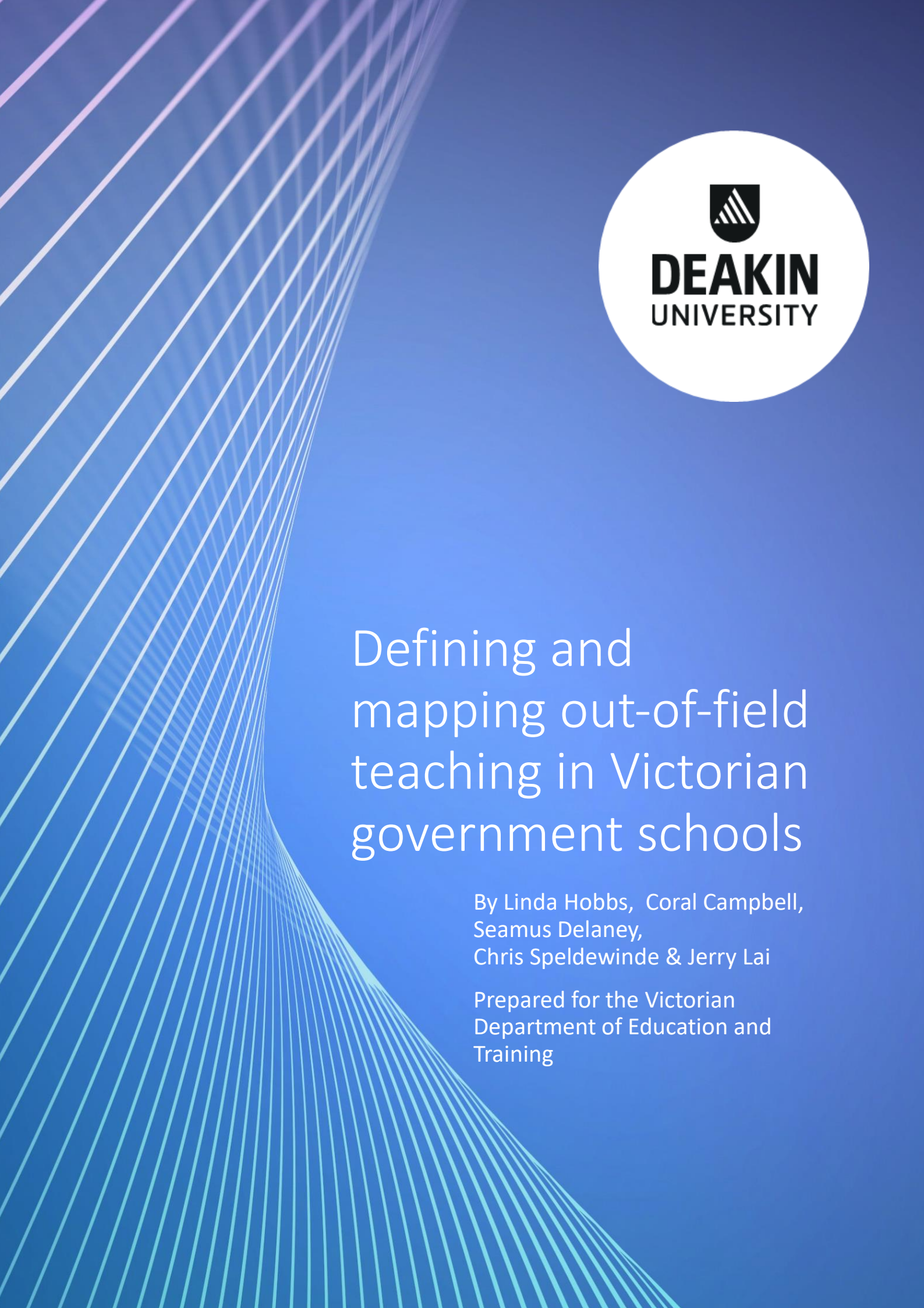

Defining and mapping out-of-field teaching in Victorian government schools

By Linda Hobbs, Coral Campbell, Seamus Delaney, Chris Speldewinde & Jerry Lai

Prepared for the Victorian Department of Education and Training

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1 Executive summary

Assigning teachers to subjects they are not qualified to teach is a long-standing response to teacher shortages. The term 'out-of-field' signifies this misalignment. Because of state, national and international differences in teacher registration, approval and certification, there is no single definition of what makes a teacher out-of-field. Also, teachers and principals use standards other than 'qualification' to judge the suitability of a teacher to teach a subject, year level or even a group of students. This makes it difficult to understand the phenomenon through data from other jurisdictions. Therefore, in order to assist with understanding how the system can respond to out-of-field teaching, there is a need to clearly define what is considered to be out-of-field for Victorian teachers in a way that represents the complexity of the phenomenon and in different ways to suit different purposes. This report develops such a definition of out-of-field teaching in Victorian secondary schools, relates it to Victorian and national policy frameworks around quality teaching, learning and schools, reviews and analyses incidence data and factors impacting on incidence, and reviews data relating to key indicators and factors and their effects.

Definition

Five definitions are presented that are based on criteria, one for in-field and four for out-of-field: out-of-field as determined by (A) Qualifications, (B) Specialism, (C) Workload and (D) Capability. A set of criteria were developed based on literature about out-of-field teaching. Six criteria each have a number of dimensions, and these dimensions have been mapped against bands that show degree of alignment with most being in-field. The six criteria are: Qualifications, Workload, Capability, Identity, Structures and Pathways. The definitions use the criteria to assess alignment between teaching assignment and qualifications, risk as possible negative consequences, manageability of workload, and capability. A number of scenarios are provided to show how these definitions can represent real teachers' experiences. The definitions illustrate the complexity of the issue and that it is useful to have different definitions for different purposes.

2 Introduction

Out-of-field teaching is an educational construct developed to highlight the misalignment between a teacher's disciplinary background and the subject, year level or specialist role in which they teach. In Victoria, teacher specialisation data is not centralised, therefore the extent of out-of-field teaching is not easily determined. A lack of common understanding of what constitutes out-of-field teaching further exacerbates the difficulty in assessing the extent and impact of out-of-field teaching.

As an educational *phenomenon*, out-of-field teaching is an age-old response to supply and demand issues.

> *For many years the out-of-field teaching phenomenon has been the 'elephant in the room' or 'tabooed'— its presence is undeniable, but either the language has been unavailable to notice or articulate it, or it is simply ignored given that it is solving a problem of teacher shortages, or unequal distribution of teachers. (Hobbs & Törner, 2019a, p. 7)*

A number of recent studies have identified out-of-field teaching occurring across all Australian states and internationally. Why it arises, the specifics of when a teacher is out-of-field, and the potential responses are all subject to context factors, including teacher education and teacher registration requirements. There exists a culture of reliance on out-of-field teaching to solve the problem of teacher shortages. This culture is facilitated and perpetuated by a lack of mechanisms that remunerate, recognise and therefore encourage teachers to upgrade qualifications, a history of school autonomy in teacher recruitment and allocation, a tension between upholding standards of quality teaching and the reality of 'making-do' in order to staff subject offerings, and lack of robust system-generated data to inform teacher recruitment and distribution and initiatives designed to maintain quality teaching within the system.

In order to maintain a high-quality education in the state of Victoria, there is a need to understand the nature of the out-of-field phenomenon, why it arises and how to respond given the current school structures. Victoria has a number of quality teaching frameworks guiding teacher and school improvement. The practice of assigning teachers out-of-field potentially jeopardises efforts to embed and achieve the high-quality learning that is being promoted by these frameworks. Aligning these frameworks with the issues associated with out-of-field teaching identifies the potential risks that can arise that need to be managed.

This project draws on existing research findings, professional insights and data sets to ascertain the varying definitions of out-of-field teaching across states, jurisdictions and internationally. A working definition of out-of-field teaching is needed that is suitable for the Victorian schools' context, taking into account teacher specialisation and registration requirements.

Definitions can be communicated in different ways: intentional definitions specify the necessary conditions that need to be met or the properties of the objects, while extensional definitions list the objects the term describes. The former is used to focus on the characteristics of what constitutes misalignment between the teacher's expertise, background and identity and what they are assigned to teach.

In addition, this project maps the extent of out-of-field teaching across Victorian schools and other jurisdictions, and identifies prevalence and impact across a number of variables: year levels, curriculum areas, school contexts (including school types and geographical areas).

The Victorian and Federal Governments have introduced policies and funded short initiatives in the past ten years that have attempted to address some of the underlying causes of out-of-field teaching, namely unmet demand for specific types of teachers (especially mathematics and science, technology, special education and languages) and in certain locations (in particular disadvantaged, rural/remote or hard to staff areas). For example, the *Teacher Financial Incentive* focuses on recruitment of experienced teachers into hard to staff locations, while the *STEM Catalyst Program* and *Science and Mathematics Specialisation Incentives* provide retraining for out-of-field teachers. The report provides data to assist in

developing a range of possible actions that might be taken at a system level.

3 Methodology

This section outlines the methodology used in the developing this report. The research largely uses published sources to develop a definition that can be applied to the Victorian schools' context, develop an analytical framework based on Victorian education framework to review what we know about the impacts of out-of-field teaching, collate the incidence and distribution of out-of-field teaching and ascertain effects in other jurisdictions and contexts.

The research questions posed are:

(1) What aspects need to be included in a definition of teaching out-of-field suitable for a Victorian schools' context?

(2) How is quality teaching impacted by out-of-field teaching?

(3) How prevalent is out-of-field teaching in Victorian schools compared to other jurisdictions and school types?

(4) How are the effects of out-of-field teaching represented across different jurisdictions and education contexts?

The research is mainly a desktop exploration, but the first research question will require input from experts to develop a working definition.

Figure 1 summarises the methodology used and the outcomes. The literature search (A) feeds into the other parts of the research (B-E), which form the four main sections of this report. The definition informs the last three.

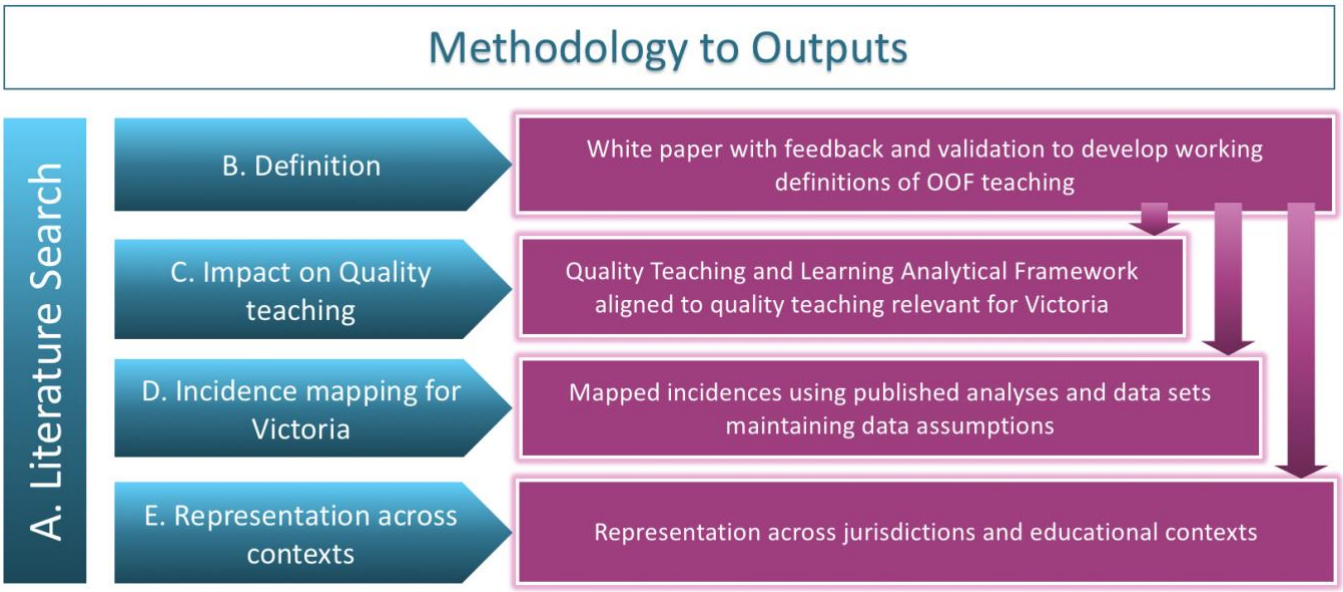


FIGURE 1 METHODOLOGY

A. Literature search

Existing literature and data are used to define out-of-field teachers/teaching, and ascertain incidence and impact. See Table 1 for a summary of the objectives, search parameter and source types.

