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Preservice Teachers' Perceptions About Out-of-Field Teaching: Implications for Students, Teachers, and Schools

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Abstract: Out-of-field teaching occurs in schools and education systems worldwide. Early career teachers are more likely to be required to teach out-of-field and also to experience adverse effects from this experience, potentially contributing to workforce issues and teacher attrition. This mixed data Australian study reports on the perceptions of preservice teachers—emerging professionals—regarding issues associated with out-of-field teaching. Survey data were collected from 133 preservice teachers. Data were analysed with an initial layer of sentiment analysis followed by a thematic analysis of their perceptions of consequences for teachers, students, and schools/communities. Findings reveal that preservice teachers are very aware of the mostly negative consequences of out-of-field teaching. The practice has implications for initial teacher education, for policymakers seeking to address teacher workforce issues, and for school and system leaders managing a profession that is high stakes in relation to student outcomes and high stress in relation to professional demands.

Keywords: out-of-field teaching, teacher education, teacher retention

Out-of-field (OOF) teaching has been reported internationally for both novice and in-service teachers (Hobbs & Tӧrner, 2020). While Australian government policy does not recognise or clearly define OOF teaching (Hobbs & Tӧrner, 2020), according to McConney and Price (2009) OOF teaching refers to the "practice of teaching in subject, field, or level of schooling for which a teacher has neither a major nor minor tertiary (university) qualification" (p. 86). Weldon (2016) clarified that this should not just be training in the content, but also in the teaching methodology for the subject, defining OOF teaching as when "a secondary teacher [teaches] a subject for which they have not studied above first year at university, and for which they have not studied teaching methodology" (p. 1).

Ingersoll (cited in Hobbs & Tӧrner, 2020) identified three reasons for the wide application of OOF teaching: (a) an undersupply of qualified teachers, (b) a limited number of teachers in the workforce, and (c) a high attrition rate of teachers. In recent research using PISA data, Shah et. al. (2020, pp. 44–46) found links between staff shortages, levels of school autonomy (linked to school organisational practices), and levels of OOF teaching.

Extensive research shows that teachers within their first few years of teaching are more likely to be assigned to OOF teaching than more experienced in-service teachers (Hobbs & Tӧrner, 2020; Weldon, 2016). This pattern is also subject related, with Weldon

(2016, p. 3) noting that, nationally, around 28% of English teachers and 38% of mathematics teachers would be considered to be teaching OOF. And so, with education accountability measures in Australia strongly focused on literacy and numeracy (Cumming et al., 2019), English and mathematics are two very critical subject areas; thus, the measured outcomes are likely to be associated with the teaching input.

Early-career teachers are particularly in danger of experiencing adverse effects of teaching OOF (Campbell et al., 2020), having to adapt to new structures, content, and teaching methods, without in-depth subject knowledge and with limited teaching experience. DuPlessis (2015) identified that school policies and practices do not currently support the additional preparation and planning time. Weldon (2016) explained that one way to improve the retention of early career teachers is to make sure that they are not subjected to these likely adverse effects for at least the first 2 years of their career. Australia, however, has encountered an acute teacher shortage in the past decades, especially in some subjects (e.g., science, technology, engineering, and mathematics – STEM), and thus early career teachers are increasingly concerned that they are likely to be expected to teach OOF.

Why Focus on Preservice Teachers?

In a time of teacher shortage, initial teacher education (ITE) is critical as is the retention of these teachers. ITE programs are discipline driven, meaning preservice teachers undertake studies and teaching practicum placements within the areas of their specialisation. Hence, research has messages for ITE to ensure that preservice teachers have sufficient support to make their first year of teaching effective (Campbell et al., 2020). However, limited empirical research has investigated the ways in which preservice teachers understand and perceive the workforce issues associated with teaching OOF.

Recently, analysis and commentary have been directed to specific subject areas (e.g., science, mathematics, language, etc.; Lane & Ní Ríordáin, 2020; Vale, Campbell, Speldewinde, & White, 2020; Vale, Campbell, & White, 2020) and the professional development needs for the current OOF teachers (Kenny et al., 2020; Ní Ríordáin et al., 2017). This has given voice to early career and in-service teachers to identify their beliefs, attitudes, perceptions of OOF teaching, and their needs, through qualitative methods (Cinkir & Kurum, 2015; Hobbs, 2013; Lane & Ní Ríordáin, 2020; Vale, Campbell, & White, 2020), but also quantitative (Ní Ríordáin et al., 2017) and mixed methods (Hobbs, 2020) approaches. Across the range of studies, the high priority issues were teachers' professional development, identity, and occupational well-being, and foreshadowing the perceived implications for teachers in the longer term. The present study focuses on preservice teachers' perceptions of the implications for students, teachers, and their schools and communities of the practice of OOF teaching.

