

Alan Bain *Editor*

# Design for Change: Designing Evidence-Based Teacher Preparation Programs

 Springer

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Teacher Preparation  
Programs

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ISBN 978-3-031-56767-4      ISBN 978-3-031-56768-1 (eBook)  
<https://doi.org/10.1007/978-3-031-56768-1>

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*We dedicate this book to our families, and to those who believe in the importance of quality teacher preparation.*

# Acknowledgments

This book has benefited from the work of the many colleagues with whom we have worked in universities and schools. We are especially grateful for the contribution of our students. They are the motivation for all we do and have provided powerful feedback about our efforts over the two decades of work described in this book. It has been our privilege to work with them to develop better ways to undertake teacher education.

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# Chapter 1

## Design for Change: Goals and Assumptions



Alan Bain

### Introduction and Overview

This book is about improving the quality of teacher education. In this chapter we will develop the context for the book, describe the assumptions on which it is based and overview each of the chapters. Over the last 20 years, numerous international and national reports and accounts of them (e.g., Bahr & Mellor, 2016; Caldwell & Sutton, 2010; Carnegie Corporation of New York, 2006; Hartsuyker, 2007; Ingvarson et al., 2014; Levine, 2006; National Research Council, 2010; Next Steps, 2021; Ramsay, 2000; Tatto, 2021; UNESCO, 2022; Wilson, 2020) have called for major improvements in how teachers are selected and prepared for classroom practice. These reports often generate significant political debate and controversy as the many stakeholder groups in education interpret the policy implications and admonitions contained in these documents from the often-conflicting perspectives of their different constituencies.

The debate is amplified by the absence of a strong longitudinal base of evidence to provide direction that supports or at least mediates the many recommendations (e.g., Cochran-Smith et al., 2013; Ingvarson et al., 2014; Kaplan & Owings, 2003; Menter et al., 2010; Zundans-Fraser & Bain, 2015). The issue is not about the volume of research. A large-scale review of studies involving 2.5–3 million participants (Dunst et al., 2020) concluded that despite the large number of studies covered in their review, there were no meta-analyses of frequently used practices in teacher preparation research, while conjecture remains about the efficacy of existing practices. The lack of direction from the research literature has created a recursiveness where high-level debate engenders more high-level debate and policy response without substantive change to practice at scale. The result has been the reappearance

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Switzerland AG 2024

A. Bain (ed.), *Design for Change: Designing Evidence-Based Teacher  
Preparation Programs*, [https://doi.org/10.1007/978-3-031-56768-1\\_1](https://doi.org/10.1007/978-3-031-56768-1_1)

over time of many of the same recommendations and limited progress in responding to the needs and issues they represent.

Further, the research tends to follow the debate, meaning that much of what is written tends to focus on answering high-level macro-questions related to considerations like the relationship between the academic entry characteristics of prospective teachers and student achievement, effects of accelerated preparation programs, or the overall value added by teacher preparation programs to graduate teacher capacity and student achievement. At face value, these topics seem to make sense; however, the findings almost always turn up a more foundational issue – the need for more focused research that would first examine what works within the full scope of teacher education programs in ways that guide the design of those programs. Such work would establish the efficacy of their key features and characteristics to inform ongoing design needs, challenges, and refinements.

At the practice level, efficacy research tends toward a broad compendium of practices ranging from the effects of the type of degree, the method of program delivery and the role of clinical experience to studies involving known efficacious practices like peer tutoring or explicit teaching. These studies produce effect sizes as diverse as the practices studied (Dunst et al., 2020) and are often small in scale and one-off. Most importantly, however, they are rarely contextualized within the scope of a complete preparation program where the independent variable is the program of study or an intentionally identified design feature of that program.

Without a clear and confident evidence-based picture of the design features of quality programs, the macro research invariably produces noisy findings that frequently show very modest differences/relationships and highly qualified outcomes. The practice research provides insight into discrete interventions and what can work in teacher preparation, although it offers little about how programs are designed or work in their entirety over time to further capacity building with those interventions. It is incredibly difficult to attribute effects when there is not a thorough understanding of the entity or process to which the source of those effects can be attributed.

We contend this is because an alternative approach is required; one that first looks at what quality means and what quality programs look like, how to build them and then determines how well they work. Building confidence and quality in the object of evaluation would seem to be a prerequisite for high-level comparisons about what works. With an understanding of, and confidence in program design, it becomes possible to determine how effective a program is by examining in a much more granular way the extent to which its features add value over the entry characteristics of teachers irrespective of level.

This book describes Design for Change (DfC), a longitudinal, bottom-up effort by a group of teacher educators working as a team to improve the quality of what they do based on theory, research, and the accumulation of evidence over time. This first chapter sets the context for the book by providing relevant background information, a statement of the book's goal, and a description of the assumptions on which the following chapters are based. Chapter 1 also includes a synopsis of each of the book's chapters.

## 1.1 Background

The Design for Change (DfC) work described throughout the book began in 2003, with the reconstitution of the faculty grouping in special education at Charles Sturt University under new leadership as an inclusive education team (IET). The team included six<sup>1</sup> faculty members and an educational designer. Around that time, three members of the team were contemplating doctoral study and expressed an interest in employing the work of the new IET as a focus for much-needed research on the development of teacher education programs. The doctoral work served as a foundation and driver for a broader program of research that involved the detailed study of the new team's efforts to redesign program offerings in inclusive education.

Over a 20-year period, the team has engaged in a comprehensive self-study producing research about team process, program design, the impact of the program on pre-service teachers' (PSTs') teaching practice, teacher schema development, collaboration and collaborative process, the efficacy of instruction based on the theoretical principles, the development of new technologies, and a study of the broader implications of the program for addressing issues of quality and productivity in higher education learning and teaching. This book represents a waypoint in the learning derived from the studies conducted so far.