In the first instance, due to our research over the past 10 years we bring to the review analysed data sets and publications relating to: early career and experienced teacher experiences and well-being; teachers and their career trajectories; effects of school culture; principal perspectives; teaching knowledge, practices and beliefs; policy settings and levers; and perspectives and responses of principal and subject associations and education unions.

Secondly, we build on our existing literature reviews and bibliographies through a systematic review of the literature (from 2010-2020, as well as seminal texts). We bring to the review a worldwide network of researchers and their contributions to our understanding of out-of-field, non-specialist and unqualified teaching from across Australia, US, UK, Ireland, Germany, Israel, Malta, and South Korea. This includes research findings reported at six international symposia of the Out-of-field/Teaching Across Specialisations (out-of-field-TAS) Collective dedicated to the issue of out-of-field teaching, which has been compiled in proceedings (Hobbs & Törner, 2014), an edited book (Hobbs & Törner, 2019c) and two journal Special Issues (Journal of Science Teacher Education [2020] and European Journal of Teacher Education [forthcoming]).

TABLE 1 OBJECTIVES, SEARCH PARAMETERS AND SOURCES USED IN THE REVIEW

OBJECTIVES:	**SEARCH PARAMETERS:**	**SOURCES:**
(1) Collate definitions of out-of-field to establish inclusion & exclusion criteria associated with each definition → Definition **(2)** Ascertain impacts on teaching and learning → Impact **(3)** Interrogate relationships between out-of-field teaching and AITSL Standards and FISO → Incidence **(4)** Identify incidence data for different subjects, schools and state jurisdictions and other contexts → Incidence **(5)** Identify data sets that can be used to determine indigence and impact of out-of-field teaching → Representation	Terms relating to teaching out-of-field **cross referenced with:** **(1)** Learning areas (different subjects) **(2)** Levels of education (primary, elementary, middle schools, secondary, high school, and other country specific terms) **(3)** Methodologies of data collection (qualitative, quantitative, evaluation) **(4)** Scope of analysis (local, state, national, international).	**(1)** Academic and professional articles, books, book chapters **(2)** Reports from associations, organisations, and Government Departments **(3)** Government policies and procedures **(4)** Online blogs **(5)** * Availability of: • National and international comparative analyses and data (e.g., PISA, TIMSS). • Departmental data: unfilled positions

The search strategy included the following steps: establish a suitable timeframe of publication dates for each objective; use multiple search engines (e.g., Google, Google Scholar, EBSCO Host, Scopus, ProQuest, ERIC) and strategic use of reference lists from seminal papers/chapters/books; develop inclusion and exclusion criteria; assess the reliability of findings; and synthesise the data against each of the objectives.

Table 2 identifies the sources used across the different sections of the report.

TABLE 2 SOURCES INFORMING DIFFERENT SECTIONS OF THE REPORT

Author	Country	Specialisation/ Context	Def	Impact	Incidence	Represet.
AITSL (2020)	Australia	General			X	
Amirullah & Iksan (2018)	Malaysia	Mathematics		X		
Australian Education Union (2009)	Australia	General		X		
Beswick & Fraser (2019)	Australia	Mathematics	X	X		
Caldis (2017) Caldis & Kleeman (2019)	Australia	Geography	X			
Carlyon (2018)	New Zealand	Primary school	X			
Donaldson & Johnson (2010)	United States	General		X		
Du Plessis et al. (2014, 2016, 2017) Du Plessis (2015, 2016, 2019, 2020)	Australia	General	X	X		
Fitchett et al. (2019)	United States	General		X		X
Goos et al. (2020)	Ireland	Mathematics	X	X		
Harris et al (2005) Harris & Jensz (2006)	Australia	Science Mathematics			X	
Hobbs (2013a, 2013b, 2020) Hobbs & Quinn (2020) Hobbs & Campbell (2014)	Australia	General, Science, Mathematics	X	X	X	X
Hobbs & Törner (2019a, 2019b, 2019c)	Australia and Germany	General	X			
Hill (2011), Hill & Dalton (2013)	USA	Science			X	X
Hull (2018)	Australia	History	X			
Ingersoll (1999, 2003, 2004, 2008, 2019)	United States	General	X		X	X
Ingvarson et al. (2004)	Australia, Victoria	General			X	
Kim & Kim (2014)						X
Lane & Ní Ríordáin (2020)	Ireland	Mathematics		X		
Long & Wendt (2018)	South Africa	General			X	
Loveys (2011)	United Kingdom	Physics			X	
McKenzie et al. (2008, 2014)	Australia	Genearl			X	X

Author	Country	Specialisation/ Context	Def	Impact	Incidence	Represet.
McConney & Price (2009)	Australia, Western Australia	General	X		X	
Mizzi (2020)	Malta	Science	X			
Ní Ríordáin & Hannigan (2009) Ní Ríordáin et al. (2017)	Ireland	Mathematics	X	X		
Nixon et al. (2017)	United States	Science	X		X	X
Ogodo (2019)	United States	Physics		X		
Pacaña et al. (2019)	Philippines	Social Studies		X		
Panizzon et al. (2011)	Australia, South Australia	General			X	
Porsch & Whannell (2019)	Germany, Australia	General		X		
Qin & Bowen (2019)	International	General		X	X	
Ramsay (2014)	USA	General			X	
Rahayu & Osman (2019)	Malaysia	General		X		
Schools and Staff Survey (SASS) – Trends across 1987-88 to 2011-12 (USA) – adapted from Seastrom et al (2004)	USA	General			X	
Shah, Richardson & Watt (2020)	Australia	STEM	X		X	X
Shah et al (2019)	United States	STEM			X	X
Sharplin (2014)	Australia	General	X	X		X
Sheppard et al. (2020)	United States	Chemistry Physics		X	X	
Silva (2010)	South Africa	Science			X	
Tasmanian Audit Office (2010)	Australia, Tasmania	General			X	
Thomson et al (2017)	Australia	Mathematics and Science			X	X
Trends in Mathematics and Science Study	International	Science, Mathematics	X			X
Van Overschelde & Piatt (2020)	United States	General			X	X
VIT (2015)	Australia	Policy	X			
Weldon (2016, 2018)	Australia	General	X		X	X

B. Defining out-of-field teaching

The question guiding this definition analysis was

> **What aspects of the out-of-field phenomenon need to be included in a definition of teaching out-of-field suitable for a Victorian school context?**

Literature Search

A literature search provided the basis for identifying the various dimensions of the out-of-field phenomenon that need to be represented in the definition. The search strategy included mainly sources from the years 2010 to 2020, although seminal sources prior to this date were included. Sources were located through:

- Multiple search engines (e.g., Google, Google Scholar, EBSCO Host, Scopus, ProQuest, ERIC)
- Strategic use of reference lists from seminal papers/chapters/books
- Known networks of researchers

Sources included:

- Academic and professional articles, books, book chapters
- Reports from associations, organisations, and government websites
- Government policies and procedures
- Online blogs

Out-of-field teaching is an expanding field of research and policy development within Australia and internationally. The search parameters included the following:

- Varying target terms: out-of-field, unqualified, unspecialised, underqualified
- International variation
- Subject-specific versus general teacher
- Unpreparedness
- Relevance for Victorian registration requirements
- Relevance for Australian school contexts
- Primary and secondary school contexts

Extracting the definitions

Definitions of what is considered qualified and unqualified (or specialised and un-specialised) differ across survey tools, influencing what is measured and the incidences that emerge (Ingersoll, 2019).

Definitions of out-of-field teaching were extracted from this literature into a database according to categories and sub-categories (see Table 3).

TABLE 3 DATABASE CATEGORIES AND SUB-CATEGORIES

Category	Sub-category
Match between qualifications and teaching allocation	• Initial teacher education • Discipline and teacher qualification • Registration or certification • Specialism • Differentiation at the level of specialism or sub-discipline • Year level • Subject and year level
Differentiating between 'types' or variations of being out-of-field	• out-of-field-ness • Identity • 'Field' • Suitability • Role (subject) and phase (primary, secondary, tertiary) congruence, displacement and stretched

The definitions were then collated in a way that maintained the context and implications for their use (e.g., country of origin, development/research/incidence), as well as some identification of how these definitions were applied in other sources. A total of 30 sources were identified

through the search from six countries and across different specialisations/contexts (General, Policy, Science, Mathematics, History, Geography). The sources used are listed in Table 2.

We encountered a number of challenges in deciding what to foreground in the definition, elucidating what the definition should be used for (to inform, for example, policy, school management practices, teacher learning), and taking the policy context into account.

White paper development

A white paper synthesising the ideas was used to gain expert feedback. For external validation, these definitions were presented to experts to ascertain usefulness, applicability and implications in the Victorian school context. Experts included researchers, professional development providers, and representatives of the Victorian DET, the Australian Mathematical Science Institute (AMSI), New South Wales Geography Teachers Association (GTA), and Australian Council for Educational Research (ACER). This White paper outlines:

- Criteria emerging from the literature that represent different aspects of the out-of-field phenomenon; and
- A series of definitions that draw on the criteria and which can be used for different purposes.

4 Definition

Clear and agreed definitions of out-of-field teaching are needed to understand the extent of misalignment within the system in order to inform policy and facilitate improvements in school management and teaching. This chapter outlines the rationale for needing clear government-led definitions of out-of-field teaching that serve the various stakeholders who need to understand and respond to this issue. A set of criteria are provided and these are applied to four definitions. The definitions can be 'put to work' in different ways by government, teachers, school leaders and others.

A. A phenomenon needing defining

For secondary teachers in particular, there is a need for a multi-dimensional approach to defining out-of-field that acknowledges the complexity of the issue and can facilitate school leadership, teacher professional development, policy decisions and research of the phenomenon. Hobbs and Törner (2019a) highlight the need for caution in how this phenomenon is represented: "there is a need for a way to talk about out-of-field teaching that is respectful of teachers, and does not compromise public faith in the education system and education as a profession" (p.5).

Lack of a definition to inform policy

In Victoria, Australia, teacher registration is not tied to specialisation nor level of schooling. Teacher specialisation data is not collected at the time of registration and therefore is not centralised. As a result, it is not easy to determine the extent of out-of-field teaching in terms of the proportion of classes taught out-of-field, nor the number of teachers teaching out-of-field.

A lack of common understanding of what constitutes out-of-field teaching further exacerbates the difficulty in assessing the extent and impact of out-of-field teaching:

> *There is no single definition of a "suitable qualification" to teach mathematics at [secondary] level education in Australia (Harris & Jensz, 2006). It is largely at the discretion of states and territories, and accordingly teacher qualifications. (Ni Riordain & Hannigan, 2009, p.9)*

Lack of a definition to inform practice

Research shows that the reality of teaching out-of-field for teachers is complex and binary labels of qualified/unqualified are less informative.

> *Currently the term out-of-field implies that teachers can be simplistically categorised as in-field or out-of-field, that is, that the phenomenon is a simple binary distinction. This misconception hides the complexity of the concept, failing to include degrees of fit or misfit between appointment, qualifications and experience. (Sharplin 2014)*

For example, a close misfit would be a teacher with a chemistry degree who is assigned to teach a biology class and a far misfit would be that same teacher assigned to teach history.

