane & Ríordáin, 2020; Merga et al., 2020) often result in new teacher attrition, and Du Plessis (2015) describes these interconnected issues as being of fundamental concern to many out-of-field teachers.

Both Tigchelaar et al. (2008) and Troesch and Bauer (2020) acknowledge that different life and work experiences influence pre-service teachers' perceptions, motives, challenges, and images of the workforce, all of which can be examined in relation to these teachers' agency. While Tigchelaar et al. (2008) observe that second-career teachers draw on valuable competencies and knowledge from earlier workplace experiences (in previous careers), we suggest that these competencies may not only influence their feelings of confidence and ability to effectively manage challenges in their teaching careers but might also impact their decisions to leave if they do not experience job satisfaction. As such, we assert that pre-service teachers' perceptions of the realities of out-of-field teaching tie back to the growth of their professional identity and the management of their self-efficacy. Time spent in out-of-field positions can have implications for teachers' development as specialists in a specific field (Singh et al., 2021), and Shah et al. (2019) highlight the increasing occurrences of out-of-field teaching in specialist subject areas in terms of the influence this practice might have on teachers' job satisfaction. Teaching out-of-field can be experienced as an unsatisfying commitment, impacting teachers' perceived knowledge of teaching, their professionalism as teachers, and contributing to decreased job satisfaction (Cinkir & Kurum, 2015).

In agreement with Trent (2019), we uphold the significance of strong professional identity development during preservice teachers' preparation, and assert that, since pre-service teachers begin to establish their teaching identity during their initial teacher education (ITE), ITE needs to include pre-service teachers' recognition of out-of-field teaching as a common educational practice and the likelihood of them being assigned to these positions (Campbell et al., 2020). Pre-service teachers' expectations of their subject matter knowledge, year-level needs, and the realities in workplaces may impact how empowered they feel to effectively manage challenging teaching experiences such as teaching out-of-field.

In light of the interconnectedness of these issues, empirical research is needed regarding pre-service teachers' perceptions of out-of-field teaching workforce issues and related implications for support and retention in order to create strategies to effectively manage graduate teachers' out-of-field teaching challenges. Fortunately, in this regard, specific research about second-career teacher coping and attrition by Bauer et al. (2021) highlights that "the stayers repeatedly talked about being welcomed into an inclusive team culture that allowed them to grow and contribute" while the "leavers … rarely talked about support that went beyond occasional help from individual colleagues and supervisors" (p. 471), drawing focus to relevant issues of assistance as well as school leaders' awareness of these teachers' perceptions and situational needs (Hagaman & Casey, 2018).

Thus, this pilot study sought to gather information about pre-service teachers' perceptions, and in particular, second-career preservice teachers' perceptions of their self-efficacy, confidence, and understanding of the out-of-field phenomenon and what it means to them, as well as what supports they perceive would be useful in out-of-field assignments. Particularly in consideration of the implications that tailored support may have for their workplace

preparedness, their growth as teachers, and (ultimately) their retention, we suggest that a strong understanding of pre-service teachers' perceptions about out-of-field teaching could positively influence both ITE and workplace development strategies in this regard (Donitsa-Schmidt et al., 2021). Improvements in pre-service teachers' preparation for the workforce based on the findings of this study may increase their adaptability and flexibility to accommodate any changes that emerge from workplace realities. In short, a better understanding of pre-service teachers' perceptions about the out-of-field phenomenon is needed to ensure that these teachers are workplace ready and well-informed on their transition to the profession.

In this context, the main problem statement, *How do second-career graduating pre-service teachers understand and perceive the consequences of the out-of-field teaching phenomenon and what kind of support do they value?* is streamlined into two main research questions: *How do second-career pre-service teachers perceive and understand the consequences of the out-of-field teaching phenomenon?* and *How do second-career pre-service teachers perceive the support needed to manage the attrition of graduating teachers?*

Methodology and Methods

This pilot study targeted second-career pre-service teachers, adopting a convergent mixed-method research design that sought three avenues of data collection. The method was developed from Creswell (2012, 2014) and had been trialled in a larger study by Du Plessis et al. (2019, 2020). First, an online survey instrument was designed with reference to Künsting et al. (2016); it gathered quantitative data from participants through the teacher self-efficacy scale (SES; N = 133 surveys, n = 59 surveys with a complete Section B). Second, the same online survey concluded with open-ended questions designed to collect qualitative participant data, which was used in the analysis to create the dependent variables (n = 45 with a complete Section C). Third, semi-structured interviews were conducted to triangulate findings (n = 5). A small sample size (N = 133) was considered acceptable for a pilot study that intended to develop data-gathering instruments for future large-scale studies, and the data analysis proved sufficient to support adjustment and development of the instruments for further research.

Survey Instrument and Semi-Structured Interviews

Section A of the online survey instrument comprised five questions about participants' demographics and the number of their professional teaching areas. One of the goals of the analysis was to determine whether or not teachers' perceptions depended on the considered demographic variables. The considered demographic predictor variables derived from Section A of the survey were: (a) gender (male*/female), (b) ethnicity (non-ATSI*/ATSI[1]), (c) language (English*/English+other), (d) age (in years: 20–29*/30–39/40+), and (e) professional areas (2*/3/4).

Section B of the survey comprised 15 questions from the teacher SES that evaluated preservice teachers' perceptions regarding their efficacy as teachers (Künsting et al., 2016; see Figure 1). Each of these measurable variables was evaluated on a numerical Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The scales and validation used for the online

* Base categories

[1] Aboriginal and Torres Strait Islander

survey were informed by extensive literature review of previous studies (see Du Plessis et al., 2019).

SECTION B.	SELF-EFFICACY SCALE
Item 1:	I know that I can teach even the most problematic students effectively.
Item 2:	I am certain that I can have positive interactions with even the most problematic students if I invest effort.
Item 3:	I know that I can keep a positive contact with the parents of the students, even in difficult situations.
Item 4:	I am certain that I can adapt to individual problems of students even better in the future.
Item 5:	I am certain that I can maintain the necessary degree of serenity even in case of disruptions.
Item 6:	I am certain that I can develop creative ideas and concepts to improve inappropriate educational patterns in the classroom.
Item 7:	I continually strive to improve my own teaching.
Item 8:	If something is going wrong in the classroom, then I regard this as an opportunity for myself to learn.
Item 9:	I am not content with my work until I have a very good understanding of the curriculum.
Item 10:	If something is going wrong in the classroom, then I try everything to make it better next time.
Item 11:	I like to work on problems that are not easy to master.
Item 12:	If students have communication problems, then I regard this as a cause to consult specialist literature.
Item 13:	For me, classroom situations that entirely challenge me are tempting
Item 14:	If students have communication problems, then I persist in solving these problems until I have a solution.
Item 15:	I continually refine the teaching materials I use.

