

Evaluation Report of Professional Learning using inclusionED

Executive summary

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June 2023



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Final Report

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ISBN: 978-1-922365-60-6

Citation: Harper-Hill, K., McKay, L., Park, E. & Carrington, S. (2022). *Evaluation Report of Professional Learning using inclusionED*. Cooperative Research Centre for Living with Autism (Autism CRC). Brisbane, Australia.

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Acknowledgements

The authors acknowledge the financial support of Autism CRC. Staff and non-staff in kind were provided by Autism CRC members.

Autism CRC

Autism CRC is the independent national source of evidence for best practice in relation to autism across the lifespan and the spectrum.

We provide the national capacity to develop and deliver evidence-based outcomes through our unique collaboration with autistic people, families, professionals, services providers, researchers, and government. Together, we are addressing agreed needs and co-producing outputs with these stakeholders for the benefit of the community.

Autism CRC was established in 2013 as the world's first national, cooperative research effort focused on autism under the Australian Government's Cooperative Research Centres (CRC) Program. We receive funding from a number of sources, including the Australian Government. Autism CRC is no longer part of, or associated with, the CRC Program.

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A note on terminology

We recognise that when referring to individuals on the autism spectrum, there is no one term that suits all people. In our published material and other work, we use the terms 'autistic person', 'person on the autism spectrum' or 'person on the spectrum'. The term 'autistic person' uses identity first language, which reflects the belief that being autistic is a core part of a person's identity.

Autism Spectrum Disorder (ASD) is diagnostic terminology used by the healthcare sector and is used in the context of a person being 'diagnosed with Autism Spectrum Disorder'.

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Executive summary

Introduction

This document reports on the barriers and facilitators of teacher engagement with inclusionED, the knowledge translation platform of the School Years Program of the Cooperative Research Centre for Living with Autism (Autism CRC). The School Years Program of research was conducted by research teams in Australian universities and those in autism-specific organisations. Over the eight years since its inception, the School Years Program generated a significant body of findings. Sixty plus research articles and book chapters, two books published with Routledge and a range of professional development resources have been published by researchers in the School Years Program. Twenty-four Scholars (7 PhD, 14 Masters, 3 Honours) and three Post-doctoral Fellows have graduated.

In contrast to the academically focused metrics reported above, the driver for the Australian Government's Cooperative Research Centre (previously known as the Cooperative Research Centre Program) is to fund research that 'strengthens and promotes the transformative potential of collaborative, industry-led research through knowledge exchange, professional development, and advocacy' (Department of Industry, Science and Resources, 2022). Therefore, it is critical to know how the dedicated allocation of resources by Autism CRC towards research, impacts the teaching and learning experiences of autistic students, their teachers, and families.

Knowledge translation, transfer, mobilisation, or brokerage

With origins in the discipline of medicine, *knowledge translation* is referred to using a range of terms including *knowledge transfer*, *mobilisation* (Graham et al., 2006) and, less frequently *brokerage* (Rycroft-Smith, 2022). Defined by the Canadian Institute of Health Research (CIHR, 2012, Introduction section, para 4) as the "dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge", knowledge translation is simply conceived as the use of knowledge in a way which benefits the intended recipients. This is starkly different and more complex than dissemination alone (Spring, Pfammatter, Hoffman & Warnick, 2020).

Within education research, challenges with mobilising education research into schools and classrooms is acknowledged (Rycroft-Smith, 2022). Indeed, a bias towards the production of knowledge for the good of knowledge itself – in contrast for the good of teaching practice – has been suggested (Sleeter, 2014) and this observation is echoed through calls for a greater focus on the impact of research findings on teaching practice (e.g., Jackson & Burch, 2016). Limitations to successfully mobilising autism education research into teaching practice is also acknowledged (Parsons et al., 2013). An educational needs analysis of students on the autism spectrum identified that Australian educators, specialists and parents considered the lack of accessible suitable training for educators and specialists as one of the top three barriers to meeting the needs of students on the spectrum in inclusive school settings (Saggers et al., 2018). Taken together, the (a) general challenges with knowledge mobilisation across disciplines, (b) priorities of the Australian Government's Cooperative Research Centre program, and (c) reported paucity of appropriate, accessible training at the point of implementation, all underscored the importance of concerted efforts to create an efficient and effective means to translate findings and impact the implementation of inclusive teaching practices in Australian schools.