Practices that need to be informed about specific issues that arise due to out-of-field teaching include those relating to school leadership, teacher allocation, discipline leadership, professional learning, and teaching practice.

Defining out-of-field needs to be cognisant of the complexity of factors that make a teacher *feel* out-of-field. Out-of-field teaching can be considered as a (Porsch, 2016):

- Technical formal condition: *I'm not qualified*
- Condition of lacking the expertise: *I feel I don't have the necessary knowledge of the content or teaching approaches*
- Condition of identity and feeling out-of-field: *I feel like an outsider*

Certain factors that can make a teacher feel more in-field or out-of-field (Hobbs, 2013a) include, for example, teacher appointment and allocation (timetabling) practices, work conditions, support mechanisms, feedback and responses from students and peers, recognition of risk factors especially by leadership, teacher-related factors such as teacher knowledge, commitment and attitudes towards professional learning, and security of employment. For example, a teacher who is teaching an out-of-field class but is highly supported and exhibits strong professional growth may feel more in-field after a time than a teacher who does not have this support. There are therefore a number of criteria other than alignment between qualification and allocated subject/year level that influence a teacher's self-identification as teaching out-of-field (Hobbs, 2013b). Definitions of out-of-field therefore should take into account this teacher in context as determining out-of-field-*ness*.

Lack of a definition for research

A definition of out-of-field teaching needs to be a characterisation of the teacher workforce that will allow for meaningful description and comparison of the phenomenon at the local, national and international level.

> *As a phenomenon, teaching out-of-field is complex and needs to be treated as such in practice and through multi-layered investigation. For teaching out-of-field to be recognised as a phenomenon, it needs to be noticed, defined and articulated. (Hobbs & Törner, 2019a, p. 6)*

Policies and practices relating to teacher education, registration/certification, recruitment and allocation to subjects and year levels vary across states and countries (Price et al, 2019). This makes comparisons difficult if the contextual mechanisms are assumed or not declared by researchers. Researchers need definitions that are transparent and contextualised to enable interjurisdictional comparison.

What work does a definition of out-of-field need to do?

It is important that a definition of out-of-field teaching for secondary school teachers can be 'put to work' to inform stakeholders about the need for more informed and effective governance. There is a need for a definition for policy, practice and research. The specific focus of each area is determined by where the locus of change lies – with the teacher or elsewhere in the education system. Analysis shows that the out-of-field issue is not explicitly stated at a system level but is represented in different ways with varying assumptions (Hobbs, Vale, Speldewinde, Parvanehnezhadshirazian & Doig, 2015):

1) **As an issue of supply and demand** leading to teacher shortage that requires investment in recruiting new teachers in certain specialist areas. The assumption here is that the locus of change lies with the current profile of teachers in the system. This change requires a definition that identifies the incidence of out-of-field teaching in Victoria.
2) **As an issue of teacher distribution** requiring incentives for certain teachers to move into hard to staff areas. The assumption here is that the locus of change lies with the distribution of the teacher workforce. This change requires a definition that identifies the distribution of out-of-field teaching allocations in Victoria across sectors (Government, Independent, Catholic), across year levels and across specialist areas.
3) **As an issue of teacher/teaching quality** requiring the system to provide teachers with professional development (such as the introduction of professional learning requirements to maintain teacher registration), requalifying programs (such as Graduate Certificates) or access to subject-specific and targeted induction and mentoring. The assumption here is that the locus of change lies with the teachers. This change requires a definition that identifies the specific needs of different teachers teaching in different out-of-field situations, within specific contexts and under different regimes of support (internal and external to the school). The definition also needs to earmark pathways for teachers to move from out-of-field to in-field and system responses that will enable and acknowledge this.

In addition to this emphasis on the *teacher* as the locus of change, it should be noted that currently there are other representations of the issue that are indirectly related to the teacher and which shift the locus of change to other parts of the system:

1) **To school leadership practices**, including their awareness and understanding of their staff and how to sustain teaching quality. The

assumption here is that the locus of change lies with the school's leadership so that they have improved understanding of the impact and demands of teaching out-of-field for different teachers, and recognition, acknowledgement and attention to the teachers' specific needs. This change requires a definition that provides the information and resources school leaders need to sustain teaching quality, including how professional learning and a supportive school culture might increase teacher capability and support identity expansion, also when might be appropriate for teachers to upgrade qualifications.

2) **To how funding is used in relation to workforce attraction and retention decisions -** based on using allocated funds for covering the current subject offerings with the existing staffing profile. The issue is complicated further by Union employment requirements that restrict employment conditions of part-time and full-time staff. The assumption here is that the locus of change is with the system's approach to allocating resources to meet the needs of each school. This change requires a definition that looks at the staffing profile and teaching allocation across a whole school in order to identify the needs in teacher supply/demand.

Table 4 summarises the different representations of the out-of-field phenomenon, assumed loci of change and the scope of definition needed in order to inform this change.

Given the need for a definition of teaching out-of-field to be used for different purposes, this paper proposes a suite of criteria that: can 'define' teaching out-of-field using quantifiable measures; acknowledges that teacher's training, capability and identity can determine out-of-field-*ness*; and identifies contextual and structural factors that can mediate out-of-field-ness. These criteria may be applied to individual teachers and their allocations, or to examine the status/proportion of out-of-field teachers or classes of a school or within the system.

TABLE 4 SCOPE OF DEFINITION NEEDED FOR THE DIFFERENT REPRESENTATIONS OF THE OUT-OF-FIELD PHENOMENON

Representation of the Out-of-field issue	Locus of change	Scope of definition needed
As an issue of supply and demand	Current profile of teachers in the system	Incidence across classes, subjects, sectors
As a problem of teacher distribution	Distribution of the teacher workforce	Distribution of qualified teachers across sectors, year levels, subjects
As an issue of teacher/teaching quality	Teachers and teaching practice	Specific needs of different types of out-of-field teaching allocations
As a problem of inadequate leadership practices	Leadership practices	Approaches to sustain teaching quality
As a problem of how funding is used	System approach to allocating resources	Staffing profile and teaching allocation

B. Victorian Policy Context

Registration with the Victorian Institute for Teaching

Victorian teachers must register with the Victorian Institute for Teaching (VIT). All registered teachers in Victoria are qualified teachers meaning that they have met the requirements for registration:

> *Legislation requires that in order to be registered as a teacher, a person must obtain a qualification that is appropriate for entry to teaching approved by the Minister, or has obtained a qualification determined by VIT to be equivalent to an approved qualification that is appropriate for entry to teaching. (VIT, 2020a, para. 7)*

Registered teachers are qualified teaching professionals who have demonstrated the following requirements:

- a demonstrated proficiency in the Australian Professional Standards for Teachers
- the ability to maintain professional practice
- suitability to teach. (VIT, 2020b, para. 3)

In addition to registered teachers, teachers may also be provisionally registered (new to teaching or not yet practiced) or early childhood teachers. They may also have "Permission to teach", which means they are qualified in the subject they will teach but not registered as a qualified teacher, and usually employed on a short-term basis in order to address a workforce shortage.

Specialist Area Guidelines

The Specialist Area Guidelines (VIT, 2015) provide the guidelines for entry to an accredited initial teacher education course. The guidelines

- "[P]rovide advice to intending teachers about the suitability of their qualifications for entry into nationally accredited graduate-entry initial teacher education programs and teaching in specialist areas" (VIT, 2015, p. 1)
- Provide the minimum level of discipline study applicable for preparation as a specialist area teacher

For most specialist areas, at least a minor in the discipline is required, which equates to:

> *A total of half a year of successful full-time higher education study, usually comprising sequential discipline studies taken over two years, e.g. a part in each of the first and second years of study, or equivalent study. In most programs this equates to four units, with no more than two at first year level. (VIT, 2015, p. 3)*

Methodology studies in the specialist areas "should include, or be associated with, supervised teaching practice in the specialist area" (VIT, 2015, p. 2)

In addition, the Specialist Area Guidelines provide advice for "teachers seeking to upgrade their qualifications and teach in a different specialist area" (VIT, 2015, p. 1). The same advice is given as for students completing initial teacher education, i.e., at least a minor in the discipline is required.

The VIT have endorsed some "teacher education programs for qualified teachers who wish to gain further qualifications in a specialist teaching area" (VIT, 2020c, para. 9). These require supervised teaching practice in the specialist area at a location different to their employment. The programs currently endorsed tend to relate to languages other than English and special education.

Constraints associated with the Victorian policy context

There are some limitations associated with this Victorian policy framework that have implications for defining and understanding out-of-field teaching. These can be summarised as:

- Teacher register to teach, they do not register to teach particular subjects.
- Teacher specialisations are not reflected in any official documentation for registration in Victoria. Teachers are not approved or certified for teaching specific subjects. Teachers do not need to complete special licensure tests to be able to teach a subject.
- There is no mechanism for recognising or remunerating additional qualifications or specialisations.
- Teachers declare their qualifications and areas of specialisation to principals during recruitment. This

can include any professional learning or additional qualifications obtained while in-service. Teachers also report that they have done professional learning as part of their annual VIT teacher registration but not the content or focus of that professional learning.

- School leaders are responsible for allocating teachers to teacher a subject out-of-field. There are no restrictions on who can be allocated to classes out-of-field, and schools to do report on and are not accountable for the proportion of classes taught in-field and out-of-field.
- No advice is provided by the VIT on how methodology units might be undertaken when upgrading qualifications. This has implications for how qualifications, such as Graduate Certificates and Masters, focus on discipline-based knowledge of content and how to teach it, and how they are used for upgrading. The assumption is that upgrading to new specialist areas involves a further minor in the discipline, with little emphasis on additional methodology studies.
- The endorsement for additional qualifications tends to be limited in scope. There are limited processes for accrediting other courses as upgrades to existing discipline qualifications for registered teachers with the VIT. There is no facility to accredit professional development programs.

Given the limited formal processes for teachers to obtain formal licensure or approval to teach specialist areas, an out-of-field definition for Victoria needs to recognise specialist area qualifications, pre-service teacher qualifications, and any qualifications and professional learning obtained while in-service.

C. Criteria for defining out-of-field teaching

Six criteria focus on different aspects of the out-of-field phenomenon. The definitions use these criteria to emphasise different aspects of the phenomenon, depending on the purpose of the definition. The criteria serve to identify dimensions of 'suitable alignment' between a teacher and the subject/s they are allocated to teach.

Each criterion has a focal question, research-informed assumptions, a standard based on research-informed best practice or policy, and multiple dimensions that signal pertinent characteristics relevant to the criterion. For each dimension, bands differentiate degrees of suitable alignment between characteristics of the teacher and the subject they are allocated to teach: Band 1 indicates high alignment, Band 3 least alignment, and Band 2 somewhere in between. Criteria maps (Pages 26-28) represent the standards, dimensions and bands.

There are three criteria clusters (see the Cluster tables below, Pages 18-25). While represented here as discrete criteria, in reality the criteria interact within and across the clusters, with some being closely related or contingent on others.

Cluster 1: Measurable criteria

Measurable criteria (Pages 18-20, 26) can be measured and represented quantitatively or qualitatively. The three measurable criteria identified are qualifications, workload and capability.

The policy context determines the *Qualifications* needed to teach particular specialisations. Research and policy rely on criteria relating to qualifications held by teachers to measure the incidence of out-of-field teaching and to correlate these qualifications with varying effects, such as student achievement and teacher well-being.

Teachers' *Workload* refers to the load of in-field and out-field classes allocated to a teacher. Workload becomes important when considering the conditions that the teacher is working under and how this might impact on teacher practice and development. An out-of-field workload can be measured as the fraction of a teacher's load (i.e., proportion of classes) devoted to out-of-field teaching at any one time, across a year or in a teacher's career. Workload is pertinent given that an out-of-field allocation is often only part of a teacher's teaching load at any one time and will vary as their career progresses.