Figure 1.

Section B of the survey instrument.

Section C comprised seven open-ended questions that sought second-career teachers' perceptions about the consequences of teaching in out-of-field positions, and what resources they thought would be useful to them (see Figure 2). The open-ended survey questions and semi-structured interview questions were created with reference to current research in the field and another (completed) research project that investigated new teachers' experiences of the teaching profession (Du Plessis et al., 2019, 2020).

SECTION C. YOUR VIEWS ON OUT-OF-FIELD TEACHING PRACTICES	
We would appreciate your views and reflections on your experiences with the out-of-field teaching phenomenon. To best capture your personal views, we have separated this section into open-ended questions and prompts. Your thoughts, voice and experiences are important to inform decisions regarding the out-of-field phenomenon.	
a)	What do you consider teaching out-of-field to mean?
b)	What has influenced your thinking about teaching out-of-field?
c)	You might like to consider your experiences as a secondary school student, your professional experience placements, your discussions with colleagues, other.
d)	What do you consider might be some consequences of teaching out-of-field? For students? For teachers? For schools/communities?
e)	Do you believe it is likely that you will be teaching out-of-field in the first five years of your teaching career? Why?
f)	How do you feel, personally, about teaching out-of-field?
g)	What resources or supports do you think might assist you if you are teaching out-of-field?

Figure 2*.*

Section C of the survey instrument.

Online survey respondents were asked to voluntary indicate if they would consider participating in semi-structured interviews; a resulting n = 5 participants then participated in 45-minute interviews via Microsoft Teams, and these data offer corroborating insights into the perceptions of second-career pre-service teachers on the out-of-field phenomenon. Interviews explored issues raised through the analysis of the survey data in more depth. Subsequently, thematic analyses were used to examine, analyse, and code both the open-ended survey responses (n = 45) and verbatim interview transcripts (e.g., clusters of meanings were identified with colour coding; Braun & Clarke, 2006, 2012). These qualitative responses are presented in a de-identified form, with survey open-ended question responses as “SoQ”, and semi-structured interview responses as “Intv_[Participant Code]”.

Theoretical Framing

Cohen et al. (2018, p. 51) emphasise that “interpretive paradigms are essentially concerned with understanding phenomena” while using different lenses. The data analyses were therefore built on a critical theory approach that used context-conscious understanding development (C-CUD; Du Plessis, 2019, 2021) theoretical framing, allowing focus on specific situations, contexts, and lived experiences. The intention was to develop an in-depth understanding of the implications of the phenomenon, particularly since out-of-field teaching is acknowledged as a *thing, event, or incident* experienced through the senses. This was drawn from hermeneutic philosophy (Gadamer, 1975) and situated learning and experiences (Lave & Wenger, 1991). Meanwhile, a social-constructivist approach highlighted preservice teachers’ confidence and self-efficacy perceptions as linked to their role as knowledgeable others (Vygotsky, 1978) in classrooms. This theoretical position offered a frame for discovering the deeper meaning of second-career graduating pre-service teachers’ perceptions about this specific workforce challenge.

Quantitative and Qualitative Data Analyses

Analysis of the survey items and the validation of the instruments was based on multiple regression models developed using the Stata16 software package (Acock, 2013; StataCorp, 2019). Regression analyses investigated correlations between the factors in Section B and

the dependent variables in Section C. These variables and factors were developed and gradually refined through exploratory factor analysis (EFA), Cronbach's alpha analysis, and confirmatory factor analysis (CFA). A similar method of developing dependent variables from the qualitative data was trialled by Du Plessis et al. (2019, 2020).

Analysis of Variables from Survey Section B

The 15 numerical variables from Section B of the survey (SES1–SES15; Künsting et al., 2016) were analysed through three steps (Cronbach, 1951; George & Mallery, 2003) to identify any common characteristics that could constitute latent variables, such as stress, negative dispositions, uncertainty, or anxiety linked to the out-of-field teaching phenomenon. This process resulted in two different factors emerging from the 15 items of the teacher SES: items SES1–SES8 and item SES15 as Factor 1, and items SES9, SES10, and SES14 as Factor 2.

EFA and Cronbach's Alpha Outcomes of Survey Results

An EFA was conducted to explore the underlying data constructs in the Likert scale questions (Du Plessis et al., 2020; Fabrigar et al., 1999; Gorsuch, 1983; Norris & Lecavalier, 2009; Yong & Pearce, 2013). Some of the survey items reflected a particular mutual characteristic and were therefore joined together, creating an equivalent latent variable. Here, the term "latent variable" is used to distinguish a factor that was not directly measured by the survey but was derived from measurable variables (i.e., those directly measured by the survey instrument). This approach grouped the survey items according to their loadings, where larger loadings indicated the greater relevance of an item to the considered factor. A cut-off value of .3 was adopted for factor loadings in this analysis. A similar approach was used by Du Plessis et al. (2019, 2020).

The second step used Cronbach's alpha analysis to further validate the internal reliability and consistency of the factors (Cronbach, 1951; George & Mallery, 2003). First, we calculated the values of Cronbach's alpha for any of the factors indicated by the EFA. Larger values of Cronbach's alpha reflect better internal consistency of the factor, that is, a larger probability that the survey items constituting the factor adequately reflect the mutual characteristics of the factor. We adopted a typical range of Cronbach's alpha, $.7 \leq \alpha < .9$, which corresponds to a good internal consistency (George & Mallery, 2003). Second, once Cronbach's alpha was calculated for an indicated factor, one survey item was removed from the factor, and Cronbach's alpha was recalculated. For an internally consistent factor, Cronbach's alpha should decrease upon the removal of one item, as it tends to decrease with a decreasing number of items (Cortina, 1993). In agreement with Fong et al. (2010), we considered potential bias due to inconsistent responses in Cronbach's alpha, which may change it from negative to positive with an increasing number of items in a scale. We thus conducted a careful analysis of these internally inconsistent items.

The EFA and Cronbach's alpha analysis resulted in two different factors emerging from the 15 items of the teacher SES: items SES1–SES8 and item SES15 as Factor 1, and items SES9, SES10, and SES14 as Factor 2.

