

# TEACHING ‘OUT OF FIELD’:

## Teachers having to know what they do not know

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**Abstract:** Teaching out-of-field is a situation many teachers experience throughout their career; particularly those entering the profession. Not only does teaching out-of-field disrupt the integrity of a subject, it inevitably results in heightened levels of student disengagement, lower than anticipated achievement of student learning outcomes, and an increasing lack of confidence amongst teachers about their ability to teach effectively. It is this cycle that fuels public perception of declining teacher quality. Research reveals that teaching out-of-field is not an Australia-specific educational issue and neither is it connected to one particular subject. Whilst the span of teaching out-of-field is initially explored with an evaluation about its cause and effect according to policy, practice and research, focus will turn to the extent of and responses to Geography being taught out-of-field in Australian secondary schools.

### What is the nature of out-of-field teaching?

Ingersoll and Gruber (1996) describe teaching out-of-field as being a situation where teachers are required to teach a subject(s) for which they have no specialisation, i.e. the subject(s) they are teaching is not what they studied as part of their teacher training at either minor or major level. Du Plessis, Gillies and Carroll (2014, p. 90) take a similar position to define out-of-field teaching: “teachers who are assigned to teach subjects and year levels when they are not suitably qualified to do so.” These North American and Australian based researchers, respectively, suggest the teachers are qualified to teach but only in particular subjects. Professor Geoff Masters (2015) from the Australian Council for Educational Research (ACER) adds another layer to this definition by suggesting that out-of-field teaching occurs if a teacher is teaching a subject they have not studied for at least one semester at university and neither have they completed a teaching methodology unit for the subject concerned as part of their initial teacher training.

Comparatively, the British and South African media take a much starker position in their reporting about the quality of education in their national context, referring to out-of-field teachers as “untrained” (Loveys, 2011) or “unqualified” (Silva, 2010) respectively. Unfortunately

this lends itself easily to an attention grabbing and inflammatory misinterpretation that teachers have not undertaken any initial teacher education program or received any qualification at all.

For the purpose of this response, the term out-of-field teaching will be used in the context of a less ambiguous definition coined by Hobbs (2013, p.271), “Teaching out-of-field occurs when teachers teach a subject for which they are not qualified.” In secondary school contexts this situation is often referred to as a non-specialist teacher; a simple example would be Geography being taught by a Personal Development, Health and Physical Education (PDHPE) teacher, or Mathematics being taught by an Information and Communication Technology teacher. This definition and example is also supported by McConney and Price (2009). Data available from ACER (cited in Masters, 2015) suggests an alarming forty percent of Geography classes are taught by an out-of-field teacher, although to clarify from the aforementioned example, it is absolutely not implied that forty percent of Geography classes are taught by PDHPE teachers.

### Where is it occurring? Why? What subjects are affected?

Research conducted by Ingersoll and Gruber (1996) to determine the distribution of teacher quality in public secondary schools across the United States of America (USA) focused on the proportion of students being taught by out-of-field teachers (rather than the amount of teachers teaching outside their subject of specialisation). Concerning data emerged from this study as it revealed that between 1990–1991, approximately one-fifth of students were taught English by an ‘out-of-field’ teacher; almost twenty-five percent of students were taught Mathematics by an out-of-field teacher; and between thirteen and seventeen percent of students were taught Social Studies and Science (respectively) by an out-of-field teacher. Additionally, it was evident from the research data that the highest proportion of students being taught by out-of-field teachers were in areas identified as “high poverty” and having “high minority” group enrolment (Ingersoll and Gruber, 1996, pp 15–18). Therefore, it can be deduced

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from these findings that the cycle of socio-economic disadvantage would continue to be perpetuated as a result of these students being assumingly exposed to a reduced quality of education compared to those students who are taught core subjects by a subject specialist teacher. By 2002, Ingersoll, still in the USA, had built on this research about out-of-field teaching and was able to determine two of its most likely causes:

- teachers being directed by the school leaders to teach subjects that do not match their qualifications to fill timetable gaps and meet other school organisational requirements; and
- in subject areas and geographical locations where there are an abundant supply of teachers, they are frequently teaching 'out-of-field' in order to obtain employment (Ingersoll, 2002, p. 2, 30 – 33)

Overall Ingersoll's research indicated that out-of-field teaching was not an issue of practice caused by poor teacher training, rather, it was an outcome of policy that was incorrectly based on the assumption that out-of-field teaching occurs because of a teacher shortage and of poor teacher quality. The policy was designed to improve the rigor of teacher training and professional learning, as well as increase the appeal of initial teacher education courses. Whilst this is a commendable policy in itself for education, it is a contributing factor as to why much out-of-field teaching was occurring – too many well qualified teachers were graduating for the number of jobs available.