Teacher *Capability* refers to the practice of the teacher and can be measured as expertise and career stage. Expertise refers to and can be measured as the amount of experience a teacher has in teaching a subject generally and at a particular year level (Weldon, 2016), the degree to which a teacher engages with professional learning in the out-of-field subject (cf. Weldon, 2016), and the teacher knowledge and expertise they have developed that would be suitable for teaching the out-of-field subject (Ní Ríordáin, Paolucci & O'Dwyer, 2017). Research also shows that the number of years teaching (career stage) may impact on a teacher's ability to adapt and learn when teaching out-of-field, and is therefore important to measure when understanding the capability of a teacher (Hobbs, 2020; Hobbs & Quinn, 2020). However, years of experience does not guarantee improved practice.

Cluster 2: Self report criteria

Self-report criteria (Pages 21-24, 27) are more difficult to measure, or measure objectively. They may be witnessed by the teacher and can be judged through self-report to colleagues or leaders. They can act as cumulative risk factors that can signal challenges as well as factors that can facilitate professional learning.

Teacher *Identity* refers to the personal context of the teacher, including a teacher's commitment to the subject being taught, their sense of self in relation to the subject and their teacher confidence to teach it. These personal characteristics can mediate the degree to which teachers 'feel' out-of-field, regardless of whether they are technically teaching out-of-field or not.

Teacher *Confidence*, along with self-efficacy, often relates to teacher knowledge and beliefs in relation to the out-of-field subject and can be measured qualitatively as self-report data (e.g., Grieger, 2020). Confidence can be considered in the context of teachers' capability given that teachers' perception of their ability can be subject to cognitive bias (Dunning, 2011).

A number of *Structures* can help or hinder teachers who are assigned to teach out-of-field. Structures mediate out-of-field-*ness* by creating the context in which the teacher operates and learns to teach out-of-field. School context factors such as geographical region influence access to professional development (Shah, Richardson & Watt, 2020). School size and hard-to-staff status can lead to a greater reliance on out-of-field teaching (e.g., Nixon, Luft & Ross, 2017).

Structures put in place by the school support culture can be evaluated to determine how they match the needs of the teacher, including identifying the support mechanisms that adjust as the needs of the teacher adjusts. The actual and perceived support and guidance by school leadership, daily organisers, mentors and discipline leaders can be evaluated by a teacher as mediating their feelings of out-of-field-ness.

Cluster 3: Longitudinal criteria

Longitudinal criteria (Pages 25, 28) relate to mechanisms that can be used as *Pathways* for teachers to move from out-of-field to in-field.

The various career trajectories that teachers can follow to develop expertise in a particular subject can be identified, some of which may lead to teachers becoming technically in-field, while others can lead to a higher degree of capability (Hobbs, 2020; Hull, 2018). A trajectory leading to qualification upgrade, including tertiary qualifications, individual units or micro-credentialing, reduces the incidence of out-of-field teaching. A trajectory based on concentrated professional development increasing teacher capability would not reduce the incidence of out-of-field teaching but may lead to micro-credentialing or credit for prior learning (CPL) contributing to a qualification upgrade if these opportunities are available. A trajectory based on experience of teaching the subject can build capability when experience is repeated and sustained but does not lead to teachers becoming technically in-field. Where the experience of teaching out-of-field is temporary, there is less likelihood that expertise is well-developed.

The potential for teachers to expand how they perceive their role accompanies these trajectories. Teachers can accept an out-of-field subject as part of their teaching role and this may be evident as increased teaching expertise in the subject, commitment to undertaking professional learning and increased confidence. On the other hand, teachers can accept that teaching a subject out-of-field will be part of their ongoing load but without seeing themselves as suitably skilled or qualified to teach, despite years of experience. Non-acceptance of the role is evident as compliance and a teacher may continue to see themselves as distant from the subject, but this does not necessarily need to correlate with low confidence or expertise. While the focus of this dimension is on the developing expertise and identity in relation to the out-of-field subject, it is

important to appreciate that the out-of-field load (one or more subjects) comprises only part of a teacher's changing load, therefore the developing out-of-field teaching expertise should be conceived as one component of a teacher's total developing expertise (Hobbs, 2020).

CLUSTER 1 Measurable criteria

Criterion	**1. Qualification** Policy context		
Question	What is a teacher qualified to teach?		
Assumptions	• Policy determines teacher qualifications (VIT, 2015). Qualifications are determined by the discipline qualifications (usually a minor or major in a specialist areas) and specialist methodology undertaken as part of initial teacher education. Specialist area is determined on entry to initial teacher education but is not documented at teacher registration. • Basic subject knowledge (content and pedagogy) is a necessary prerequisite for quality teaching, which is gained through qualifications (Ingersoll, 1999). • Discipline qualifications do not guarantee quality teaching. • Teachers teaching out-of-field classes are sufficiently trained educators (McConney & Price, 2009; Weldon, 2016). • Out-of-field refers to a misfit between teaching allocation and teacher qualifications (Sharplin, 2014).		
Standard	**Suitability of qualifications for entry to ITE programs and specialist areas**		**Determined by teaching qualification**
Dimensions	**1.1 Technical alignment** Allocation aligns with specialist area qualifications: • Based on a 'broad' definition of subjects (Ingersoll, 2019), matching learning areas within the curriculum. • Specialist areas as defined by the VIT Specialist Area Guidelines.	**1.2 Specialism alignment** Allocation aligns with the qualifications: • Based on a 'narrow' definition of subjects as sub-disciplines (Ingersoll, 2019). • A number of Learning Areas are composite, eg. General Science (science disciplines), and Humanities (Geography, History, Economics)	**1.3 Phase alignment** Allocation aligns with the teaching qualifications completed, which determines the year levels that can be taught, including: • School level (e.g., primary, middle years, secondary, tertiary) (Sharplin, 2014). • Year level (e.g., Year F-6, F-10, 5-8, 7-10, 11-12).
Band 1	**Full alignment** Completed tertiary qualifications that include either a major or a minor in a discipline AND the appropriate teaching methods courses.	**Full alignment** Teaching allocation fully matches qualified sub-discipline/s.	**Full alignment** Teaching allocation fully matches teaching qualifications.
Band 2	**Partial alignment** Completed tertiary qualifications that include either a major or a minor in a discipline OR the appropriate teaching methods courses.	**Near alignment** Teaching allocation closely matches qualified sub-discipline/s (e.g. within composite subject)	
Band 3	**Misalignment** Having neither completed tertiary qualifications that include either a major or a minor in a discipline NOR the appropriate teaching methods courses	**Far alignment** Teaching allocation is distal to qualified sub-discipline/s (e.g. a close but different subject)	**Misalignment** Teaching allocation is not aligned with teaching qualifications.

Criterion	**2. Workload** Conditions		
Question	**What allocation maximises teacher effectiveness?**		
Assumptions	• A teacher's workload refers to the classes they are allocated to teach. • Teaching out-of-field should be considered in the context of a teacher's full teaching load and how this changes over time (Hobbs, 2020). • The stability of allocation to subjects and year levels influences a teacher's opportunities to reflect and learn. A teacher will teach different subjects and year levels across the year. Teaching out-of-field classes from different subjects and/or across different year levels at any one time and from year to year adds extra difficulty, especially when teaching them for the first time. • The proportion of a teacher's load allocated to out-of-field determines their ability to learn on-the-job. Managing risk means ensuring that the proportion of the out-of-field workload does not exceed a teacher's adaptive expertise. Adaptive expertise is the balance between efficiency and innovation: developing efficiencies through repeated experiences, and innovation as learning new things (Hobbs, 2013a). • Teachers teaching out-of-field classes benefit from teaching a subject or year level multiple times.		
Standard	**Teachers have a teaching workload where a proportion matches their qualifications at any one time and across the year.**		**Teachers have some stability in their workload that includes subjects at certain year levels or which cycles, depending on circumstances.**
Dimensions	2.1 Current proportion	2.2 Longitudinal proportion	2.3 Stability
	Measured as the proportion of teaching hours at any one time, including the timetabled classes for a term/semester, or current load day to day.	Measured as the proportion of load over a period of time where the load changes, for example across multiple terms/semesters, years.	Measured as the degree of stability of an out-of-field load across a period of time, e.g., each term/semester, year to year. Instability means constant change, while stability means some regularity. An out-of-field allocation can be unpredictable or an ongoing expectation.
Band 1	**Whole** Whole of load in-field.	**Whole** Whole of load in-field.	**Stable** Out-of-field load stable and predictable from one period of time to another, e.g., each term or semester and across years.
Band 2	**High partial** More than half of load in-field, less than half out-of-field. Only one subject taught out-of-field. **Low partial** Less than half of load in-field, more than half out-of-field. Two or more subjects taught out-of-field.	**High partial** More than half of load in-field, less than half out-of-field. **Low partial** Less than half of load in-field, more than half out-of-field.	**Cyclical** Out-of-field load changes in a cyclical manner across years, with some predictability.
Band 3	**None** All or nearly all of load out-of-field.	**None** All or nearly all of load out-of-field.	**Temporary** Out-of-field load is temporary and changes each term/semester/year, with no predictability.

Criterion	**3. Capability** Practice context	
Question	**What is a teacher capable of teaching?**	
Assumptions	• A teacher's suitability for teaching a subject is based on their teaching experience or demonstrable teacher qualities (Hobbs, 2020). Subject-specific teacher standards (often developed by teaching associations) may be useful to determine what a capable teacher looks like and would be expected to do. • With practice, teachers develop a more complex, refined, and experience-informed knowledge of the task of teaching the subject. • Weldon (2016) differentiates between the incidence of out-of-field teaching by teachers 0-5 years and more than 5 years of teaching experience. • Teachers need to keep up-to-date with subject-related teaching methods and disciplinary knowledge and practice. Being out-of-date can have similar effects as being out-of-field, especially at the senior year levels. • Out-of-field teaching is a learning process rather than an insurmountable challenge (Hobbs, 2020). • Early career teachers experience a steep learning curve (Flores, 2006), which can be exacerbated by out-of-field teaching (Nixon & Luft, 2015). • Experienced teachers newly allocated to an out-of-field subject can experience re-novicing (Blazer, 2015), i.e., feel like a novice teacher again. • Career stage is an indication of a teacher's ability to draw on general teaching skills that can enable a teacher to maintain quality teaching when teaching a new subject (Hobbs, 2013b; Nixon & Luft, 2015). • Graduate teaching is a high-risk time for an out-of-field allocation given the steep learning curve for beginning teachers and high support need.	
Standard	**Teachers have the expertise needed to teach a subject. Increased expertise is related to engagement with professional learning.**	**Teachers have the capacity appropriate for their career stage to adapt to teaching new subjects.**
Dimensions	3.1 Expertise Determined by: • the amount and quality of a teacher's knowledge of subject-related content and pedagogy • the amount of experience a teacher has in teaching an out-of-field subject • the degree of professional learning (formal and informal) that leads to suitable knowledge and practice, resulting in acceptable student outcomes	3.2 Career stage Measured in number of years. Teaching out-of-field at different stages of a career accord different levels of risk based on their capacity to adapt to teaching new subjects.
Band 1	Capable Substantial experience and knowledge through repeated and ongoing teaching of the same out-of-field subject and year level. High degree of professional learning evident.	Experienced teacher >6 years experience Lower risk
Band 2	Practiced Substantial experience through repeated and ongoing teaching of the same out-of-field subject. Limited opportuntity for or uptake of professional learning.	Early career teacher 1-5 years experience Medium risk
Band 3	Beginning New to teaching the out-of-field subject and limited opportuntity for or uptake of professional learning.	Graduate <1 year experience High risk