The subsequent Cronbach's alpha analysis gave values of .807 and .661 for Factors 1 and 2, respectively. Factor 1 displayed good internal consistency, whereas Factor 2 did not. However, removing SES15 from Factor 1 increased the resulting Cronbach's alpha to .813, indicating that SES15 was inconsistent with Factor 1. Further, the removal of other items from this factor resulted in decreasing Cronbach's alphas, suggesting that the remaining items SES1 to SES8 were consistent with this factor, which was given the descriptor *general self-*

efficacy. While Factor 2 appeared relatively consistent, removing item SES14 meant that its Cronbach's alpha increased to .701, indicating that item SES14 was in fact inconsistent with Factor 2. This left SES9 and SES10 as Factor 2; however, we opted to not consider this as a second factor, but instead averaged items SES9 and SES10 and used this average as another variable in the developed models (denoted *(SES9+SES10)/2*). This approach led to an improvement in the model fit.

CFA Outcomes of Survey Data

The CFA was the final step that provided confirmation of a factor (and which also allowed quantitative characterisation of the latent variable); this was through the determination of its factor score (Bartholomew et al., 2011; Gorsuch, 1983). The developed CFA models were then further tested through goodness of fit (GOF) indices (Bartholomew et al., 2011; Hu & Bentler, 1999; Iacobucci, 2010).

This last advancement of the factor analysis resulted in a significant reduction in the variables to be considered in the model. Instead of providing multiple measurable variables (from the survey items) that may have reflected similar aspects and characteristics, a smaller number of latent variables describe the same aspects and characteristics and are characterised by the respective factor scores. The factor analysis thus supports a clear view of the available variables in this model while offering an even clearer focus on the *mutual general* aspects and characteristics targeted by the survey and its sections.

The *p*-value for the χ^2 in the CFA model fitting was .392. The other model fitting parameters were: CFI = .991, TLI = 0.985, SRMR = .060, and RMSA = .034[2]. The results demonstrated an acceptable model fit. The results of the CFA modelling of this factor are presented in Figure 3, which highlights the relationships between this factor and the eight associated survey items, SES1–SES8. The nature of the items in SES1–SES8 upholds the self-efficacy label and demonstrates that the CFA corroborates and validates the previous outcomes of the EFA and Cronbach's alpha analysis.

[2] CFI = comparative fit index (Kaplan, 2000; Marsh & Grayson, 1995), TLI = Tucker-Lewis index (Schermelleh-Engel et al., 2014), SRMR = standardised root mean square residual (Hu & Bentler, 1999), and RMSA = root mean square approximation index (Browne & Cudeck, 1993; MacCallum et al., 1996).

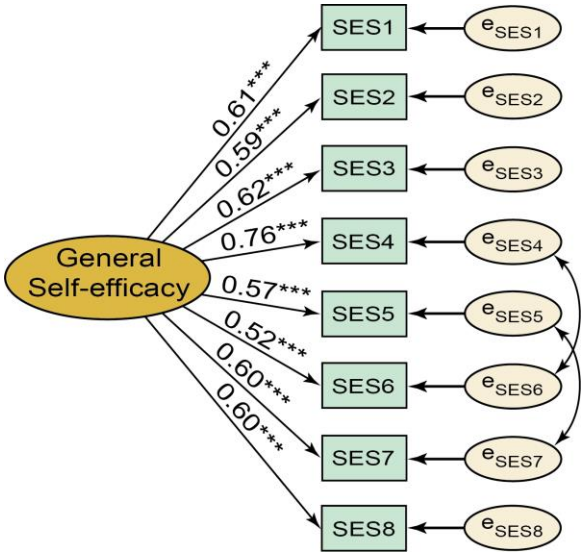

Figure 3.

Standardised CFA Model for the General Self-efficacy Factor Associated with SES1–SES8

Notes. The standardised factor loadings are shown above the diagonal arrows from the general self-efficacy factor to the associated items. Asterisks show the levels of significance of the loadings: ***p < .001. The two curved arrows at right indicate significant covariances between those survey items used in the model to ensure sufficient model fit.

Development of Dependent Variables, Survey Section C

Two of the questions from Section C of the survey instrument—(f) *How do you personally feel about teaching out of field?* and (g) *What resources or supports do you think might assist you if you are teaching out-of-field?* (see Figure 2)—were considered as dependent variables in this study, since these related directly to the RQs. However, in order for these qualitative questions to be used in the quantitative analysis, participants' short answers to these two questions had to be quantitatively categorised.

Initial coding of the first question (f) resulted in five categories:

1. I will not get involved (category 0);
2. Some subjects are fine, and some are not. If not, I will not get involved, as I have no idea how to teach and am extremely uncomfortable and not confident (category 1);
3. Some subjects are fine, and some are not. If I do not think that I am qualified, I still will teach (category 2);
4. I feel nervous, but I will teach (category 3); and
5. I will teach (category 4).

Subsequent analysis suggested that there were no significant differences between categories 0 and 1 or between categories 3 and 4. Therefore, the final categorisation of the first dependent variable, *How do you feel, personally, about teaching out of field?*, was:

1. I will not get involved + Some subjects are fine, and some are not. If not, I will not get involved, as I have no idea how to teach and am extremely uncomfortable and not confident (**"will not teach"—category 0**);
2. Some subjects are fine, and some are not. If I do not think that I am qualified, I will still teach (**"could teach"—category 1**); and
3. I feel nervous, but I will teach, or, I simply will teach (**"will teach"—category 2**).

Next, analysis of the second dependent variable from the survey (g) resulted in the identification of six types of resources and possible support. Each of these specific resources/support types (R1–R6) was considered as one categorical variable with two possible categories, *mentioned* or *not mentioned*, depending on whether or not the particular resource/support was mentioned by a participant. These were:

R1. Curriculum for out-of-field units: either 0 (not mentioned) or 1 (mentioned);
R2. Professional development and/or courses for teaching staff: either 0 (not mentioned) or 1 (mentioned);
R3. Help/support of colleagues, mentors, and the Head of Department (HOD): either 0 (not mentioned) or 1 (mentioned);
R4. Availability of unit preparation, plans, and assessments: either 0 (not mentioned) or 1 (mentioned);
R5. Online learning materials and created resources: either 0 (not mentioned) or 1 (mentioned); and
R6. Textbooks for out-of-field units: either 0 (not mentioned) or 1 (mentioned).

Each of these six categorical variables was considered a possible dependent variable. The goal at this point was to determine whether, in relation to the required resources for out-of-field teaching, teachers' perceptions possibly depended on the considered demographic variables and/or on their self-efficacy assessment and/or on their personal views about teaching out-of-field.