Implications of Out-of-Field Teaching

Graduate teachers are expected to demonstrate their understanding of content, pedagogies, and the characteristics and consequences of quality teaching (Australian Institute for Teaching and School Leadership [AITSL], 2016). Given that graduate teachers are likely to teach OOF, the detrimental implications for their classroom practice need to be recognised. These include a lack of requisite disciplinary knowledge but also stress, a lack of confidence, and feelings of being inadequately prepared to teach OOF (Cinkir & Kurum, 2015; Lane & Ní Ríordáin, 2020; Merga et al., 2020). As limited additional support is provided to those

teaching OOF, teachers tend to rely on textbook materials and activities, potentially leading to low-quality instruction (Hobbs, 2020; Lane & Ní Ríordáin, 2020; Nixon et al., 2017), suggesting concerning impacts on learning and achievement. While it is recognised that OOF teaching is widely used as a means of addressing workforce issues, it is not a desirable strategy, with Darling-Hammond (2000), for example, identifying that it is well-prepared, highly qualified teachers that positively impact student achievement. Further, Van Overschelde and Piatt (2020) found that students were generally less academically successful when taught by OOF teachers, who are more limited in their instructional practices and potentially less able to support students' interests and motivation.

Whilst many graduate teachers enter their profession with a desire to be good teachers, for many this motivation shifts over time as a result of OOF experiences. In summarising this pattern, Cinkir and Kurum (2015) reported that "out-of-field teachers have problems with such issues as commitment, job satisfaction and motivation, knowledge of teaching and the profession and adaptation to the job" (p. 43). Additionally, Heffernan et al. (2022) identified workload as the most common reason for teachers intending to leave the profession, while Vale and Drake (2019) found that early career teachers may not be provided any additional time to balance the extra workload associated with teaching OOF.

High teacher attrition in their early years of teaching are likely to be exacerbated by OOF allocations. It is acknowledged that many teachers are likely to leave during their ITE program, between their graduation and employment, or within the first 5 years of employment (AITSL, 2016). Australian studies that investigated factors affecting teachers' career decisions identified heavy workload along with a lack of support among the main reasons for leaving (Campbell et al., 2020; Gallant & Riley, 2014; Mason & Matas, 2015). Further, evidence suggests that 15% of early career teachers in their first 2 years of teaching career considered leaving their profession in 1 to 5 years (AITSL, 2017), adding to issues of retention.

The experience of OOF teaching also creates new challenges for educational institutions, education policy, and practice. Increased concerns over student achievement as a result of the OOF phenomenon have been documented (Cinkir & Kurum, 2015; Hobbs & Tӧrner, 2020; Porsch & Whannell, 2019; Van Overschelde & Piatt, 2020). Like other countries, Australia has developed professional standards for teachers (AITSL, 2017), a critical tool for evaluating the quality of instruction in schools. These standards clearly highlight teacher quality in three ways: expertise in knowledge, professional teaching practice, and engagement (Campbell et al., 2020). ITE courses are regulated so that preservice teachers will meet the graduate level of the professional standards at the conclusion of their ITE; however, the learning focuses on their capabilities and knowledge in their chosen subject areas (Campbell et al., 2020). The high incidence of OOF raises tensions between how ITE institutions conform with Australian regulatory requirements and workload management practices (Hobbs & Tӧrner, 2020).

Clearly, universities providing ITE have the potential to act as a bridge between preservice teachers and provision of quality education. They are positioned not only to provide professional knowledge and training but also to acknowledge and raise awareness of the realities that their preservice teachers will most likely encounter. A greater understanding of preservice teachers' perceptions of teaching OOF makes a valuable contribution to informing the design of appropriate professional learning. Thus, the objective of this paper is to explore the possible implications of OOF teaching through a lens of perceived consequences identified by a cohort of preservice teachers preparing to enter the profession.

Methods

This research reports on the findings from a mixed data survey study accessing the views of preservice teachers from two cohorts (2019/2020) at a Queensland university. It adopts a strongly descriptive focus based on recognition that the expressed views of preservice teachers provide a strong insight into their understandings, experiences, and expectations.

Sampling

Data were collected from students in the 2019 (n = 147) and 2020 cohorts (n = 136). Notably, those in the 2019 cohort had experienced two teaching experience practicums whilst those in 2020 had only had one practical experience at the time of data collection, due to restrictions associated with COVID-19. 133 preservice teachers completed the survey.

Context and Participants

Preservice teachers involved in this study were enrolled in a Master of Teaching Program (MTeach). This program, introduced in 2018 at the Australian Qualifications Framework Level 9, was designed to prepare graduates from non-education fields to teach in secondary schools. The cohort was 43% male and 57% female. Participants responded about their age range with most aged 20 to 29 years, followed by those aged 30 to 39 years. The highest age range indicated was 50 to 59 years. Teaching areas included: Sciences (n = 35), Business (n = 20), Mathematics (n = 20), English/History/Drama (n = 14), Music (n = 12), Health and Physical Education (n = 11), Languages other than English (n = 9), Arts and Design (n = 7), and other (n = 5).

The Professional Project 1 and 2 courses within the MTeach program engaged students in a research experience where they identified OOF teaching as one of the most critical issues they perceived they faced. The opportunity to participate voluntarily in this research project gave them both the experience of practical educational research and also the opportunity to share their views.