CLUSTER 2 Self report criteria

Criterion	**4. Identity** Personal context		
Question	How does teacher identity mediate out-of-field-*ness*?		
Assumptions	• Teachers' identity and work are organically bound up in what teachers know about their subject (Helms, 1998, van Manen, 1990). • Teachers' socio-historical interactions with their subject equip them with competence and confidence in their teaching (Hobbs, 2013b). • Teachers teaching out-of-field can experience discontinuity when experiences result in shifts in confidence and competence (Hobbs, 2013a, 2013b). • Teachers can have different levels of commitment to the subject and learning to teach it determined by their personal interest in the subject and in teaching it ('pursing an interest'), a professional commitment to their students ('making the most of it'), or because they have to '(just filling in') (Hobbs, 2013). • Teaching out-of-field affects teachers' feelings of belonging (Du Plessis, Carroll & Gillies, 2015).		
Standard	**Teachers are committed and motivated to seeking better ways to engage students, devote time and effort to planning and show an interest in the subject.**	**Teachers identify with the subject they are teaching and feel like they belong.**	**Teachers are confident in their knowledge of the content, teaching approaches and how to support students in the subject, and to collaborate with colleagues.**
Dimensions	4.1 Commitment Commitment is determined by: • personal commitment as interest in the subject and in teaching it • professional commitment to provide quality learning experiences for their students	4.2 Self-concept Self-concept is determined by how closely the teacher sees themselves in relation to the out-of-field subject, including how they label themselves as in-field or out-of-field.	4.3 Confidence Confidence in their out-of-field practice is self-reported in comparison to their in-field subject: • knowledge of content and teaching approaches and how to support students • collaboration with peers • adaptability to learn
Band 1	Personal and professional commitment Teacher has high personal inteerst in the subject and professional commitment by devoting time to planning & professional learning?	Close Teacher sees the out-of-field subject in close proximity and central to how they see themselves as a teacher. The teacher feels in-field and labels themselves as a subject teacher, e.g., a science and mathematics teachers.	High Teacher is as confident in their out-of-field subject as their in-field subject in what they know and their capabilty to teach the subject well. The teacher is confident in their ability to improve their teaching in the out-of-field subject and to collaborate with colleagues.
Band 2	Professional commitment Teacher has a professional commitment to their students by devoting time to planning but limited personal interest in the subject.	Peripheral Teacher sees the out-of-field subject as peripheral but still a part of how they see themselves as a teacher. The teacher feels out-of-field and labels themselves as a subject teacher teaching the out-of-field subject, e.g. a science teacher teaching mathematics out-of-field.	Medium Teacher is less confident in their out-of-field subject than their in-field subject in what they know and their capability to teach the subject well. The teacher is confident in their ability to learn to teach the out-of-field subject and may or may not collaborate with colleagues in this learning.

Band 3	Compliance Teacher has no personal interest in the subject and limited professional commitment beyond just filling in.	Distant Teacher sees the out-of-field subject as distal and not part of how they see themselves as a teacher. The teacher feels out-of-field and does not include the out-of-field subject as part of their label as a subject teacher, e.g., a science teacher.	Low Teacher has little confidence in what they know and their capabilty to teach the out-of-field subject well. The teacher has little confidence in their ability to learn and collaborate with colleagues.

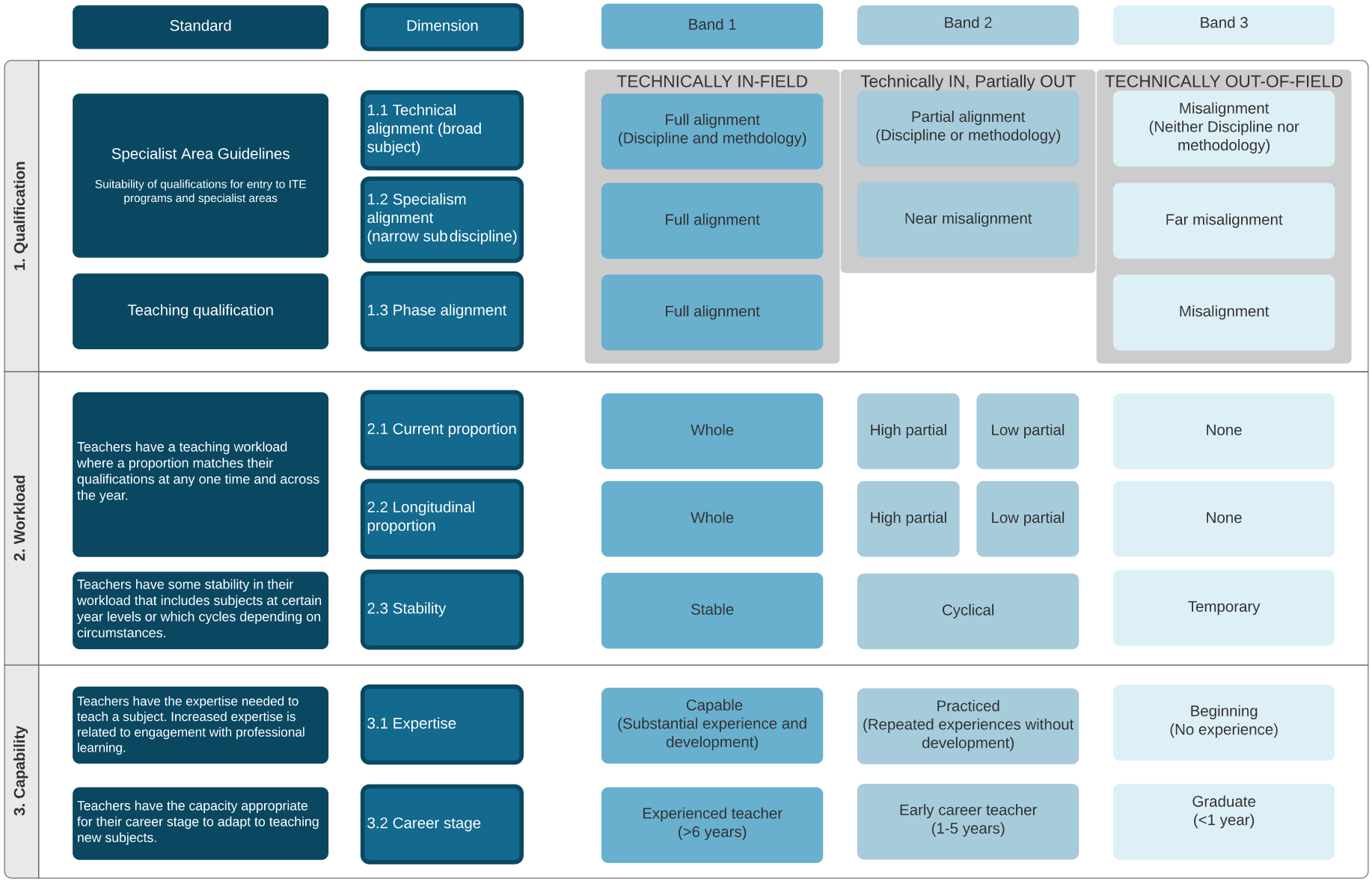
Criterion	**5. Structures** Mediators	
Question	How do school structures mediate out-of-field-*ness*?	
Assumptions	• School contextual factors such as geographical region and school size and type influence a reliance on out-of-field teaching (McConney & Price, 2009; Vale, Campbell & Speldewinde, 2019). • Support mechanisms and processes and school resourcing (such as student and community characteristics) can determine how a teacher feels the effects of teaching in an out-of-field subject (Hobbs, 2013a). • Support needs of teachers change over time (Hobbs, 2020) and with the subject they are teaching. • School leaders' interaction, open communication and perceptions of quality teaching influence the effects of out-of-field teaching (Du Plessis, 2017).	
Standard	**Teachers work in school contexts that provide adequate access to opportunities despite geographical region, school size and type, and other system factors.**	**Teachers have access to resources and support from colleagues, leaders, and mentors that suits their subject-specific needs.**
Dimensions	5.1 School context Opportunities are determined by teacher access to opportunities that meet their out-of-field teaching needs, including: • professional development • promotion opportunities • system level support for teacher improvement • tenured positions • support beyond school, community characteristics	5.2 School support culture A culture of support in relation to the out-of-field subject is measured as: • provision of support materials and processes • self-sought professional development, collegial collaboration/sharing/discourse, external support • targeted time allowance and subject-specific mentoring • agency over their career and professional learning
Band 1	Opportunities created School context provides ample opportunities for teacher learning through access to professional development in the out-of-field subject. Career advancement and tenure are possible despite the out-of-field load. System level support is available and possible within the school context.	Full support Teacher has the full support of school and discipline leaders, is accepted by the other teachers in the out-of-field subject, and collaborates with in-field teachers who support their learning needs. School structures enable mentoring opportunities when needed, and the teacher has some agency over their teaching load and access to external professional learning.
Band 2	Some opportunities School context provides some opportunities for teacher learning but professional development is difficult to access. Career advancement and tenure are possible but not encouraged and based only on in-field load. System level support is available but difficult to access within the school context.	Some support Teacher feels some support is available within the school from school leaders and in-field peers but this is not a usual part of the school culture. Mentoring is available in an adhoc manner. Teacher can have some input into their teaching load. There is little encouragement to seek out subject-specific professional learning.
Band 3	Stifled opportunities School context provides inadquate opportunities for teacher learning. Opportunities for career advancement and tenure are stifled. System level support are not available or not possible within the school context.	No support Teacher is unsupported by school and discpline leaders who have little appreciation for the difficulties and teacher learning needs. Teacher feels not accepted by other teachers in the out-of-field subject, and there are limited opportunities to collaborate with other teachers or receive mentoring. Teacher feels they have no control over their teaching load

		and not supported to seek professional learning in the out-of-field subject.

CLUSTER 3 Longitudinal criteria

Criterion	6. Pathways Mechanisms	
Question	How can an out-of-field teacher become in-field?	
Assumptions	• Teaching is a problem-solving profession, where teachers are learners who engage in ongoing reflection and collaborate with peers, and strive to increase their level of expertise (Gore & Bowe, 2015). • Teachers can upgrade their qualifications, build capacity and expand identities (Caldis & Kleeman, 2019). • Teachers follow a career trajectory that leads to formal recognition, or informal recognition, or that is temporary and opportunistic (Hobbs, 2020). • The Victorian system does not provide formal recognition (such as approval or certification) for teacher specialist areas, nor is there recognition for subject-related teaching experience.	
Standard	**Teachers have pathways for moving from out-of-field to in-field that are recognised and reduce the incidence of out-of-field teaching.**	**Teachers accept the subject as part of their expanding role, leading to extended identities.**
Dimensions	6.1 Trajectories Trajectory of teacher learning in the out-of-field subject is evident in the type of teacher learning experiences they seek out or engage with.	6.2 Role expansion Degree of role expansion is evident in the degree of teachers' acceptance of the out-of-field subject as part of their ongoing load and a resulting expansion of their identity.
Band 1	Qualification upgrade Teacher undertakes a qualification upgrade, for example, tertiary qualifications, individual units or micro-credentialing, leading to a reduced incidence of teaching out-of-field.	Acceptance with extended identity Teacher accepts the out-of-field subject as part of their ongoing teaching load and identity is extended to include the subject.
Band 2	Professional development concentration Teacher undertakes concentrated professional development, continuing to contribute to the incidence of teaching out-of-field. Professional development may be a precursor to micro-credentialing or CPL for a qualification upgrade.	Acceptance without extended identity Teacher accepts out-of-field subjects as part of their ongoing teaching load and but their identity is not extended to include the subject.
Band 3	Experience Teacher gains experience teaching the out-of-field subject and undertakes no formal professional learning, and continues to contribute to the incidence of teaching out-of-field. Temporary Teacher teaches the subject temporarily and undertakes no formal professional learning, contributing to the incidence of teaching out-of-field for a short period of time.	Non-acceptance and no extended identity Teacher relunctantly teaches out-of-field subjects and does not extend their identity to include the subjects.