Moving forward in time to 2011 and across the Atlantic Ocean to the United Kingdom, media sources and education researchers were making clear statements about the connection between the significant proportion of teachers being required to teach subjects for which they are not suitably qualified and the declining educational performance of students. Statistics obtained from the British Department of Education indicated that approximately thirty percent of teachers who were teaching either Geography, Mathematics or Physics did not have a formal qualification in that subject, however, the reasons put forward in defence of the data were related to the need for policy change, firstly around teacher education courses to make them more rigorous, and secondly around the availability and emphasis on professional learning for in-service teachers (Loveys, 2011). The point around professional learning was also captured in the research by Fisher and Webb (2006) about the importance of subject specialist pedagogy being the difference between delivering a lesson generically or inspirationally to foster deep understanding of content and authentic connections between teacher and students, therefore, for teachers

regularly teaching a particular subject out-of-field, it is crucial they have the opportunity to engage with and access quality professional learning sessions for that subject (Fisher and Webb, 2006, p. 337 – 345).

Although with slightly different reasoning to Ingersoll (2002) it is again proposed directly that out-of-field teaching occurs as a result of policy (Loveys, 2011), however, Fisher and Webb (2006) are more subtle. This British team prefer to frame the problem of out-of-field teaching via a solution focused approach by outlining the importance of subject specialisation and therefore the need for policy to be more reflective of the need for an emphasis on professional learning in subject specific content.

In an Australian context, the *Australian Education Act 2013* states in the Preamble that "All students in all schools are entitled to an excellent education... not be[ing] limited by where a student lives...[nor] limited by the schools location." Despite this bold and encouraging statement a significant proportion of teachers are being required to teach out-of-field in the secondary school. Dinham (2016) suggests that approximately one-third of all Mathematics classes and one-quarter of all Science classes are taught by an out-of-field teacher. As mentioned previously, it is veering towards half of all Geography classes being taught by non-specialist teachers (Masters, 2015). The reasoning put forward typically relates to an oversupply of primary teachers, declining student enrolments in these subjects at secondary and tertiary levels, school organisation constraints, and an undersupply of pre-service teachers undergoing initial teacher education courses in these subjects which is then compounded by a small number of these subject specialist teachers choosing to teach in low socio-economic metropolitan areas or in regional and remote communities (McConney and Price, 2009; Dinham, 2016, Masters, 2015). The school organisation constraints were similarly identified as reasons for out-of-field teaching occurring in schools across the USA and Australia, but interestingly, it is the identified shortage of subject specialist teachers overall and in particular areas of Australia that differs from the USA context. However, in the USA, the United Kingdom and Australia research demonstrates that the occurrence of out-of-field teaching arises primarily from policy although it is often publically discussed in terms of teacher practice and student performance.

Whilst acknowledging the international context and broad effect of out-of-field teaching, focus will now turn to out-of-field teaching in a specific subject at a local scale – Geography in Australian schools.

## What does this mean for Geography teaching in Australian schools?

At a national level, Weldon (2015) notes that even though out-of-field teaching across a range of subjects has reduced from 2010 – 2013, there are still problematic statistics occurring in the prevalence of out-of-field teaching overall, particularly for Geography. This is indicated in the graph below:

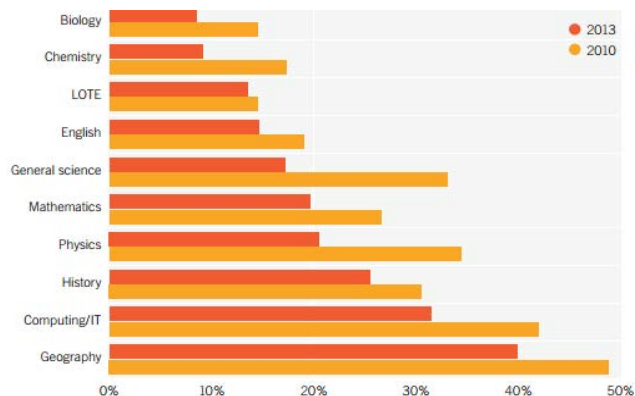


Figure 1: Weldon (2015, p. 8 – 9)

Kriewaldt (2006) raised concern about the amount of out-of-field teaching occurring in Geography amongst Victorian schools. In her article it was suggested the average age of Geography specialist teachers was mid-forties, and combined with the lack of availability and declining uptake of geography teaching method courses within initial teacher education courses, it was reasonable to deduce that students being taught Geography by a specialist teacher would become increasingly unlikely. Furthermore, data showed that within ten years, the proportion of Victorian teachers who were teaching Geography without a sub-major qualification in this subject had almost doubled, jumping from twenty-four percent to forty-three percent.