Interrelationships Between Derived Dependent Variables

Once the dependent variables were established, a quantitative data analysis of these variables was conducted using the Stata16 software package (Acock, 2013; StataCorp, 2019). It aimed to establish any relationships between the three sets of dependent variables, that is, the demographic characteristics of pre-service teachers, their views and perceptions on out-of-field teaching, and the perceived support resources they might require.

The adopted statistical approach was based on multiple regression models that related the teachers' demographics to the indicated dependent variables. The accepted level of statistical significance in this study was characterised by *p*-values below .1 (i.e., under 10% significance). This threshold was adopted because of the relatively small sample size, which, although recognised as a limitation, is acceptable for a pilot study that informs further research. The general principle was that each relation in a model should be associated with at least five, and up to ten, observations (Bentler & Chou, 1987; Nunnally, 1967); the sample of 45 participants (who completed Section C) was sufficient for a model with around 5–9 relationships, and our models were constrained by this limit. As such, the sample of participants was considered sufficient for both analysis and modelling.

Since the dependent variable from (f) *How do you personally feel about teaching out of field?* had three different categories, the analysis was conducted using multinomial logistic regression (Hosmer & Lemeshow, 2000; Long & Freese, 2006). The model fit was estimated using the maximum likelihood, R^2, which was calculated using Nagelkerke/Cragg and Uhler's approach (Agresti, 1996; Long & Freese, 2006). A logistic regression analysis was conducted for the second dependent variable, (h) *What resources or supports do you think might assist you if you are teaching out-of-field?* for R1–R6, each characterised by two categories.

Findings

The findings from this pilot study demonstrate the validity of the research design and develop overall awareness about pre-service teachers' perceptions of their self-efficacy, agency, and interest in teaching in out-of-field positions, and what support they perceive would be most valuable when they do.

Perceptions on Self-Efficacy

All eight items associated with the *general self-efficacy* factor were found to be highly significant. The positive factor loadings shown in Figure 3 are a measure of the association of the respective items with the factor; all are positively associated with it. Note that a higher general self-efficacy means that the participants had higher evaluations of themselves in each of the individual items SES1 to SES8.

Skills, Life Experience, and Age: Comparisons of Survey and Interview Data

A comparison of the magnitudes of the loadings associated with the eight items in the *general self-efficacy* factor suggests that item SES4 ("I am certain that I can adapt to individual problems of students even better in the future", factor loading .76) had the greatest relevance to the general self-perceived efficacy of this sample of graduating pre-service teachers in terms of their ability to adapt to individual students' needs and problems. Item SES6 ("I am certain that I can develop creative ideas and concepts to improve inappropriate educational patterns in the classroom", factor loading .52) had the lowest relevance, although it was still strongly significant. Despite their self-perceived agency, however, qualitative data from the SoQ showed that pre-service teachers felt the practice of assigning new or graduating pre-service teachers to out-of-field teaching situations would cause them to "*feel alienated*" and "*like they know less than everyone else*". These findings were upheld by the interview data, with a second-career pre-service teacher's response suggesting both agency and ambiguity: "*[I]n theory… it's possible, and I could potentially do it … so, I'll have to just dive in and see how I go*" (Intv_UA_M).

Figure **4** shows the percentage distribution of the factor score for the developed *general self-efficacy* factor[3]. The width of the bins/bars on the horizontal axis was chosen to provide sufficient illustration of the distribution of the score, and the vertical axis shows the percentages of participants having their *general self-efficacy* scores within the respective bins/bars. The factor score was regarded as being the same as the numerical characteristics of the *general self-efficacy* latent variable associated with the factor, and as such, the latent variable/factor was able to be considered a numerical variable in the developed models. Corroborating qualitative data highlight participants' connection between out-of-field assignments and their personal perceptions of who they are as teachers: "*I think it depends on how people view it personally*" (Intv_P_TR_F).

[3] Because of the conducted standardisation of the score, its median and mean values were approximately equal to zero.

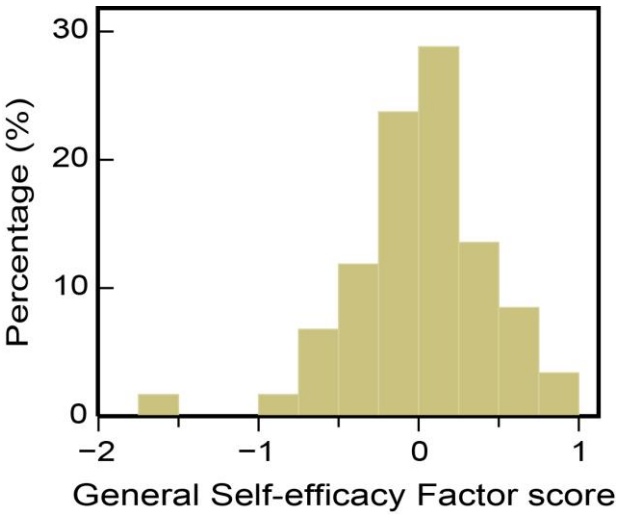

Figure 4.

Percentage Distribution of the Standardised Factor Score for the General Self-efficacy Latent Variable Associated with SES1–SES8

Note. The width of the bins/bars for the factor score was chosen as .25 points.

Perceptions on Out-of-Field Teaching (Feelings and Support)

First, the self-efficacy perceptions of preservice teachers are largely independent of their age, language background, ethnicity, gender, or number of professional teaching areas. If these demographic parameters had any effects on the SES, they were weak in the sample. Thus, perceptions of self-efficacy among this participant group can be seen to be universal across the whole spectrum of participant demographics.

Second, the effects of the demographic variables and the variables resulting from the teacher SES on the variable *How do you personally feel about teaching out of field?* could then be considered using multiple multinomial logistic regression. Table 1 demonstrates that the outcomes of a regression model and the *general self-efficacy* latent variable, age, and the *(SES9+SES10)/2* variable show significant effects in the three categories for the *Perceptions on out-of-field teaching* variable.

Table 1.

Outcomes of the Multinomial Regression Model with the Variable "How Do You Personally Feel About Teaching Out of field?"