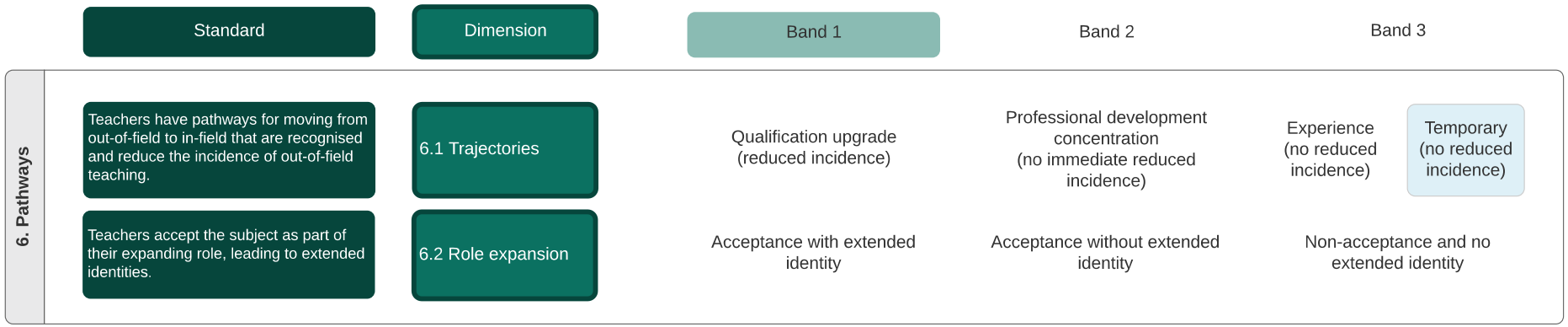
Criteria Map 1. Measurable Criteria



Criteria Map 2. Self report criteria

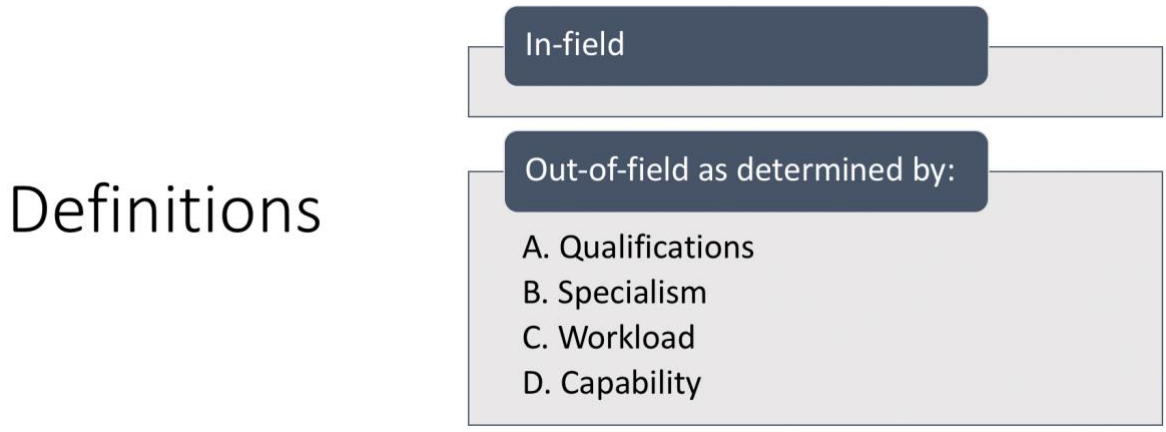
	Standard	Dimension	Band 1	Band 2	Band 3
4. Identity	Teachers are committed and motivated to seek better ways to engage students, devote time and effort to planning and show an interest in the subject.	4.1 Commitment	Personal and professional commitment	Professional commitment	Compliance
	Teachers identify with the subject they are teaching and feel they belong.	4.2 Self-concept	Close	Peripheral	Distant
	Teachers are confident in their knowledge of the content, teaching approaches and how to support students in the subject, and to collaborate with peers.	4.3 Confidence	High	Medium	Low
5. Structures	Teachers work in school contexts that provides adequate access to opportunities despite geographical region, school size and type, and other system factors.	5.1 School context	Opportunities created	Some opportunities	Stifled opportuntiies
	Teachers have access to resources and support from colleagues, leaders, and mentors that suits their subject-specific needs.	5.2 School support culture	Fully supported	Some support	No support

Criteria Map 3. Longitudinal criteria

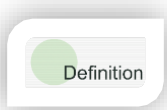


D. Definitions

The Criteria act as the basis of inclusion and measurement for each definition. Definitions are provided for what it means to teach **in-field (x1)** and **out-of-field (x4)**, and the relevant Dimensions and Bands. Each out-of-field definition also describes the implications, complications and benefits, and two scenarios are extracted from research to illustrate the focal points and effects of the definition on teacher judgements of their teaching allocations as out-of-field or not.



In-field teacher



A teacher is considered TECHNICALLY IN-FIELD if there is full alignment between the subject required to teach and their qualifications. This means the teacher has the following[1]:

- **Teaching qualification:** A qualification that prepares them to teach at the appropriate school level and year level (primary school, junior secondary, senior secondary).

AND a qualification from Initial Teacher Education (A) or Upgrade as a qualified teachers (B):

- **A. Initial Teacher Education:**
  - At least a minor in the relevant discipline AND accredited teaching methodology units that align with the subject required to teach. (Full alignment, Technically in-field)

  OR

  - At least a minor in the relevant discipline OR accredited teaching methodology units aligns with the subject they are required to teach. (Partial alignment, Partially in-field/out-of-field)

- **B. Upgrade as a qualified teacher:** A relevant Graduate Certificate that includes content knowledge and teaching methodology.

Relevant Dimensions and Bands

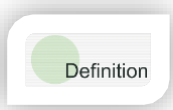
Criteria	Dimensions	Bands
1. Qualifications	1.1 Technical alignment	Full alignment, Partial alignment
	1.3 Phase alignment	Full alignment
6. Pathways	6.1 Trajectories	Qualification upgrade

Implications and complications

A complication is that it is difficult in Victoria to get Graduate Certificates endorsed by the VIT. Also, there are few opportunities for qualified teachers to upgrade due to the limited number of Graduate Certificates available.

[1] These standards a similar to those used in the Staff in Australia's School Survey (Weldon, 2016), which was an agreed national standard for the survey to require only one unit after first year in the discipline, but the definition here is based on at least a minor in the subject, which is in keeping with the VIT Specialist Area Guidelines.

A. Out-of-field as determined by Qualifications



A teacher is considered to be teaching a subject TECHNICALLY OUT-OF-FIELD if there is misalignment between the subject required to teach and their qualifications. This means the teacher is misaligned according to the following:

- **Specialist Area Guidelines:** At least a minor in the relevant discipline AND accredited teaching methodology units for the subject required to teach. (Technical misalignment)
- **Teaching qualification:** A qualification that prepares them to teach at the appropriate school level and year level, for example, a secondary school qualified teacher teaching in a generalist primary classroom. (Phase misalignment)

Relevant Dimensions and Bands

Criteria	Dimensions	Bands
1. Qualifications	1.1 Technical alignment	Misalignment
	1.3 Phase alignment	Misalignment
6. Pathways	6.1 Trajectories	Qualification upgrade

Pathways to in-field

One way to in-field as recognised by this definition:

- Qualification upgrade.

Implications and complications

This definition:

- aligns with the VIT Specialist Area Guidelines and teacher qualifications;
- can produce measurements as incidences of out-field teaching;
- disregards teacher experience and teacher professional learning; and
- disregards sub discipline variation for composite specialist areas

This information can be used to identify teacher shortfalls when correlated with school location, school type, school size, and Local Government Area.

Complication 1. There are no centralised data on teacher qualifications, nor are there data collected on the qualifications of teachers teaching subjects at any one time or across a set time period. Data collection of this type tends to rely on voluntarily completed surveys (e.g., Staff in Australia's School survey, surveys by subject associations or teacher unions) or principal surveys and reporting. The VIT would need to enhance its data systems and registration processes to address this issue. In particular, the VIT could collect teacher specialisation data through annual VIT registration to detect upgraded qualifications and therefore changes in in-field Specialist Areas.

Complication 2. In Victoria there are few courses that lead to in-service teachers gaining qualifications in additional Specialist Areas. Further, the VIT is not endorsing Graduate Certificates for the core Specialist Areas. As a result, there are few pathways for in-service teachers to become in-field according to this definition.

Complication 3. There is currently little incentive in the form of remuneration or recognition for teachers to upgrade qualifications, especially given the high cost of upgrading (e.g., $10,000 for a Graduate Certificate qualification). In Victoria, there has been a history of teachers learning on-the-job instead of officially seeking additional qualification, partly because of sporadic availability of such courses and policy settings that do not require method-based approval (like in New South Wales) or certification (like in many parts of the world). Whilst funded qualifications can be a

strategy for supporting teachers to upgrade qualifications, an increased understanding of what motivates teachers to upgrade qualifications is needed to maximise the impact of such incentives.

Benefits

This definition refers to an identifiable population according to disciplinary and initial teacher education and qualification upgrades for qualified teachers. There is also clear direction for pathways to upgrade through additional qualifications to become in-field.

Scenarios

Daniel

Qualifications misaligned:

- Science and ICT teacher
- Qualification upgrade for ICT
- Teaching mathematics out-of-field

Daniel was opposed to this allotment as a Mathematics teacher because he believed that qualifications always mattered. Daniel had made a decision part way through his teaching career to re-specialise in ICT, and he took advantage of a government initiative where he could take leave to upgrade his qualifications to include ICT as one of his methods. As a teacher of mathematics, and being technically 'untrained', he believed that his content knowledge and pedagogical content knowledge are limited to the extent that he was resigned to a fate of never being able to be an effective mathematics teacher.

(Hobbs, 2013a, p. 281)

Simeon

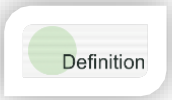
Phase misaligned:

- Primary teacher and primary mathematics specialist
- Teaching secondary mathematics out-of-field

Simeon is a primary-trained teacher (5–12 year olds) with experience as a classroom generalist teacher, as well as mathematics specialist in the primary years, teaching mathematics to various year levels between Years 2–6. Due to a shortage of qualified mathematics teachers available to teach the junior secondary classes, Simeon was asked to take a Year 7 class. Simeon described his motivation for undertaking further studies to qualify him as a Mathematics specialist… He felt out-of-field not because of the content, but because of the different pedagogical practices that are expected at the secondary level: how to teach the more complex concepts, dealing with teenage students, use of a textbook, and timetable constraints.

(Hobbs, 2013b, p. 16,17)

B. Out-of-field as determined by Specialism



A teacher is considered OUT-OF-SPECIALISM if there is misalignment between the sub-discipline they are teaching and their specialisation qualifications. There may be

- **Near misalignment:** TECHNICALLY IN-FIELD but OUT-OF-SPECIALISM: Where a teacher in-field in a Broad subject (e.g., Science) teaches a near aligned (within the same family of disciplines) sub-discipline as a subject that does not match their background (e.g., year 9-10 Chemistry subject). This is particularly relevant for composite subjects (e.g., Science, Humanities, Technologies) and subjects new to the state or locally-developed curriculum.
- **Far misalignment:** TECHNICALLY OUT-OF-FIELD and OUT-OF-SPECIALISM: Where a teacher in-field in a Broad subject (e.g., Psychology) teaches a far aligned subject (similar but separated by the curriculum structure) that does not match their background (e.g., year 7-8 Mathematics).

Relevant dimensions

Criteria	Dimensions	Bands
Near misalignment		
1. Qualifications	1.1 Technical alignment	Full alignment, Partial alignment
	1.2 Specialism alignment	Near misalignment
6. Pathways	6.1 Trajectories	Professional development concentration
Far misalignment		
1. Qualifications	1.1 Technical alignment	Misalignment
	1.2 Specialism alignment	Far misalignment
6. Pathways	6.1 Trajectories	Qualification upgrade

Pathways to in-field:

There are two pathways that would be recognised by this definition:

- Near misaligned: Professional development concentration, as the teacher is technically in-field and professional development can increase confidence and capability.
- Far misaligned: Qualification upgrade as they are technically out-of-field.