The Survey Instrument

The university's online LimeSurvey tool was used. The anonymous survey included extensive participant background as well as responses to a series of open questions regarding OOF teaching (see Tab. 1). Ethical clearance was gained for the research (University Ref No: 2020/212).

Element	Question
Background	• Gender • Cultural heritage • Age (range) • Professional teaching areas, and other teaching experience
Teacher self-efficacy	15 Likert items (5-point scale - Strongly Agree to Strongly Disagree) from Kunsting et al. (2016)
Views on OOF Teaching – open response section	1. What do you consider teaching out-of-field to mean? 2. What has influenced your thinking about teaching out-of-field? 3. What do you consider might be some consequences of teaching out-of-field? For students? For teachers? For schools/communities? 4. Do you believe it is likely that you will be teaching out-of-field in the first five years of your teaching career? Why? 5. How do you feel, personally, about teaching out-of-field? 6. What resources or supports do you think might assist you if you are teaching out-of-field
Other thoughts	

Table 1: Information collected through the survey

Data Analysis

The responses were downloaded from LimeSurvey into SPSS v27. Initial data cleaning involved removing minimal responses, that is, those with no background details and no responses to the closed and open statements regarding OOF teaching. This paper focuses on responses to the open prompt: "What do you consider might be some consequences of teaching out-of-field? For students? For teachers? For schools/communities?" To assist in the analysis, initial coding identified whether participants mentioned consequences for each of those stakeholders, then whether these responses offered positive, negative, or mixed views. Thus, a level of qualitative sentiment analysis was employed. Used previously in social media analysis, sentiment analysis delves beyond simply positive and negative responses to add an affective dimension to the analysis (Gaspar et al., 2016). While additional linguistic sentiment analysis (Liu, 2020) might provide further nuance, the purpose of this analysis is to provide a broad-brush understanding of preservice teachers' perceptions about the consequences of OOF teaching.

Participant responses were coded independently by two researchers and then compared. Although few in number, positive responses included key words such as "benefit", "great learning" and "appreciation". Negative responses used words such as "lack", "stress", and "limited". Some responses communicated both positive and negative consequences to OOF teaching, where positives were dependent upon certain resources or support mechanisms or where both positive and negative aspects were discussed in the same response. Word frequencies were explored using NVivo software (QSR, 2021) to reinforce coding and to examine where similar words were used differently by participants. These broad codes (positive, negative, and mixed consequences) allowed the data to be explored quantitatively, comparing within the cohorts' perspectives in relation to age, gender, and teaching area.

Hobbs (2013) suggested context, support mechanisms, and personal resources as factors associated with teachers identifying themselves as teaching OOF. Further to understanding the possible implications of OOF teaching, well-being is conceptualised by Dodge et al. (2012) as a balance between psychological, social, and physical resources and

their reciprocal challenges. When considering consequences for themselves as well as teachers more broadly, this connection between sentiment and well-being is important.

Thematic analysis (Braun & Clarke, 2012) was used to analyse the qualitative data from participants' short-answer responses to derive themes inductively and separately from the sentiment analysis. The process followed six steps: (1) familiarising yourself with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing potential themes, (5) defining and naming themes, and (6) producing the report (Braun & Clarke, 2012, p. 120). Data were coded and explored using NVivo. The thematic analysis is presented separately, following the initial sentiment analysis, allowing a deeper exploration of the cohorts' views.

Trustworthiness was supported through each phase of the thematic analysis process. Researchers (EW and HK) read all short-answer responses to become familiar with the data. Researcher (EW) then analysed the data line-by-line to generate initial codes reflecting the ideas the participants presented. Two researchers (EW and HK) collaboratively developed guidelines for judgements about codes and undertook peer debriefing. Throughout the analysis process, the two researchers worked together to verify codes and examine emerging themes. Data were stored and the analysis process documented using NVivo. Initial codes were created from the analysis of the collated short-answer responses. These developed as nodes, which were then examined, clarified, reviewed, and linked to generate themes associated with the perceived implications for students, teachers, and schools or communities. NVivo provided an effective mechanism to create an audit trail (Creswell & Miller, 2000) so that data, codes, memos, and documentation of analysis procedures were developed and reviewed. Researchers were keenly aware of how their subjective experiences supported making sense of the data as well as the central importance of reflexivity so that they were aware of the philosophical and theoretical assumptions informing their use of thematic analysis. These assumptions were documented and challenged throughout the analysis process.

Results

In this section, the quantitative results are presented followed by the qualitative results from the thematic analysis. Within the quantitative results, some qualitative comments have been provided, in particular, in relation to participants' understanding of the interrelationship between perceived consequences.