Perceptions about Teaching Out-of-field	**Predictor Variables**		**Regression Coefficient, *k***
Category 1: **"Could teach"**	*General self-efficacy* score		.756
	Age	30–39 years	–.929

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		40+ years	–1.95
	(SES9+SES10)/2		2.83
	Constant		–12.52
Category 2: "Will teach"	*General self-efficacy* score		4.11
	Age	30–39 years	1.29
		40+ years	2.18
	(SES9+SES10)/2		.762
	Constant		.258

McFadden's R^2 coefficient (Long & Freese, 2006) for the model in Table 1 was .295; as such the model describes around 29.5% of the overall variance of the dependent variable *How do you personally feel about teaching out of field?* within the three categories. We suggest that the scope of future research in this area should include the identification of additional significant variables and factors to develop a deeper understanding. The multinomial logistical regression provided a result of 2.83 as the regression coefficient between the variable *(SES9+SES10)/2* and category 1 ("could teach") of *Perceptions on out-of-field teaching*, which means that the predicted odds for a pre-service teacher to feel that they "could teach" out-of-field increase by a factor of exp{2.83} ≈ 16.9 if the *(SES9+SES10)/2* score increases by 1. Therefore, the category "could teach" of the *How do you personally feel about teaching out of field?* variable is strongly and significantly affected by the items SES9 and SES10. As such, pre-service teachers' "willingness to have a good understanding of the curriculum" (SES9) and seeing an "opportunity to improve when challenges appear" (SES10) seemed to be significant in terms of feeling they "could teach" in an out-of-field assignment. Corroborating interview data indicate that this sense of agency might be related to life experience and skills developed during previous careers. For example, one second-career pre-service teacher shared:

> *I'd first like to get a good grasp on my specialities, but I definitely would like to teach out-of-field and not even in terms of sport and rec, but history … maths. I'd like to go that far out, just so I'm exposing myself to new learning. (Intv_BD_M)*

Another shared concerns about stepping beyond their existing knowledge:

> *…You'll be judged on your performance as a teacher [laughs] whether you're in- or out-of-field. I think if I was asked to do Standard 2, or 2.1, or 2.2, or whatever it is, about content in music, I certainly could not do that. I then*

> *would feel that I'm starting from the back foot in that kind of content and pedagogical knowledge kind of area. (Intv_TR_F)*

A further remark from a student describing observations of their professional experience placement illuminates perceptions about the value of experience in the classroom:

> *I did see her teaching in-field and [out-of-field] … [S]he had far more confidence in that area, where she was teaching specifically in her niche area [than] when she was out-of-field … I think the additional pressure of having to really work to understand or to stay with the content … all the additional management issues … especially if you are inexperienced, became really challenging. (Intv_UA_M)*

Meanwhile, it is noteworthy that the variable *(SES9+SES10)/2* was not significant for category 2 ("will teach") of *Perceptions on out-of-field teaching*. The willingness to develop a good understanding of the curriculum (SES9) and improve in terms of challenges or incidents where "challenges appear" (SES10) did not seem important to those pre-service teachers who either felt confident or expressed openness to explore teaching out-of-field as an opportunity.

Age did not have significant effects on category 1 ("could teach") of *Perceptions on out-of-field teaching*. Nevertheless, it had a marginal (<10%) effect on category 2 ("will teach") for the group of pre-service teachers aged 40+ years old (p = .089, see Table 1). Second-career preservice teachers with more life experience had (2.18) ≈ 8.85 times higher odds of being willing to teach out-of-field compared with those 20–29 years/base age category. In this context, the qualitative data indicated that some preservice teachers perceived the out-of-field phenomenon as an opportunity to explore and learn more about new subject areas. One explained that an interest in an out-of-field area influences commitment and engagement:

> *If I'm motivated to learn and actually tell them stuff with enthusiasm and stuff, it might come off better, and they might benefit from that rather than me just going through the same old motions of teaching my exercise science and HPE and stuff.* (Intv_BD_M)

Unlike those for the *(SES9+SES10)/2* variable, results for the *general self-efficacy* score latent variable were significant for category 2 ("will teach") of *Perceptions on out-of-field teaching*, but not for category 1 ("could teach"). Increasing the *general self-efficacy* score by 1 resulted in a massive increase (by a factor of exp [4.11] ≈ 60.9) of the odds of being prepared and willing to teach out-of-field. While the *general self-efficacy* factor emerged as highly important as a significant predictor (p = .010) of the willingness and preparedness of pre-service teachers to teach out-of-field, it was not significant in category 1 ("could teach") of *Perceptions on out-of-field teaching*. We thus concluded that the "will teach" cohort of pre-service teachers could be well predicted by the *general self-efficacy* factor, while the "could teach" cohort would be better predicted using the *(SES9+SES10)/2* variable.

Figure 5.

Predicted Probabilities that Graduating Pre-service Teachers Are Willing and Prepared to Teach Out-of-field as Functions of the Standardised Score for the General Self-efficacy Factor for the 20–29 Years Age Category (thin curve) and 40+ Years Age Category (thick curve)

Note. For the presented dependences, (SES9+SES10)/2 = 4, which is the median value of this variable in the considered sample of participants.

Next, Figure 5 demonstrates the predicted dependences of the probabilities for pre-service teachers to be willing and prepared to teach out-of-field (category 2 of *Perceptions on out-of-field teaching*) for the two age categories 20–29 and 40+ years. Increasing the *general self-efficacy* factor scores results in a rather rapid increase in these probabilities, from around zero to nearly 1, for the largest of these factor scores in all age categories. In addition to the previous discussion, this provides further clear illustration of the strong and consistent dependences of the probability of pre-service teachers being willing and prepared to teach out-of-field on the *general self-efficacy* score and age.

Similarly, Figure 6 presents the predicted dependence of the probabilities that pre-service teachers "could teach" (category 1 of *Perceptions on out-of-field teaching*) on the average score *(SES9+SES10)/2* for just the 20–29 years category (since age differences were not statistically significant). The dependence in this figure further illustrates the rapid increase in the probability of perceptions of the pre-service teachers that they "could teach", with increases in the *(SES9+SES10)/2* scores again reflecting the elements of the SES. This rapid increase occurs above *(SES9+SES10)/2* = 3 (at which point the probability is close to zero) and increases to around .8 at *(SES9+SES10)/2* = 5.