## What is being done in response to the issue? Has the response been effective?

To address the concern raised by Kriewaldt (2006) about Geography being frequently taught by out-of-field teachers – which resulted in Geography being questioned as a necessary, meaningful subject based on the widespread perceptions about poor teacher practice, decreasing student candidature, and a subject being bereft of rigor – two significant projects were initially developed. These projects were *Towards a National Geography Curriculum for Australia* (McInerney, Berg, Hutchinson, Maude, Sorensen, 2009) and *GEOGStandards* <http://www.geogstandards.edu.au> (Hutchinson and Kriewaldt, 2010). Both initiatives were

developed with the intent of being a foundation for improving the status of geography as a subject and also the quality of geography teaching occurring in schools by specialist and non-specialist teachers. For each project, there was significant contribution from representatives of the Australian Geography Teacher's Association (AGTA).

It was argued strongly in the *Towards a National Geography Curriculum for Australia* (McInerney, et al., 2009) for Geography be included in the suite of Australian Curriculum subjects as a discrete subject across Kindergarten (or equivalent) up to Year 10. Since 2003, Geography has been offered as a core subject across Years 7 – 9 and as an elective subject from Year 10 in Victoria. In New South Wales there has been a lengthy tradition of Geography being offered as a core subject across Years 7 – 10 and also offered as an elective in Stage 5 and Stage 6. For other states and territories, Geography has been taught in an integrated way as part of a Study of Society and Its Environment (SOSE) framework until publication of the *Foundation to Year 10 Australian Curriculum: Geography* in 2013. Whilst this may seem a reasonable offering for students, particularly now all students across Australia have the opportunity to experience Geography up to Year 8 and then beyond as an elective subject, two significant question remain: 'Whose responsibility it is to respond to the ever increasing likelihood of Geography being taught out-of-field?' and 'What would this response look like?'

The *GEOGStandards* action research project was funded by the Australian Research Council in conjunction with AGTA, the Victorian Institute of Teaching and the Geography Teachers Association of Victoria, and focused on identifying the characteristics of accomplished Geography teaching practice. This research was conducted nationally and across education sectors. Eight standards emerged from this research around which AGTA and the affiliate professional associations continue to frame their professional learning events for primary and secondary teachers. This has been reinforced by Purnell (2010) who recommended the *GEOGStandards* be used to inform geography methodology units for pre-service teachers, as well as support both the specialist and non-specialist teacher in the shaping of professional learning and substantive conversations about the effective teaching of Geography. The most commonly referred to standards are the following four: "Knowing Geography and the Geography curriculum; Fostering Geographical inquiry and fieldwork; Understanding Geography teaching and pedagogical practices, and Developing geographical thinking and communication." (Hutchinson and Kriewaldt 2010, p. 34).

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Drawing on *GEOGStandards*, and a literature review by Maude (2010) about the contribution of Geography to student learning, AGTA took the lead in promoting Geography teaching in schools and supporting the implementation of the *Australian Curriculum: Geography* by developing a curriculum aligned online professional learning tool called *GeogSpace*. The purpose of this tool is to showcase best practice in geography content, geography methodology and use of technology in delivering professional learning (Kleeman, 2014). A year later, AGTA was in the process of publishing a textbook about geographical inquiry, fieldwork and mapping skills. The AGTA Directors had also put together the *AGTA Roadshow*, a series of national professional learning workshops based on the key messages of the *Australian Curriculum: Geography* which were believed to be crucial for enabling out-of-field and specialist teachers to interpret and implement the curriculum as intended (Kleeman, 2015). These responses correlate with research by Du Plessis, Gillies and Carroll (2014) about the role and importance of professional learning for teachers, and from commentary by Hobbs (2015) about the value teachers place on their ability to deeply engage with subject-specific content and demonstrate its relevance to their students,

The reduction in out-of-field teaching for Geography and the improved quality of Geography teaching in Australian schools is yet to be determined by research but anecdotally it appears achievable. Over the last year, membership numbers of each state and territory professional association for Geography (the affiliates of AGTA) have been steadily increasing according to administration records; visitors to the *GeogSpace* website and the length of time spent on the site has been increasing according to data analytics; pre-orders for the mapping skills publication are already being accumulated; the *AGTA Roadshow* reached out to over 500 teachers nationally; candidature in geography teaching methodology courses are gradually rising; and the Board of Studies Teaching and Educational Standards NSW has reached out to the professional association to design an online interactive module to support the new syllabus.