Quantitative Results

Of the 133 preservice teachers who undertook the survey, 114 (85.7%) completed responses to the question: *What do you consider might be some consequences of teaching out-of-field? For students? For teachers? For schools/communities?* Some responses (discussed further below) did not refer to perceived consequences for students, teachers, and schools, with some respondents only providing a brief overview statement. Respondents (identified in these results with ID numbers) identified a range of consequences they perceived for teachers, students, and schools or communities, highlighting factors they felt might mediate these. Notably, many of these consequences were interrelated. One respondent explained this connection:

> *Students may not receive the same standard of teaching if their teacher is not competent within their content knowledge. The teacher may experience greater*

levels of stress and lower levels of competence… if students receive sub-par teaching, this has a flow-on effect into the community post-schooling. (ID-36)

Another respondent summarised this relationship succinctly:

Lack of quality in teaching - thereby impacting teacher quality, quality of education for the student, and an overall bastardisation of the education system. (ID-101)

The initial analysis, summarised in Table 2, coded participants' open responses in relation to whether they mentioned consequences for students, teachers, and/or schools/communities and according to whether they perceived these as negative, positive, or a mix of positive and negative.

	Focus	Not mentioned	Mentioned		
			Negative	Mixed	Positive
Consequences	for students	1.75	74.56	21.93	1.75
	for teachers	14.92	64.04	19.30	1.75
	for schools and/or communities	50.88	36.84	10.53	1.75

Table 2: Summary of perceived consequences of teaching out-of-field, including results of the sentiment analysis of the comments: % of responses (*n* = 114)

As can be seen in Table 2, while almost all respondents noted a comment regarding consequences for students (98.25%), far fewer commented on school consequences (49.12%). In turning to the form of comments, it is notable that there were only two positive comments made for each area (thus 1.75% of respondents) accounting for two participants' ideas. For the remainder, most raised negative issues, with these at least three times the level of mixed comments (thus, for consequences for students, 74.56% of respondents made negative comments while 21.93% were mixed) considering both negative and positive aspects. The form of such comments is discussed further below.

Overall, most respondents (n = 86, 75.4%) identified negative impacts for teachers, students, and schools or communities. Some conveyed beliefs that students, and schools, deserved better. For example, one comment acknowledged, "it is stressful for teachers, but also a disservice to the students. They deserve a teacher that has knowledge to share with them" (ID-66).

Very few respondents saw opportunities or positive consequences in OOF teaching (n = 2, 1.75%). One stated simply, "Teachers - gain experiences Students - may require self-directed learning Schools/communities - have to provide relevant resources to teachers" (ID-46). Some identified both positive and negative consequences (n = 26, 22.8%), which were coded as having a mixed response. An example of a mixed response identified a financial benefit for the school when schools are often pressed for resources was:

Students will have unanswered questions, Teachers will have unnecessary stress, Communities will lose faith in the school, School will save money. (ID-109)

So, the consequences here are still largely negative, perhaps a reflection of a pragmatic approach to education that accepts the broader issues around schools and resources. Another participant highlighted "limited content knowledge being imparted onto the class" as a negative, but incentives for teachers to "foster their own inquiry skills" and "to widen your knowledge base and ability to adapt" (ID-140).

Another mixed response conveyed an advantage for students experiencing "a variety of strategies" and did not perceive negative consequences specifically related to teaching OOF; rather, it was critical of schooling as a whole, commenting: "…teachers and schools fear change and development because its [sic] still years behind in actively supporting and engaging all students" (ID-105). A further analysis considering the gender by teaching area and age of respondents also showed some interesting patterns, discussed in the next section.

Responses in Relation to Participants' Teaching Areas, Gender, and Age

Most preservice teachers (98.25%) identified consequences for students consistently across teaching areas. However, greater variation was seen in the identification of teachers' consequences, with 85.00% of respondents overall, but 96.43% of Science teachers identified consequences while far lesser 62.50% of Business teachers. With regard to consequences for schools, there were again notable differences across teaching areas. Overall, almost half (49.56%) identified a consequence related to schools. Interestingly, at the upper end, 75.00% of Mathematics teachers identified a consequence for schools, followed by 66.67% of Health and Physical Education teachers and 62.50% of Business teachers. The lowest level was seen with Music teachers, with only 27.27% identifying a consequence at the school level. These perspectives may be owing to the perceived challenges of teaching mathematics, limits on transferable skills in teaching higher level maths, and public perceptions about the importance of mathematics achievement.

While overall the response patterns were very similar between genders, particularly in relation to impacts on students, an examination of consequences for teachers and schools/communities identified a greater difference. Females appeared more likely than males to identify consequences for teachers (89.6% to 78.7%) while males had a higher level of response regarding consequences for the school (55.3% to 44.8%).

With regard to respondents' age, the main differences were again seen in the identification of consequences for teachers and the school. While most respondents (around 80%) identified consequences for teachers, all those (n = 9) in the 40–49 age group identified consequences for teachers. In looking at responses regarding consequences for the school, both older groups showed a higher level of comment with 77.8% of those 40–49 (n = 9) years and 83.3% (n = 6) of those 50–59 years identifying school level consequences compared to a far lesser level (around 40%) for younger age groups.

Thematic Analysis

This section present results from the thematic analysis of the comments, identifying nine themes across consequences for teachers (four themes), students (three themes), and schools/communities (two themes; see Fig. 1).