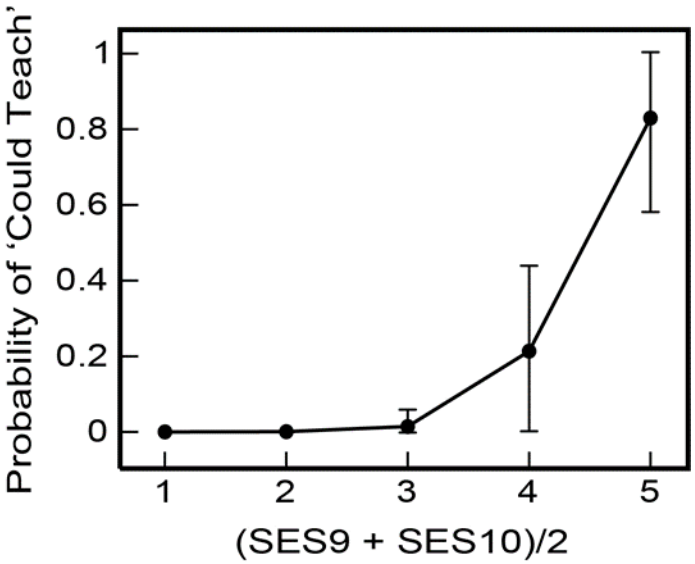

Figure 6.

Predicted Probabilities that Pre-service Teachers "Could Teach" Out-of-field as a Function of the Average Score (SES9+SES10)/2 for the 20–29 Years Category and Median (zero) Standardised General Self-Efficacy Factor Score

Note. The vertical error bars show the 95% prediction intervals for the predicted points (category 1 of *Perceptions on out-of-field teaching*).

Figures 5 and 6 thus present the results of category 1 ("will teach") and category 2 ("could teach") of *Perceptions on out-of-field teaching*. The other dependences of probabilities of "will teach" on *(SES9+SES10)/2* and "could teach" on the *general self-efficacy* factor scores were not significant and thus have not been included in the findings.

Perceptions on Vital "Resources of Support"

The survey item "*What resources or supports do you think might assist you if you are teaching out-of-field?*" identified six possible resources and support (R1–R6) from graduating pre-service teachers' responses. The analysis established significant relationships between the considered predictor variables, the variable *Perceptions on out-of-field teaching* and R1–R6. Each of the three willingness categories of the variable *Perceptions on out-of-field teaching* showed significant results for R3, "Help/support of colleagues, mentors, and the HOD". Figure 5a shows the histogram for the percentages of participants who identified (category 1) or did not identify (category 0) this resource as necessary for out-of-field teaching. Interview data connected resources to leaders' decisions: "*I think that the shit rooms, the shit classes, the everything that they [leaders] dump on the graduate teachers because it's a little bit like, 'Well, you know enough…'; they're not helping people entering the profession*" (Intv_R_M). Data thus suggest discourse tension between leaders' decisions, the support teachers expect, and the resources available.

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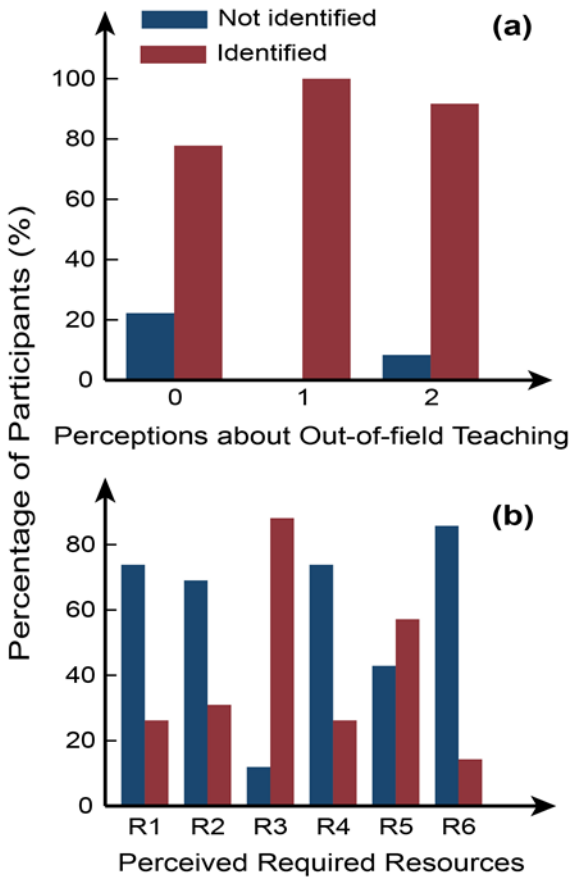

Figures 7a and 7b.

(a) Histogram Showing the Percentages of Participants in Categories 0, 1, and 2 of Perceptions on Out-of-field Teaching Who Identified (red) and Did Not Identify (blue) R3 as a Required Resource; (b) Histogram Showing the Percentages of All Participants Who Identified (red) and Did Not Identify (blue).

Notes. The six resources are shown on the horizontal axis The sums of percentages (red and blue columns) for each of the resources (Fig. 7b) and three categories of *Perceptions on out-of-field teaching* (7a) are equal to 100%.

Figures 7a and 7b show that, while more than 20% of participants from category 0 ("will not teach") did not identify "Help/support of colleagues, mentors, and the HOD" as a required resource for out-of-field teaching, 100% of participants from the "could teach" category (i.e., those pre-service who were willing to teach out-of-field in principle but were unsure about it) and around 90% of participants from the "will teach" category did. Interview data confirmed this result. For example, one pre-service teacher identified forms of support that would have an impact as: "*[S]ome clearly defined mentoring relationships, having some professional development in that space, and ongoing support"*. This participant clarified that the support available for pre-service teachers makes a significant difference, describing quality support as:

> *…Very much contextual—every environment is different in terms of support. This is one of the reasons why I'm keen to do supply [teaching], just to gauge the culture and the supportive side of things because if the support's there, there's no limit to what you can achieve. But if the support isn't there, and I saw this in one of the placements, then it's a very lonely place. (Intv_UA_M)*

The fact that all participants from the "could teach" category identified R3 as a required resource of support for out-of-field teaching creates a unique outcome in this category that underlines the significant need for larger research studies with a more diverse sample of participants. Even so, the effects of the variable *Perceptions on out-of-field teaching* on R3 for out-of-field teaching seem likely to remain statistically significant and strong. Dependences/histograms are not presented for the other five resource variables, since none of these displayed any significant differences between the three categories of *Perceptions on out-of-field teaching*.

Figure 7b provides the percentages of responses (either "indicated" or "not indicated") for R1–R6 for the entire sample of participants (without its subdivision into categories of *Perceptions on out-of-field teaching*), and indicates that pre-service teachers perceived resources R3 (support) and R5 (online resources) were the most desirable types of assistance for out-of-field teaching. It also shows that the availability of a textbook (R6) was considered least essential in out-of-field teaching. This might be explained by the current extensive reliance on online sources of information rather than formal textbooks.