Implications and complications

This definition:

- considers sub-discipline variation for composite specialist areas;
- does not align with the VIT Specialist Area Guidelines and teacher qualifications;
- can produce measurements as incidences of out-field teaching; and
- disregards teacher experience and teacher professional learning.

This data provides a more complex understanding of who is teaching the specific sub-disciplines when taught as separate subjects in the case of near aligned out-of-specialism subjects. Consideration of far aligned subjects requires thinking about the relationships between different subjects and which subjects might be more successfully aligned, for example, Science and Mathematics, English and Humanities.

Complication 1. There are no centralised data on teacher qualifications, nor are there data collected on the qualifications of teachers teaching subjects at any one time or across a set time period. Data collection of this type

tends to rely on voluntarily completed surveys (e.g., Staff in Australia's School survey, surveys by subject associations or teacher unions) or principal surveys and reporting. The survey items would need to be inclusive of the sub-disciplines that are taught as discrete subjects. Weldon (2016), for example, provides an example of sub-disciplines being represented in out-of-field incidence statistics.

Complication 2. Given the limited qualifications for upgrading available for teachers, there are few pathways for teachers to become in-field in the far aligned subjects. Professional development concentration for near aligned teachers requires availability of sub-discipline-focused opportunities, such as chemistry, economics, history. Some expectations would need to be set as to what concentration is needed for proficiency.

Complication 3. Feeling out-of-specialism can emerge for teachers when teaching the sub-disciplines as units within a composite subject, for example, the history units as part of a Humanities subject or the chemistry units as part of General Science. To include teaching of these units as out-of-specialism would render virtually all teachers of these composite classes out-of-specialism given that only one of these disciplines is needed on entry to initial teacher education.

Benefits

This definition helps to identify the area of within-subject professional learning needs of teachers.

Scenarios

Seral

Specialisation far misaligned:

- Psychology teacher
- Teaching mathematics technically out-of-field
- 'Feels' in-field teaching mathematics because feels it is 'far' misaligned to psychology

Seral was a graduate teacher who chose to teach mathematics even though it is technically out-of-field. Seral experienced a high degree of success with mathematics at high school. As a result, she felt capable of teaching mathematics and did not feel out-of-field. Restrictions to teaching methods imposed by her teaching qualifications are negated by her own self-efficacy—being "good at it" and "comfortable" with the content is central to whether she feels in-field or out-of-field… In addition, she receives support from her mother, who is a highly successful specialist mathematics teacher, who was employed as a mathematics coach by the education department for a number of years. She also cites a number of other support mechanisms that enable her to feel confident and competent in her teaching: supportive teaching staff at the school and access to and development of a number of resources. As a result of these factors, she feels in-field teaching mathematics, even though technically out-of-field.

(Hobbs, 2013b, p.20)

Eliza

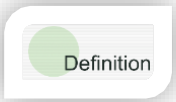
Specialisation near misaligned:

- Science and ICT teacher
- Teaching a Year 9-10 Chemistry subject technically in-field
- In her first year of teaching Chemistry she felt out-of-field leading to near misalignment

Eliza's challenges were associated with her out-of-field teaching related to content in science disciplines she was less familiar with, in particular chemistry, when first teaching it. She also expressed difficulties when dealing with student assumptions that science teachers should know all of the sciences: "it's easy to say someone's science but I haven't done biology since Year 8 so anything I've gained has been either just from general information or reading stuff."

(Hobbs, 2020, p. 12)

C. Out-of-field as determined by Workload



A teacher is considered TECHNICALLY OUT-OF-FIELD and may feel PARTIALLY OUT-OF-FIELD depending on the proportion of load is out-of-field at any one time or across a period of time, the stability of their workload allocation, and the type of load. **Proportionality** (proportion of classes) determines the level of risk and manageability of the workload, including whether there are multiple classes of one subject, multiple subjects and multiple year levels. **Stability** of a teaching load over time is also a risk factor. The **type of load** refers to phase and whether the load matches their qualification in terms of type of school (primary and secondary) and level of secondary classes (junior, middle, senior).

Managing risk means ensuring that the proportion, stability and type of load does not exceed a teacher's adaptive expertise, that is, their ability to balance the development of efficiencies in their teaching and being innovative in the face of change (Hobbs, 2013a). Schools determine the level of risk that is acceptable through assigning teachers to out-of-field classes, and how they mitigate these risks with school support structures. Levels of risk and manageability are:

- **Low risk, Manageable workload:** where a high proportion (75%) of the teaching load at any one time or across the year is IN-FIELD, the type of out-of-field load is fully aligned with their qualifications, there is stability in what is being taught from term to term or across a longer period of time, and teachers feels fully supported.
- **Medium risk, Moderately manageable workload:** where a low proportion (25%) of the teaching load at any one time or across the year is IN-FIELD, the type of out-of-field load is fully aligned with their qualifications, the teaching load may be cyclical or temporary, and teachers experience full or some support from the school.
- **High risk, Unmanageable workload:** where a low (25%) or total proportion of the teaching load at any one time or across the year is IN-FIELD, the type of out-of-field load may or may not be misaligned with their qualifications, the teaching load is temporary, and teachers feels only some or no supported.

Relevant Dimensions and Bands

Criteria	Dimensions	Bands
Low risk, Manageable workload:		
1. Qualifications	1.1 Technical alignment	Misalignment
	1.3 Phase alignment	Full alignment
2. Workload	2.1 Current proportion	High partial
	2.2 Longitudinal proportion	High partial
	2.3 Stability	Stable
5 Structures	5.2 School cupport culture	Fully supported
Medium risk, Moderately manageable workload:		
1. Qualifications	1.1 Technical alignment	Misalignment
	1.3 Phase alignment	Full alignment
2. Workload	2.1 Current proportion	Low partial
	2.2 Longitudinal proportion	Low partial

	2.3 Stability	Cyclical, Temporary
5 Structures	5.2 School cupport culture	Fully supported, Some support
High risk, Unmanageable workload:		
1. Qualifications	1.1 Technical alignment	Misalignment
	1.3 Phase alignment	Full alignment, misalignment
2. Workload	2.1 Current proportion	Low partial, None
	2.2 Longitudinal proportion	Low partial, None
	2.3 Stability	Temporary
5 Structures	5.2 School cupport culture	Some support, No support

Implications and complications

This definition:

- aligns with the VIT Specialist Area Guidelines and teacher qualifications;
- can produce measurements of out-of-field teaching as the proportion of classes for an individual teacher, within a discipline area, for a whole school staff, or broad-scale;
- the school culture of support is seen as influencing risk associated with the proportion of load;
- disregards teacher experience and teacher professional learning.
- challenges the reactive nature of teacher allocation to out-of-field subject which leads to instability in teachers' workload allocations

Complication 1. Teachers who are more at risk in the out-of-field area may not feel the risk associated with high proportion or low support. Also different teachers have differing levels of adaptive expertise.

Complication 2. Individualised data are needed on teachers' changing loads, which is so far not collated. At the school level, this type of data could be automatically generated and used for workforce planning purposes.

Benefits

This approach to defining out-of-field can be used as a management tool by government or school leaders to make out-of-field teaching manageable and to reduce risk associated with it, such as minimising the proportion of classes or subjects taught out-of-field, or teaching multiple classes of the one subject at the same year level.

Policy makers could consider creating a tolerance threshold, that is, how much out-of-field can be tolerated by the individual teacher within the school context, across a school staffing profile, or within an education system. At the system level, Hobbs and Törner (2019b, p. 314) suggested that a tolerance threshold could indicate "at what point an education system is negatively impacted by out-of-field teaching, and up to which point it would be regarded that, on a system level, the impact of out-of-field teaching is not detrimental." The focus on workload allocation when defining out-of-field teaching can help to identify the tolerance threshold for individual teachers and individual schools, and the specific school support structures that can reduce or increase this threshold.

Scenarios

Kate

Out-of-field with Medium risk to High risk, then In-field

- In-field Visual Arts teacher
- Year 1 teaching (60% in-field, Medium risk): out-of-field in VCAL, Photography, Integrated arts/science subject out-of-field; Studio Arts and Art in-field
- Year 2 teaching (0% in-field, High risk): out-of-field in Integrated English/History/Maths/Science subject and Visual Communication and Design
- Year 3 teaching (100% in field)

- Moved school to get in-field load

Kate's experience of learning to teach science in her first year began from a point of not expecting to teach it, in fact, to not teach anything except her arts field, although she did recognize that "it just opened up possibilities of what you are capable of as a teacher." Her knowledge of science content was her main challenge, but by the end of the year she claimed "to have a little bit more in-depth insight into the particular areas to fulfil the requirements and needs of the students." This focus on "the requirements", as well as referring to innovative teaching only in her in-field subjects, and her efforts to link science experiments to art, suggest that her main focus was on developing her in-field teaching practice. Beyond the first year interview, year 7 or 8 science did not feature in Kate's reflections of being out-of-field. She taught computer science out-of-field and reflected on how the investigative online projects in these classes could be applied to her art subject. By her 3rd year, she was teaching totally in-field at a new school and her learning centred on being innovative, supporting students to achieve their best, and working to "get them ignited into their learning." This language was not used to describe her learning in relation to her out-of-field teaching.

(Hobbs, 2020, p. 13)

Melissa

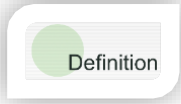
Moderate risk to High risk, then In-field

- In-field English and Language teacher
- Year 1 teaching (80% in-field, no stability in out-of-field load, no support, Moderate risk): English in-field; all other subjects out-of-field as 'extras'
- Year 2 teaching (0% in-field, no connection with in-field area, some support, High risk): English in-field; Mathematics, Computer science, Special education out-of-field
- Year 3 teaching: English, French in-field
- Moved school to get in-field load

Melissa's out-of-field teaching occurred in her first two years when she was under contract to have a substantial out-of-field load…: "I've taught history, science, maths, special education, metalwork, woodwork, music, PE, PD, wherever they need me, I've done. Languages I can't speak, I've been teaching Mandarin, something I'm going to have to learn but I'm not there yet." In her second year, she moved into computer science and found it "a complete content learning experience … it's like learning another language," so had her brother teach her the subject matter. In year 2 Melissa had a large mathematics teaching load so in the staffroom she was relocated closer to the mathematics teachers. This was more supportive in comparison to year 1 when she indicated she received no support. In year 2 she resisted to being observed or asking for help from teachers from her out-of-field subject because "I'm not brave enough to walk up to a teacher and say I don't know what I'm doing when I don't actually know what I'm doing … In-field I'm much braver." This compares to her attitude in third year when she welcomed other teachers into her class because "I'm in my field, it's what I want to do … I want to grow in this area much more than I did teaching maths …I want to be able to pick other teachers' brains." Melissa moved to a new school in her third year so she could teach solely in-field.

(Hobbs, 2020, p. 11, 14)

D. Out-of-field as determined by Capability



A teacher is considered TECHNICALLY OUT-OF-FIELD, or IN-FIELD but OUT-OF-SPECIALISM, but may 'feel' in-field or out-of-field depending on their PERCEIVED and/or ACTUAL CAPABILITY.