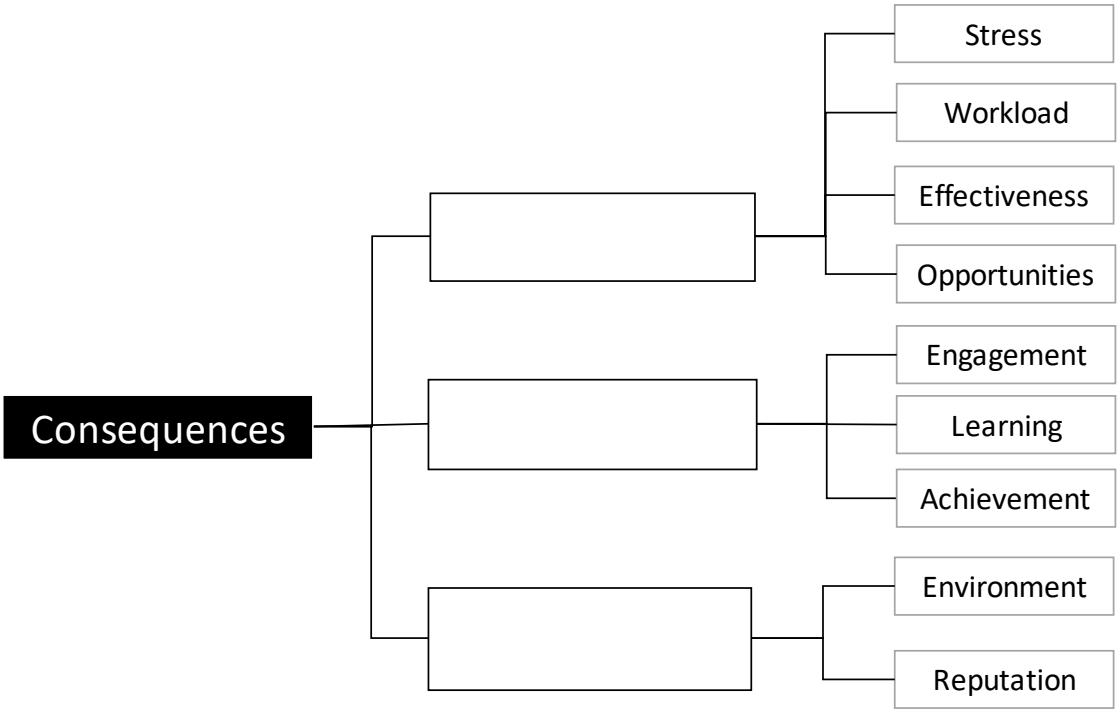

Figure 1: Preservice teachers' perceptions of consequences for teachers, students, and schools/communities

Figure 1 provides a map of the consequences of OOF teaching that preservice teachers identified. This figure was generated from those higher levels of codes in NVivo. The main areas of consequences are followed by a shortened descriptor of the emerging themes.

Preservice Teachers' Perceptions of Consequences for Teachers from Out-of-Field Teaching

The analysis of respondents' perceived consequences for teachers revealed four main themes:

- Stress: Increased teacher stress is perceived to be a consequence of teaching OOF related to preparation and effectiveness in the classroom.
- Workload: Workload is perceived to be increased in order to prepare to teach OOF effectively.
- Effectiveness: Teachers' effectiveness is perceived to be hindered when teaching OOF.
- Opportunities: Teaching OOF may provide professional and personal development opportunities for teachers.

Increased Teacher Stress is Perceived to be a Consequence of Teaching Out-of-Field Related to Preparation and Effectiveness in the Classroom

Stress was specifically mentioned by 38 respondents. Some descriptions were general in nature, for example, consequences for teachers are "lower confidence, higher stress and drop out rate, slower career progression" (ID-19) or "stress in terms of performance, pressure

for a HOD [Head of Department] or parents" (ID-53). It is interesting to note the relationships identified between confidence, stress, and career progress or attrition.

Some participants were more specific in attributing stress to other factors including not feeling confident with the content (ID-44), "anxiety over non-preparedness" (ID-40), and "increased stress (due to difficulty engaging students)" (ID-49).

Stress was also seen to have further consequences. One teacher noted:

> *For teachers, it can have a huge impact on their mental health. It can stress them out and cause them to miss crucial learning opportunities within the classroom. (ID-75)*

A flow-on effect from teaching OOF that was perceived to cause stress was difficulty engaging students in learning: 15 respondents identified challenges in managing students' behaviour for learning and supporting students' engagement when teaching out-of-field. Referring ultimately to consequences for students, one participant explained in depth:

> *If the teacher is generally skilled and confident with behaviour management and differentiation and/or interested in the subject matter or possessing knowledge that allows for in-depth and spontaneous discussions, they may not even realise the teacher is out of field. However, if the teacher is lacking skills or confidence in behaviour management, differentiation or the subject matter, the compounding lack of confidence from being out of field may result in a disengaging and superficial teaching of the subject matter, which may in turn impact students' interest and achievement in the subject. (ID-14)*

Superficial teaching is likely to impact teachers' effectiveness. Participants' perceptions of the consequences of OOF teaching in relation to teacher effectiveness is discussed as a separate theme.