## What will be next?

The National Committee of Geographical Sciences (NCGS) is part of the Australian Academy of Science, and as part of the Decadal Plan, this committee is developing a research report *Strategic Directions for Geographical Sciences* for policy makers and decision makers about the role of geography and its contribution to the social, economic and environmental wellbeing of Australia and its communities. One working party

in this program will be focused on writing the section of the paper about Geography in schools. AGTA has been approached by the NCGS to develop a rationale expressing the importance of geographical knowledge in the classroom and arguing for the fundamental need for Geography to become mandatory learning across primary and secondary years of schooling up to Year 10. This project commenced in 2015 and is due for completion in 2017. It is hoped the collaboration between AGTA and the NCGS will influence educational policy to extend core learning in Geography up to Year 10 (currently policy positions Geography as core learning up to Year 8 nationally). It is also hoped the aforementioned collaboration will contribute to continuing the elevated profile of Geography in schools by encouraging improved connections within universities between Schools of Education and Schools of GeoSciences (or equivalent) and also continuing to develop the existing relationship between the Associations for geography teachers and academic geographers. Ideally, a well-developed profile of Geography in schools will encourage geography teachers to remain actively engaged with the subject and Associations, as well as encourage the non-specialist teachers to consider accessing a range of accredited professional learning opportunities available in geography education. According to Hutchinson and Kriewaldt (2010), this would result in a greater proportion of teachers meeting the standards of accomplished geography teaching, particularly in understanding the pedagogical practices, engaging effectively with inquiry and fieldwork, understanding the subject content and its curriculum requirements and therefore enabling students to think and communicate like geographers.

**Conclusion:** Overall, research indicates that teaching 'out-of-field' is not a recent, simple or necessarily local education issue. From 1996 to the current time, across several countries, it is evident that a range of subjects in secondary schools are frequently taught by non-specialist teachers, leading to an increased perception of poor teacher quality and practice in response to increasing levels of disengagement and declining educational performance of students according to national and international benchmarks. The culprit emerging from the research about out-of-field teaching is policy but it is often viewed through the lens of practice. By investigating the incidence of and response to Geography being frequently taught by out-of-field teachers it is apparent that a community of expert, specialist teachers can make a difference to the practice of new and/or non-specialist teachers, despite hurdles related to the outcomes of educational policies.



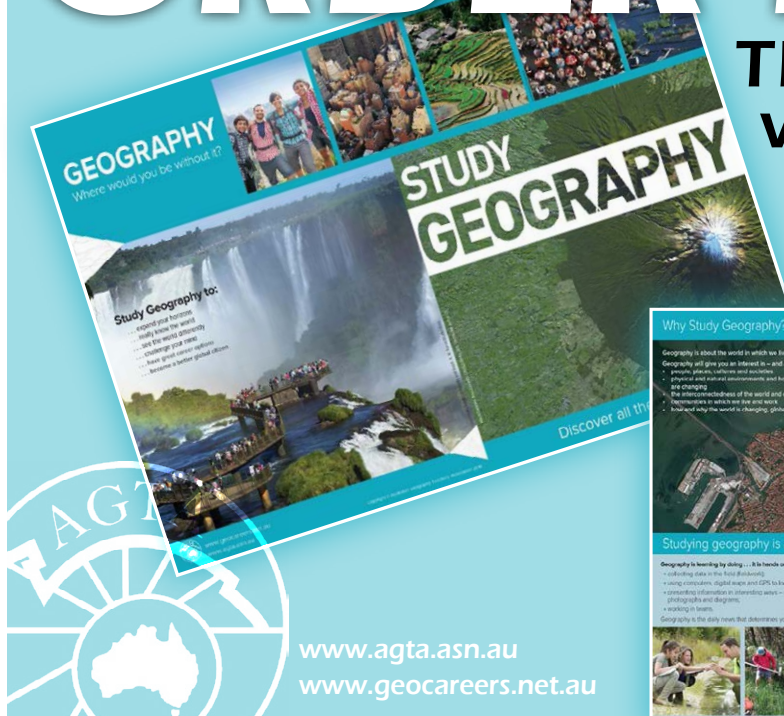
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