## 1.2 Our Goal

Our goal in this book is to share a generalizable model for the design of teacher education programs derived from the longitudinal self-study described above. We will not recount the theses and studies in detail. Instead, we employ them and the evidence they generated to present generalizable concepts and structures that others can employ. In doing so, the book addresses known issues and problems in the field from a problem-solving and solutions-oriented perspective. The intent is to provide program developers and designers with a model based on research and empirical evidence for building teacher education programs that can result in a positive faculty and student experience. In doing so, we aim to contribute to the empirical evidence that provides a stronger base for the design of teacher education programs.

The DfC approach is described in Chaps. 4, 5, 6, and 7 as a two-part model. The first, Design for Change-Teams and Process (DfC-TaP) shows the development of a team-based approach and how the team built a collaborative design process. The second part of the model, Design for Change-Programs and Courses (DfC-PaC) describes how the team employed its process to design teacher preparation programs and courses at graduate and undergraduate levels.

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<sup>1</sup>One member of the team left the university at the beginning of the process described here.

### 1.3 The Challenge of Getting to the Starting Line

Kezar and Lester (2009) observed that individuals working within an institution develop a particular type of expertise that allows them to function within the institution's structures (Zundans-Fraser, 2014). That expertise or adaptation does not always align with the nature and needs of quality teacher preparation. How people work together and what they prioritize in their normal work reflect the dominant drivers and priorities of the institutions and broader system forces they serve (Zundans-Fraser & Bain, 2015). This turns out to be a major problem in teacher education, given that many of the biggest influencers or drivers in the field are synonymous with some of the well-recognized and longstanding problems and barriers to successful program design. They include the powerful and sometimes destructive influence of policymakers, a micro-focus on powerful accreditors and accreditation requirements, often cumbersome internal university processes, and tensions between autonomy and collaboration in the normal work of faculty members (Lambert & O'Connor, 2018; Zundans-Fraser, 2014).

Managing the upside and downside contributions of the influencers requires understanding how the work of program design gets done. For this reason, the book will outline how a design team is constituted for the work of teacher education program development and how a team's process relates to the work it undertakes and the programs and courses it develops. We describe how to create a design team and a methodology for how the team operates derived from a theory of self-organization. We focus extensively on the collaborative process, using it as an example throughout. We explain how collaboration as an interpersonal skill set and team-based work process can be developed and employed routinely in the normal work of academics whose experience and contributions may be derived from work of a more autonomous nature.

### 1.4 Design for Change Assumptions

Following is a set of assumptions that are echoed throughout the chapters and on which the book is based.

A definition of quality is the cornerstone of all teacher education program design. While there may be debate about what quality means in higher education (Massy, 2016) and teacher education more specifically, every design team needs to be clear about *its* definition of quality as the pivotal term of reference for its work. This contention is supported by the recent Australian report on initial teacher preparation, which highlighted the need for specificity in the content of programs and the skills teachers should possess (Next Steps, 2021). We recognize there are many perspectives on what constitutes quality in teacher preparation (e.g., Madalinska-Michalak et al., 2022). It is also impossible to determine quality if you cannot be clear about the content to which such a definition will apply.

Defining quality does not mean making big picture values statements or commitments located in strategic planning or accreditation documents. In the DfC process described in the following chapters, it is actively embedded in the normal work of program design, part of a process that makes its enactment not an intent but a design feature.

The “how” of teacher education program design precedes the “what.” How a program design team is constituted, the conditions under which it operates, and how individuals work together all need to be addressed as a precursor to the actual design of program and course content. Both the strengths and weaknesses of a team’s work process will be reflected in the programs it develops. Teacher education design teams require a commitment to collaboration to generate the shared values, purposes, and processes necessary to build a successful coherent student experience. At present, such a commitment does not have a foundation in extensive successful prior experience with collaborative practice (Newell & Bain, 2020).

The design of teacher education programs should be theorized (Coppieters, 2005; Schalock et al., 2006) in practical ways. We distinguish between the use of theory from a content and process perspective. This means the *design process* of teacher education programs should be theorized in practical ways just as theory provides an anchor point and term of reference for the *content* of teacher education courses on topics like child development, learning, and pedagogy. The role of theory extends beyond big picture and high-level values and metaphors. Theory should guide the normal work of design teams in practical ways as they build programs and courses.

Models of program design and their key features should be derived from and be subject to empirical research, given the profound lack of efficacy research on the design of teacher education programs. Program developers should be able to guide their design work based on known efficacious practice (Goldhaber, 2019; Lancaster & Bain, 2019; TEMAG, 2014).

As is the case with all professional fields, teaching should be subject to professional control based on visible and comparable distinctions in the quality of what teachers do in routine practice (Bowker & Star, 2000). Those distinctions should be based on high-quality research on teacher effectiveness.

The modern inclusive classroom, which is a term of reference for this book, offers up a set of known and significant teaching challenges for graduate and experienced teachers alike. To avoid burnout and meet the extant needs of students, all teachers need to be equipped with the classroom-ready (AITSL, 2016) knowledge and skills required to successfully face those challenges. The same assumption applies to advanced degrees in the field where graduates of those qualifications need to have school-ready practice and leadership skills that enable them to create and sustain those inclusive classrooms.

While there is immense longstanding contestation over what constitutes successful professional practice in teaching (e.g., Biesta, 2010) and a recognition that professional growth is an ongoing career-long process, any pre-service program needs to commit to *its* body of practice, graduating students who possess the schema (Auhl, 2018; Auhl & Bain, 2021), and skills required for a successful teaching