Workload is Perceived to be Increased in Order to Prepare to Teach Out-of-Field Effectively

A number of teachers directly referred to workload (n = 8). A link was drawn between increased workload and teacher stress. An example of this link is:

> *It will definitely be double to triple the work for the teacher, which is stressful and demanding considering the profession isn't a walk in the park already. (ID-34)*

One respondent identified that asking early-career teachers to teach out-of-field was particularly challenging "as teachers have to learn the curriculum and how to teach it simultaneously, and this is even worse for beginning teachers who have also to learn how to effectively manage students' behaviour in the classroom" (ID-58). This is a workload issue for early-career teachers who may be new to curriculum aspects and relevant pedagogies, while still honing their skills to engage students effectively.

Attitudes towards teaching OOF and the subject a teacher is assigned were elaborated by one participant:

> *Irrespective of how they feel there will be an element of work to learn the content and best pedagogical approaches, however this is probably inherent for beginning teachers irrespective of the in/out of field nature of the subject they are teaching. If they are interested in the out of field subject matter or willingly assigned they may be inspired by the new learning and see it as an opportunity for development. However, if they are not interested and/or assigned without consent, they may feel alienated from the subject matter and the teaching pedagogies. Therefore they may feel stressed by the workload. (ID-13)*

Possibly a flow-on effect from unreasonable workload expectations could be a negative impact on a teacher's care for their students: "Out Of Field teaching may result in teachers who do not care about the students and their academic outcomes. This is a shame" (ID-20).

Teachers' Effectiveness is Perceived to be Hindered when Teaching Out-of-Field

Participants' perceptions of effectiveness bridged content knowledge, pedagogical content knowledge, and classroom management. Issues with classroom management have been discussed in relation to teacher stress. Themes related to the effective development of content knowledge and pedagogical content knowledge are elaborated in this section.

Effective planning was identified as important, but also a challenge for teachers when teaching OOF. One participant responded: "For teachers I think it is the extra stress of trying to learn content and not having enough time to plan effectively" (ID-5). A teacher's lack of content knowledge was perceived to have a negative impact on students. One participant explained:

> *If teachers are inexperienced in the area and have little competence and content knowledge then it would have a severe negative impact on students marks and classroom experience. (ID-7)*

Teachers' effectiveness here is related to experience, competence, and content knowledge and the impact on students is perceived to be severe.

Pedagogical content knowledge (PCK) was identified by some respondents (n = 12), with one specifically labelling "PCK", while others mentioned "teaching strategies" (e.g., IDs-8, 80, 87, 89) or "appropriate pedagogies" (ID-11). These are discussed in relation to consequences for students where they impact on the quality of learning and teaching. For teachers, a lack of PCK was associated with teacher stress.

> *I see teaching out-of-field as being potentially very stressful for the teacher, especially if they are very unfamiliar with the PCK of that particular subject. (ID-6)*

Teaching Out-of-Field may Provide Professional and Personal Development Opportunities for Teachers

Respondents identified opportunities afforded to teachers in relation to their professional and personal development. These were not, however, solely positive. One respondent highlighted the interaction between opportunity and vulnerability:

> *The biggest opportunity is for the teacher - it offers the chance to become familiar with a completely new field of study and with possibly new colleagues. … For students there is the opportunity to understand the teaching and learning process a bit better, to interact more equally with the teacher and to take more responsibility for their learning. For teachers, students, schools and communities, the teacher's vulnerability is an opportunity for honest sharing of difficulties and solutions…The teacher's vulnerability also offers massive potential for destructive interactions, for the erosion of identity and self-respect... (ID-147)*

Opportunities for key stakeholders—teachers, students, and schools/communities—were discussed by some respondents. One noted:

> *It allows teachers to become literate in other formats of learning environments and methods of teaching. Students get a different perspective of learning the*

> *same material. And schools and communities benefit from teachers that develop an appreciation of the wider education that is available to students... (ID-149)*

Another participant identified both challenges and opportunities for these stakeholders with a greater diversity of subject choices available for students—potentially an issue in smaller and rural schools.

> *For students: More availability of subjects, possibility to have teachers who aren't experts or teachers who are unmotivated to do the work required but could also have teachers who take on the challenge and provide great learning opportunities for students. For teachers: More time and effort to learn content knowledge and adjust pedagogical practices for subject specifications. Opportunities to upskill and for professional development. For schools/communities: More offerings for students, greater inclusivity, a more cohesive teaching staff as teachers are forced to collaborate across subject areas. (ID-154)*

Opportunities for schools to reduce costs and teachers to develop a "wide base of knowledge" were acknowledged by one respondent; however, they also communicated problems created by "approximations", "miscommunication", and "confusion". The participant explained,"An example of this would be the presentation of approximations as facts in science which generates confusion…" (ID-136).

Although two respondents specifically mentioned employability as a positive consequence of teaching OOF, both identified negative consequences as well describing OOF as an "added stressor… to learn new content whilst planning how to teach it" (ID-30) and the "risk that, in terms of content knowledge, teachers will be spread too thin, and student learning may suffer (ID-61).