Capability is a function of: a teacher's **expertise** and **confidence** to teach well gained through experience teaching the subject and engagement with professional learning; identity-related factors including sense of **self** in relation to the subject and their **commitment** and **role expansion** to teaching the subject now and long-term. Levels of capability include:

- **High capability:** where a teacher:
  - is capable in the out-of-field subject, with substantial experience and relevant professional learning;
  - has a high degree of confidence;
  - has personal interest in the subject and professional commitment to developing and reflecting on their practice;
  - self-identifies as proximal to the subject; and
  - has accepted the role long-term and expanded their professional identity to include the role.
- **Moderate capability:** where a teacher:
  - is practiced in the out of-field subject, with repeated experience without relevant professional development;
  - has a medium level of confidence;
  - has professional commitment to ensuring the subject is well taught;
  - sees the subject proximal or peripheral; and
  - has accepted the role as part of their load long-term but without professional identity extension.
- **Low capability:** where a teacher:
  - is beginning without much experience teaching the out-of-field subject nor relevant professional development;
  - has a medium or low level of confidence;
  - has professional commitment to ensuring the subject is well taught or is compliant and just filling in;
  - self-identifies as distal to the subject; and
  - may or may not have accepted the role long-term but without professional identity extension.

Cumulative risk factors influence teacher capability: the **structures** that support and enable professional learning opportunities including school context and school support culture; the **career stage** of the teacher; and the **workload conditions**, including the proportion and stability of load, with the teacher maintaining links with their in-field subject. Managing risk means ensuring that teachers are supported so that they have the opportunities and support needed to develop the capacity expected for their career stage. Levels of risk include:

- **Low risk:** Structures are fully supportive and opportunities are created for developing capacity relevant to the teacher's career stage. The proportion of load (current and longitudinal) does not exceed the capacity of the teacher and the teacher maintains sufficient links to their in-field subject, and there is sufficient stability to develop expertise and confidence in teaching the out-of-field subject.

- **Moderate risk:** Structures provide some support and opportunities for developing capacity relevant to the teacher's career stage. The proportion of load (current and longitudinal) partially exceeds the capacity of the teacher and they may or may not maintain links with their in-field subject. The load is cyclical or temporary with moderate levels of change, limiting the development of expertise and confidence.
- **High risk:** The teacher is a graduate teacher. Structures provide little support and opportunities for developing capacity relevant to the teacher's career stage. The proportion of load (current and longitudinal) exceeds the capacity of the teacher and they may or may not maintain links with their in-field subject. The load is temporary with a high degree of change, limiting the development of expertise and confidence.

Relevant Dimensions and Bands

Criteria	Dimensions	Bands
1. Qualifications	1.1 Technical alignment	Full alignment, Partial alignment, Misalignment
	1.2 Specialism alignment	Near alignment, Far alignment
High Capability:		
3. Capability	3.1 Expertise	Capable
4. Identity	4.1 Commitment	Personal and professional commitment
	4.2 Self-concept	Proximal
	4.3 Confidence	High
6. Pathways	6.2 Role expansion	Acceptance with extended identity
Moderate Capability:		
3. Capability	3.1 Expertise	Practiced
4. Identity	4.1 Commitment	Professional commitment
	4.2 Self-concept	Proximal, Peripheral
	4.3 Confidence	Medium
6. Pathways	6.2 Role expansion	Acceptance without extended identity
Low Capability:		
3. Capability	3.1 Expertise	Practiced, Beginning
4. Identity	4.1 Commitment	Professional commitment, Compliant
	4.2 Self-concept	Peripheral, Distal
	4.3 Confidence	Medium, low
6. Pathways	6.2 Role expansion	Acceptance without extended identity, Non-acceptance and no extended identity
Low Risk:		
2. Workload	2.1 Current proportion	Whole, High partial
	2.2 Longitudinal proportion	Whole, High partial
	2.3 Stability	Stable

3. Capability	3.2 Career stage	Experienced teacher, Early career teacher, Graduate teacher
5. Structures	5.1 School context	Opportunities created
	5.2 School support culture	Fully supported
Moderate Risk:		
2. Workload	2.1 Current proportion	High partial, Low partial
	2.2 Longitudinal proportion	High partial, Low partial
	2.3 Stability	Cyclical, Temporary
3. Capability	3.2 Career stage	Experienced teacher, Early career teacher, Graduate teacher
5. Structures	5.1 School context	Some opportunities
	5.2 School support culture	Some support
High Risk:		
2. Workload	2.1 Current proportion	Low partial, None
	2.2 Longitudinal proportion	Low partial, None
	2.3 Stability	Temporary
3. Capability	3.2 Career stage	Graduate teacher
5. Structures	5.1 School context	Stifled opportunities
	5.2 School support culture	No support

Implications and complications

This definition:

- focuses on capability in association with qualifications as determining suitability for teaching a subject;
- takes into account objective measures of capability and subjective measures of confidence and identity;
- shifts the focus from proportion of out-of-field load for an individual teacher or in a school to assessing risk in terms of the career stage and experience of the teachers who are allocated to teach out-of-field. For example, five mathematics classes taught by out-of-field teachers (Out-of-field by Workload) compared to four classes taught by one beginning teacher and one taught by a teacher experienced at teaching the subject out-of-field (recognition of capability).
- considers teacher capability in relation to cumulative risk factors of teacher experiences and career stage, the school context, and the nature of teacher workload; and
- focuses on capability in the context of a teacher's career.

This data provides a more complex understanding of the level of capability within the system, and the factors that impact on the development of this capability.

Complication 1. Movement from practiced to capable needs to be quantifiable and demonstrable, with commitment to professional development as a proviso. A teacher's perceived level of confidence may not correlate their expertise, i.e., a teacher might over-estimate or under-estimate their expertise and be over-confident. While a teacher may show high commitment, however, the teacher may not have the opportunities to gain relevant professional development due to school context or a lack of support culture in their school: "teachers' lived experiences in their first five years of teaching are a direct reflection on school leaders' support efforts, quality leadership, engagement and management of complex teaching placements" (Du Plessis, 2019, p. 69). This can be a common experience for teachers teaching out-

of-field and is the reason for assessing risk when determining suitability of teachers when allocating them to a subject or year level.

Complication 2. The nature of the professional development undertaken is not always explicitly defined, but research shows that teachers gain more from professional development or school based support structures (e.g., induction programs or mentoring) when they are specifically designed for teachers teaching out-of-field (Faulkner, Kenny, Campbell, & Crisan, 2019; Goos, O'Donoghue, Ní Ríordáin, Faulkner, Hall & O'Meara, 2020; Lunne, Mizzi, 2020; Nixon, Luft & Ross, 2017). Therefore, careful consideration needs to be given to the professional development that is used as indication of teacher capability, and the type of support provided to reduce risk.

Benefits

This definition shifts the standard used to determine suitability of an out-of-field teacher to a particular subject or year level from qualification to capability gained through experience and teacher commitment. Hobbs (2020, p. 4) stated that

> *a discourse of learning as experience recognizes that teaching experience matters, such that a teacher's suitability for teaching a subject is based on their teaching experience or inherent demonstrable teacher qualities, which then legitimizes the practice of allocating teachers out-of-field.*

The tension between qualification and experience underpins an unwritten and unspoken tolerance of this practice within the teaching profession. Guidelines that differentiate between levels of capability and risk management can support professional and collegial conversations between the teacher, principals, discipline coordinators and other peers. They also identify risks at a system level, for example, availability and accessibility of suitable professional learning, and adequate training for principals to appreciate and understand the specific needs of teachers teaching out-of-field.

Scenarios

Liz

Moderate capability, Moderate risk:

- English teacher teaching History out-of-field
- History is considered distal and commitment is compliant as there is no evidence of deliberate reflection on practice
- Accepts History as part of her load but lacks commitment to teacher professional learning
- Not a graduate teacher and knows where to get support which she considers to be adequate

Due to the staffing profile at the school and the exigencies of timetabling, Liz is always 'under loaded' after she has been allocated her English classes and is therefore allocated one or two history classes from Year 7 to Year 9. This is not Liz's preference or choice. Though she teaches history every year, she does not think of herself as a history teacher and neither does her school. She therefore focuses her 20 hours of professional learning on keeping up to date with developments in English or literacy, on the teaching of students with disabilities, on fostering student wellbeing and on learning how to use new educational software. She does no professional learning in history, year after year, relying on in-school guidance from her Head of Department (not necessarily a history teacher) and her peers (not necessarily teaching history at the same year level which means not teaching the history of the same era or region).

(Hull, 2018, p.2)

Donald

Low capability, High risk:

- Design and Technology teacher teaching Art, Literacy Support and Work Studies out-of-field teacher

- No in-field classes and unmanageable workload, temporary allocation
- Small school, rural or remote, stifling opportunities and no support from in-field supportive teachers
- A desire for professional commitment to the subjects evident, but thwarted by unmanageable workload and no support.

Donald, a Design and Technology (D and T) teacher was stretched to Art, Literacy Support and Work Studies. [Donald struggled with the stretched role]:...

> *I was sent out here as a D and T teacher and it ended up I've got three lessons a week in that. A major part is Work Studies, Year 11 and 12, which is a totally different area. Then I had to teach Art for 7, 8, 9 and 10…I've got so many different areas to teach in.*

Donald struggled, failing to master the role demands, resulting in leaving his post during the year. Ultimately, he felt that the role expectations placed on him were not achievable in the absence of appropriate support:

> *I think I was relieved [to leave] … the pressure of work … not having [the support] possible at a bigger school where you have people in the same learning area … if I had been in a bigger school with other subject teachers it would have been a better situation. Other people doing the same subject with previous experience; that would have made a lot of difference.*

(Sharplin, 2014, p. 106)

E. Putting the definitions the work

These definitions can be utilised in multiple ways.

The Technical and Specialism definitions can be used as the basis of data collection to ascertain the incidence and distribution of out-of-field teaching across the Learning Areas, and identify target audiences for initiatives to upskill or recruit teachers, for example, the current Secondary Mathematics and Science Initiative and the Teacher Financial Incentives. A clear delineation of what is considered to be technically in-field, and therefore out-of-field, helps to set the standard and expectation of what is considered desirable within the system. However, the Specialism definition might be useful for expanding the target audience by recognising the importance of background, for example, accepting teachers with a biology background into a professional development program designed for out-of-field science teachers.

The language of out-of-field teaching is operationalised through measures of risk as shown in the Workload and Capability definitions. Risk is associated with the negative consequences of assigning teachers out-of-field, those being teacher and student impacts, such as teacher burnout and attrition, poor teaching practices, low student achievement and attitudes, as well as negative impacts on those who actively support the teachers. The criteria can be used as the basis of school reporting to ascertain risk associated with the proportion of classes taught out-of-field either across a school or for a particular subject/department, number of teachers teaching out-of-field, and the proportion of a teacher's load taught out-of-field. Determining risks associated with the proportion of out-of-field teaching can become part of school modelling for the purposes of making more targeted decisions about hiring new staff based on current and projected need. A school may seek to establish a tolerance threshold at which point it is understood that students and staff are negatively impacted by out-of-field teaching when allocating teachers teaching allotments. Data will be needed to determine this threshold, such as, proportions of out-of-field teaching correlated to teacher welfare, attrition and development, and to student achievement, attitudes and welfare.

The Capability definition can be operationalised to understand risk relative to a teacher and their capability and identity-related factors in the context of the school. The definition can guide the development of supports for principals to: ascertain risk associated with allocating a specific teacher at a particular proportion and type of load. This risk considers a teacher's qualifications and experience, as well as mediating factors. The Mediating factors as identified in the self-report criteria can reduce risk, and therefore can be factored into the threshold calculations. If a teacher feels supported by other in-field teachers, has a degree of control over their load, there is continuity in their load from one year to the next, and they are personally and professionally committed to the new

subject long term, then there is less risk of teacher burnout, low teaching quality, and negative impacts on student learning. Data is needed to understand the relative impact of each of these mediating factors on reducing risk and which risks are reduced.

The Capability definition can be used by teachers in consultation with principals, heads of department or mentors to identity the key risk factors and capability-building possibilities and support needs for the teacher in the context of their school and career trajectory. It can be used for short term planning by identifying immediate needs and support structures, and long-term planning as a pathway towards becoming in-field, and identify the nature of an out-of-field load and the professional learning needed to feel confident and capable.

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