Within this, however, when all the demographic variables were taken into consideration, the age variable proved marginally significant in the regressions for R5 and R6 (see Table 2), with marginally significant effects occurring for the age category 40+ years (relative to the 20–29 years/base category) but not for 30–39 years. The results suggest that older second-career pre-service teachers were more likely to use both online learning materials and resources/textbooks for out-of-field units as compared to younger teachers from the 20–29 years/base category.

Table 2*.*

Predicted Variables for Support Resources R5 and R6

R5: Online learning materials and created resources

Predictor Variable		**Coefficient**	***p*-value**
Age	30–39 years	.773	.36
	40+ years	1.649	.066
	Constant	–.262	.53

R6: Textbooks for out-of-field units

Predictor Variable		**Coefficient**	***p*-value**
Age	30–39 years	1.992	.13
	40+ years	2.244	.069

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Constant	–3.091	.003

On the whole, participants' perceptions indicate that their resource focus was strongly on support, but also pedagogical reasoning and teaching approaches that lean towards resource types R5 and R6.

Discussion

The empirical data from this pilot study support the usefulness of the research design, which was able to produce a strong preliminary understanding of the perceptions of second-career pre-service teachers that intersects with other literature. The data highlight three categories regarding these teachers' willingness and self-perceived capacity to teach in out-of-field positions: (a) will teach out of field; (b) could teach out of field but unsure; and (c) will not teach out of field. When quantitatively combined with their perceptions of self-efficacy (from the SES scale, i.e., *general self-efficacy* and *[SES9+SES10]/2*), findings reveal how these teachers' perspectives connect to their decision and agency for out-of-field positions, as well as the support they would like offered by schools and school leaders. As such, the research design has facilitated an answer to both the research questions. Literature connections further allow findings to suggest implications that the out-of-field teaching phenomenon might have on teachers' career decisions.

Perceptions Linked to Capacity to Teach in Out-of-Field Positions

The quantitative findings demonstrate the capability of the *general self-efficacy* factor, which was strongly linked to second-career, pre-service teachers' willingness to teach out-of-field (Donitsa-Schmidt et al., 2021). Similarly, the developed factor *(SES9+SES10)/2* was strongly connected to "could teach" responses. Liebl et al. (2021, p. 1) note that "self-efficacy is a relevant judgement of self-belief by teachers", and results uphold that graduating preservice teachers' *general self-efficacy* was associated with perceptions about their ability and capacity to develop into effective teachers in the future. This is encouraging, since Siwatu (2011) observes that pre-service teachers with "strong and resilient self-efficacy beliefs" (p. 364) have a higher probability of staying even when they face challenges.

The lack of significant effects of the demographic variables on the variables resulting from the teacher SES is an important finding that may have significant implications for the development of educational strategies and policies. Results show that pre-service teachers' perceptions about their self-efficacy are independent of age, language background, ethnicity, gender, or the number of professional teaching areas. This suggests that if perceptions of self-efficacy among pre-service teachers are to be influenced and changed, this could be done universally. Further research is required to determine the veracity of this result.

Meanwhile, despite these teachers displaying considerable willingness and agency for out-of-field positions, their perceptions of their capacity and confidence to develop creative ideas and concepts to improve inappropriate educational patterns in the classroom still had the lowest factor loading (.52). This also appears to be in line with Liebl et al. (2021), since results reveal that second-career pre-service teachers are aware that they need *time and support* to adapt to individual students' needs and problems. The qualitative interview data further highlight uncertainty in these teachers' beliefs about their personal capacity to maintain quality teaching when assigned to out-of-field teaching positions, and that they know they are "*starting from the back foot in … content and pedagogical knowledge*" (Intv_TR_F) when they teach out of

field. Participants also noted that the common practice of assigning new teachers or graduating pre-service teachers to out-of-field teaching situations might cause them to "*feel alienated*" and may leave them "*always feeling like they know less than everyone else*" (SoQ). A second-career preservice teacher's feelings of both resilience and ambiguity in the face of not having a choice provide insight into these issues combined: "*I'll have to just dive in and see how I go*" (Intv_UA_M).

The age variable and average score of the developed factor *(SES9+SES10)/2* showed significant effects on the variable *Perceptions on out-of-field teaching*. In agreement with Tigchelaar et al. (2008), results highlight that second-career preservice teachers perceive their life experience and previous careers can have a positive influence on their effective management of complex classroom situations such as out-of-field placements. Additionally, older pre-service teachers (40+ group) were more likely to be willing and feel prepared to teach out-of-field (compare the two curves in Figure 5). This pilot study thus upholds Pendergast et al. (2022), that it is likely that life experience, in combination with age, is beneficial for second-career teachers, who demonstrate a willingness to engage and are more comfortable with the possibility of teaching out-of-field, even at the pre-service teaching stage. In this group, teachers' perceptions are significant for leadership management of graduate teacher retention and workforce stability. Experience emerges as a form of agency that may assist school leaders obliged to assign graduating teachers to out-of-field positions (Pendergast et al., 2022). Beyond displaying willingness, interview data from a mature-age second-career pre-service teacher revealed ambition for the challenge of teaching out of field, "*… just so I'm exposing myself to new learning*" (Intv_BD_M).

In tension with this, Brown et al. (2021) highlight that pre-service teachers' perceptions and meaningful work strategies are greatly impacted by their learning experiences during placements. Research further demonstrated that the stress of out-of-field teaching (Cinkir & Kurum, 2015; Lane & Ríordáin, 2020; Merga et al., 2020) influences learning experiences, which was supported by participants' observations of both in-field and out-of-field teachers during ITE placements. Findings certainly show that pre-service teachers are prepared to commit and "make it work", and the older they are, the more their self-efficacy upholds them. However, as noted, qualitative material also suggests those who had seen an out-of-field classroom during placement were perceptive of its complexity and the pressure that belongs to these assignments; as one observed, "*when she was out-of-field, there were so many issues there...*" (Intv_UA_M).

From an ITE perspective, since time and tailored focus on pedagogical content knowledge influence the first three years of teaching (Singh et al., 2021), we suggest that it may be beneficial to allow graduating teachers a few years to develop experience within the teaching profession (and strengthen their self-efficacy) before expecting them to be extensively involved in out-of-field teaching. In this regard, the link between teacher confidence, self-efficacy, and pedagogical factors is upheld by other data that show a correlation between pre-service teachers in the "could teach" category and the developed factor *(SES9+SES10)/2*. Having a good understanding of the curriculum (SES9) and seeing an "opportunity to improve when challenges appear" (SES10) were together seen as a significant predictor of teachers considering teaching out-of-field.