Although risk to both a teacher's and a school's reputation was raised by some respondents (n = 5), one described how a "proactive strategy" with "publicised benefits" might assist, if OOF teaching was to ameliorate a skill shortage, then "it might be perceived negatively by parents/community" (ID-9).

Preservice Teachers' Perceptions of Consequences for Students from Out-of-Field Teaching

Preservice teachers identified consequences for students around three main themes:

- Engagement: Out-of-field teaching negatively impacts students' engagement, evident in their behaviour.
- Learning: Teachers' knowledge of content and effective pedagogies is likely to be less for OOF teaching which impacts student learning.
- Achievement: Students' achievement may be negatively impacted when teachers are teaching OOF.

Out-of-Field Teaching Negatively Impacts Students' Engagement, Evident in Their Behaviour

A challenge to students' engagement was identified by respondents (n = 8). The mechanisms by which teaching OOF might impact engagement were identified by one respondent in relation to "less [sic] activities, questions, or interactions" (ID-65).

Behaviour management was identified as a challenge. One respondent noted: "Students might get bored or disinterested if the content isn't challenging enough or appropriately stimulating. This, in turn, may cause them to disengage, or behave badly" (ID-49). Students' behaviour was linked to respect for teachers, which may be more challenging

when the teacher is teaching out-of-field. One respondent suggested that OOF teachers "may not receive the same respect of behaviour from the students" (ID-143). Another connected teachers struggling to learn content "taking time away from actually planning lessons" and leading to them feeling "nervous".

> *If the teachers are nervous going into the class or are slightly unsure then the students will be able to pick up on this straight away which in turn may lead to disruptive* behaviour. (ID-120)

Although identifying that teachers may understand the learning process through having to learn a new content area themselves may lead to "better scaffolding", but also possible disengagement "from detecting that the teacher might be "winging it" (ID-9). Engagement was not solely related to behaviour, but also students' interest towards that subject:

> *Students will probably lose their interest towards the subject and none of them will continue to specialise in that subject in their future studies. (ID-10).*

Teachers' Knowledge of Content and Effective Pedagogies is Likely to be Less for Out-of-Field Teaching which Impacts Student Learning

Fifty-four teachers discussed content knowledge in their survey responses, clearly an area of significant concern. Most were mindful of a need to learn content, the time this would take, and the impact on their workload, discussed previously. A lack of content knowledge was perceived to have negative consequences for students including the flow-on effect to learning from reduced engagement. OOF teaching was likened to a "cover lesson" with a substitute teacher "without appropriate resources and plans" (ID-31).

Consequences were also identified in relation to the teacher having a limited range of teaching strategies in relation to teaching out-of-field caused by teachers not knowing the "best strategies" for "unfamiliar content" (ID-80), "teaching students the wrong thing or incorrect strategies" (ID-87), or "rely[ing] on scripted teaching strategies to deliver content" which "reduces engagement and enjoyment for students" (ID-89). From a positive perspective, one respondent noted:

> *For students, I think there is the benefit that the teacher can identify with the students in their struggles, [grappling with] the concepts and engaging with the learning materials*. (ID-94)

Interestingly, no respondent mentioned students' well-being that might be negatively impacted by receiving lower quality teaching, although one mentioned: "In the long run, negative impact of learning and teacher anxiety reduces the overall well-being in the school" (ID-64).

Students' Achievement may be Negatively Impacted when Teachers are Teaching Out-of-Field

Student achievement was specifically referenced by 19 respondents, who described "poor academic outcomes" (ID-19), "less satisfactory outcomes for students" (ID-54), or "lower student outcomes" (ID-148). One summarised: "Consequences for students could include a gap in their development, decrease in student achievement, shift in attitude and inefficient learning environment" (ID-43).

Higher achieving students requiring "extension work" were identified as being " heavily disadvantaged" (ID-75) and the gifted learner "hard to extend" when the teacher is "not proficient" (ID-17). The notion of providing extension was described:

> *As the teacher is also a student in some regards, the quality of the teaching subject matter and the ability to extend students and problem solve difficult content would be affected. Learning would be less effective for students. (ID-74)*

Preservice Teachers' Perceptions of Consequences for Schools and Communities from Out-of-Field Teaching

Preservice teachers further identified consequences for schools and their communities around two main themes:

- Environment: OOF teaching may have a negative impact on the school environment.
- Reputation: OOF teaching may have a negative impact on the school's reputation.

Out-of-Field Teaching may have a Negative Impact on the School Environment

One aspect of the school environment is the engagement of students in learning, noted above as being perceived to be negatively impacted by out-of-field teaching. Three participants specifically mentioned the school's learning environment, responding that OOF teaching was perceived to be associated with "a negative environment" (ID-5), an "inefficient learning environment", and a "lack of an ideal learning environment for students" (ID-139).

Other negative consequences for schools related to the school environment were identified. One participant suggested that communities would "lose confidence in the teachers at the school" (ID-19), while another perceived that, "Tensions may arise in the community if they feel their children are not getting a high quality teaching from the school" (ID-18). This may impact the school's reputation, but also the school environment experiencing those tensions.

Out-of-Field Teaching may have a Negative Impact on the School's Reputation

In linking student achievement and consequences for schools, one respondent raised the issue of the number of classes being taught by out-of-field teachers: "class and whole school academic outcomes not met/disadvantaged from too many teachers teaching out of field" (ID-128). Another perceived that teachers were already "not well respected in society" so there was harm to reputation and also "the overall goals of improving learning at a school level" (ID-31). Two participants offered some justification for why teaching out-of-field might be needed.

> *I believe that because Australia is a huge country and it is difficult to reach regional areas, that is why out-of-field teaching is permitted. In addition, there is a lack of teachers at the moment and this is another reason for its allowance. (ID-58*)

Although acknowledging a potential need for teachers to teach out-of-field, another commented:

> *Well, a teacher is better than no teacher, but really? This may be a resourcing issue, and if so, some communities are getting a raw deal. (ID-25)*

Beyond implications for schools, communities, and ITE, this highlights threats to educational equity.

The impact on students' academic achievement was linked to consequences for schools and communities. One participant perceived this potential impact to be "slight" (ID-15), however, others perceived a greater threat to the reputation of the school having a "bad

reputation" (ID-103), "diminished status" and "reduced respect" from students and parents (ID-62). Some respondents identified that the consequences to communities could be far reaching.

> *Consequences for the school/parents/community could include frustration at the lack of content knowledge of teachers, or a creative, adaptable, and resilient workforce. (ID-49)*

Another acknowledged post-school consequences, saying, "If students receive sub-par teaching, there is a flow on effect into the community post-schooling" (ID-36). Parents were mentioned by nine respondents with a range of issues related to the school environment, with most related to concern about the school's ability to provide "quality education".

Discussion and Conclusion

An overarching view, both from the literature and our respondents, is that OOF teaching is not an ideal teaching model, with even the positive comments reflective of an attitude of making the best out of a non-ideal situation. For example, Darling-Hammond (2000) consistently argued that well-prepared, highly qualified teachers have a greater impact on student achievement than other variables, including student background and class sizes (Hattie, 2003, cited in McConney & Price, 2009). However, OOF teaching remains a common practice with few strategies adopted to address the inherent issues.

While in 2003, Ingersoll used Albert Shanker's label of OOF teaching as education's "dirty little secret" (p. 5), OOF remains widely used, but with very limited discussion in the public arena. Perhaps as a "little secret" within the profession it is recognised but not really discussed, with implications largely hidden, so not addressed. Further, where a practice is widely used, with possible negative outcomes, it may be generally assumed that any implications are largely moderated or managed.

This study brings to light the interrelated concerns of preservice teachers entering a profession that is high stakes in relation to student outcomes, high stress in relation to professional demands, and has high attrition, negatively impacting the workforce—thus obviously also in the longer term impacting ongoing student outcomes. This study has been undertaken from the perspectives of preservice teachers. Clearly, further research is needed to examine school- and system-level strategies to support OOF teachers and ameliorate the negative effects of the practice.

Implications

Student learning is paramount. However, from respondents' comments, it is clear that they are anticipating challenges in providing learning for students as effectively as they might, highlighting that many of the strategies used by schools to ameliorate OOF are targeted to benefit student learning. Clearly, teaching OOF is not just an issue for new teachers as they become established in the profession. There are significant implications for schools, the profession and, most importantly, for the learning outcomes of students.

Teacher effectiveness and well-being are major concerns, impacted by lack of subject preparation and the increased workload created by the practice. While better preservice preparation may be necessary, it would be far from sufficient. Can teachers be prepared to teach OOF in a 2-year master's course, and if so, how? Given the awareness of this issue by our participants, it is clear that OOF teaching should be addressed at least at some level through this training. Timperley et al. (2017) stressed that adaptive expertise comes from

understanding the complexities of learning, including the interactions between learners and their learning environments. This requires that teachers can draw on "a rich and deep knowledge base to address specific challenges in that environment, rather than learning to enact a generic set of standards or teaching practices that apply across contexts" (p. 176). But early career teachers are unlikely to have such adaptive expertise to draw on. Strategies suggested for schools to better manage this situation could include both the better availability of resources and mentoring to support teachers, but again this is one additional step.

Teacher workload was identified by the preservice teachers as exacerbated by the demands of teaching OOF. So, another consideration could be to ensure sufficient time is provided to teachers – allowing them to balance this additional workload and support their effectiveness and well-being. However, as recognised by Vale and Drake (2019) teachers are often not afforded that time. The issues of workload and stress associated with OOF teaching were acknowledged by the preservice teachers in this study and identified in the literature as a common reason for teachers leaving the profession (Heffernan et al., 2022). Given these concerns, it is compelling that three-quarters of the participants—who already perceive that teaching out-of-field has mostly negative consequences—will likely be required to teach OOF.

Which returns us to the critical focus on student learning within systems where the wide application of OOF teaching is likely to continue at some level as a part of workforce management strategies. Given that is the case, it will be important to have a greater adoption of a range of strategies to support teachers to better undertake their jobs, which will contribute to achieving higher quality learning outcomes.

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