Perceptions on Targeted Support and Resource Types

Strong findings uphold the position of Hagaman and Casey (2018) and Howes and Goodman-Delahunty (2015), who both acknowledge the influence that support has on out-of-field

teachers. Of the six identified resources/supports, R3, "Help/support of colleagues, mentors, and the HOD" was identified by 100% of participants from the "could teach" category and nearly 90% from the "will teach" category. This finding underlines the importance of supporting those graduate teachers who might be willing to teach out-of-field subjects or year levels. Both Troesch and Bauer (2020) and Tigchelaar et al. (2008) note that while second-career teachers may feel less challenged in teaching and tend to have high personal expectations, they still perceive leadership support as influential in their career decisions. Qualitative data highlight the link between teacher capacity and teacher support: "…*If the support's there, there's no limit to what you can achieve*" (Intv_UA_M).

In addition to R3, R5 ("Online learning materials and created resources") was identified as the most desirable type of help and support. It also appeared that older second-career preservice teachers (30–39 and 40+ years) were more likely to use both online learning materials and textbooks (R6) for out-of-field teaching than younger teachers in the 20–29 years/base category. This might be explained by the current extensive reliance on online sources of information rather than formal textbooks, the tendency for this older group to perceive the responsibility for teaching approaches as their commitment to the profession, or a focus on pedagogical reasoning and teaching approaches that lean towards these types of resources.

School Leadership Support for Pre-service Teachers

Trent (2019) suggests that pre-service teachers' professional identities influence their decisions to teach. Our findings uphold that second-career pre-service teachers' beliefs about their confidence, self-efficacy, and agency to teach in out-of-field positions (Donitsa-Schmidt et al., 2021) and their perspectives about workplace support (Howes & Goodman-Delahunty, 2015) establish a link between the effective management of possible out-of-field teaching assignments and teachers' professional identities (Bauer et al., 2021). Participant awareness of what happens when teachers are not supported is revealed in the evidence: "*…if the support isn't there, then it's a very lonely place*" (Intv_UA_M). In terms of the whole sample, these situated experiences of isolation and loneliness sit in tension with teachers' need and ambition to be successful *and* their hesitation to engage in the out-of-field teaching phenomenon. We suggest these issues of teachers' self-esteem and intrinsic professional identity shift focus to the accountability of school leadership in listening to graduate teachers' needs, noticing their self-esteem and agency, providing effective support, and developing a supportive workplace culture.

As noted, quantitative data strongly advocate participants' requirement for the "help and support of colleagues, mentors, and the HOD" when they are in out-of-field positions, and this and the interview data suggest that the allocation of support is within the purview of colleagues who are in leadership positions: "*… The shit classes, they [leaders] dump on the graduate teachers because … they're not helping people entering the profession*" (Intv_R_F). Another noted the value of "*clearly defined mentoring relationships*" (Intv_UA_M), drawing attention to school policy structures.

In light of this, it would seem that school leaders' awareness of the types of influential resources can affect the level of impact that the out-of-field teaching phenomenon has on their staff. We suggest that tailored, context-conscious, micro-education policy development (Du Plessis, 2021) offers practical strategies and frameworks for engaging graduating teachers in a safe and healthy teaching and learning environment. More specifically, we recommend careful consideration of teacher placements, policies for support, and customised teacher

professional learning and identity discussions that identify graduate teachers in need of focussed support as principles to include in retention discussions and frameworks.

In this study, the overall research objective was to understand second-career teachers' perceptions about out-of-field teaching and their willingness or unwillingness to teach in these positions, in part to increase school leaders' understanding of these teachers' perceptions, and in part because of the link between out-of-field teaching and teachers' career decisions. These decisions to either stay or to leave are closely connected to teachers' awareness of success, satisfaction, and the capacity to successfully undertake an effective teaching career (Howes & Goodman-Delahunty, 2015). Thus, this study offers school leaders some initial insight into pre-service teachers' views as a foundation for practical approaches to address the current problems in terms of graduating teachers' high turnover.

Implications of the Study

This investigation upholds the practical value of understanding second-career pre-service teachers' perceptions of teaching in relation to out-of-field placements. The significance of noticing and paying attention to these teachers' perceptions about the out-of-field teaching phenomenon forms part of a strategic effort to impact their retention in the profession. In particular, understanding these teachers' support expectations can inform targeted and proactive strategies that are developed to retain them in the workforce. In this regard, the research design has allowed promising exploration of a number of contextually linked factors that influence teachers' career decisions, and which warrant further research, such as self-efficacy, intrinsic motivation to make a difference, self-actualisation, classroom experiences, restricted options, and vulnerability because of decisions made by colleagues or leaders (Hagaman & Casey, 2018; Howes & Goodman-Delahunty, 2015).

Overall, the findings highlight areas in need of further research to support ITE and school leaders' purposeful engagement in the retention of second-career teachers as a function of their investment in these teachers' professional needs. Future research could further explore the types of resources and support (e.g., R3) that these teachers identified as useful, as well as the reasons why some second-career teachers assigned to out-of-field teaching positions do stay despite their challenges (e.g., links to self-efficacy, support, and ambition). Additionally, understanding these teachers' perceptions, feelings, and lived experiences in their first years of teaching in out-of-field positions, and the support they receive in comparison to their first career, could inform and refine retention strategies.

Conclusion

This pilot study is the first to involve prospective second-career pre-service teachers in research in this field. The online survey instrument enabled the development of variables and factors from teachers' own perceptions, and thus, through their own voices, this study is able to highlight the value of second-career pre-service teachers' perceptions of what they bring to the workplace in relation to out-of-field teaching. In analysing the relationships between the developed variables/factors, the research design has successfully facilitated focus on how general self-efficacy affects second-career teachers' perceptions about the consequences of teaching out-of-field, and the support they require to teach in these positions. The key takeaway is an awareness that there are differences in second-career teachers' dispositions regarding teaching out-of-field: will teach, could teach (but unsure), and will not teach.

Higher education institutes aggressively recruit second-career pre-service teachers to enrol in their programmes with the awareness of the extra skills they bring to education, and findings

support the agency and ambition many may bring to the task. As such, these teachers' beliefs about out-of-field teaching and their self-efficacy in relation to the possibility out-of-field positions are of significance for effectively managing both their retention and workforce stability. The strength of participants' identification with R3, "colleague and leadership support", stimulates critical reflection on school leaders' role in paying attention to pre-service and graduating teachers' voice, agency, and professional identity development as capital in schools. We also suggest that customised strategies can support the development of these teachers' experience and expertise within specific areas and year levels *before* they are asked to explore teaching out-of-field.

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