Implementation science

The need for research knowledge to be mobilised rather than simply made available has led to the emergence of ‘Implementation Science’ (Fixsen et al., 2015). Fixsen describes implementation as well-defined activities that are specifically applied to promote the practical use of knowledge, or ‘a program’ - advocating that the success of these in practice is best supported by deliberate and well-specified supports. In the medical literature, the result of the translation is also described as an ‘intervention’ or clinical guidelines. The purpose of both is critical within a clinical setting where disease is managed and lives saved by the administration of particular therapies in an appropriate dose and at an appropriate time of disease progression. The terminology of ‘intervention’ however is inconsistent with the beliefs and values underlying inclusion and by extension, inclusive education. Based on the social model of disability, efforts to create an even playing field for all students in inclusive school settings is about equity, not equality. The responsibility for providing equitable experiences for students lies with the flexibility of an environment to respond to the needs of all students rather than all students having to fit into an (inflexible) environment. Words such as ‘intervention’ imply that a student requires ‘fixing’ because they have deficits or are lacking in some way. Treating students in a school setting because they are ‘lacking’ is inconsistent with inclusion and the social model of disability. The purpose of the School Years Program’s knowledge mobilisation efforts was not an attempt to turn teachers into ‘interventionists’ but to support them to develop their inclusive teaching practices and this position will be reflected in subsequent language. The term ‘intervention’ will only be used when referring directly to the work of another author. The corresponding inclusionED term is ‘inclusive teaching practice’.

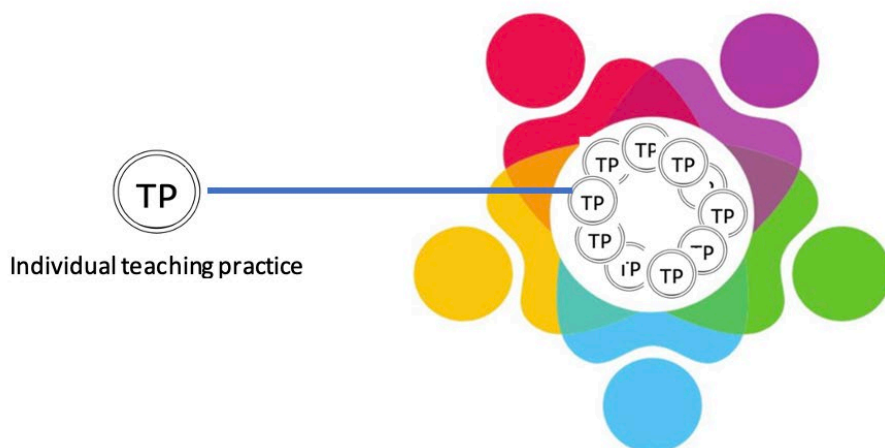
Implementation efforts fall along a continuum (Nilsen, 2015). Passive, more ad-hoc approaches to sharing information sit at one end of the continuum and are referred to as *diffusion* (Nilsen, 2015). As efforts to impact practice become more deliberate, they move along the continuum, becoming increasingly focused on the use of more planned strategies (*dissemination*). ‘Dissemination’ eventually morphs into *implementation* – an active effort to have new practices used by intended practitioners in their real-life settings (Nilsen, 2015).

Developing the means to *implement* research from the Autism CRC School Years Program

The intended practitioners targeted by the knowledge mobilisation efforts of the School Years Program were primarily educators situated across Australia. In response to their varied geographical locations, an online solution was considered most likely. The research for the initial design of the platform (see Kerr et al., 2022; Whelan et al., 2021) that would become inclusionED asked, ‘How can the design of an online platform support teachers to change their practice by *implementing* our research findings rather than simply receiving them through a process of online diffusion?’

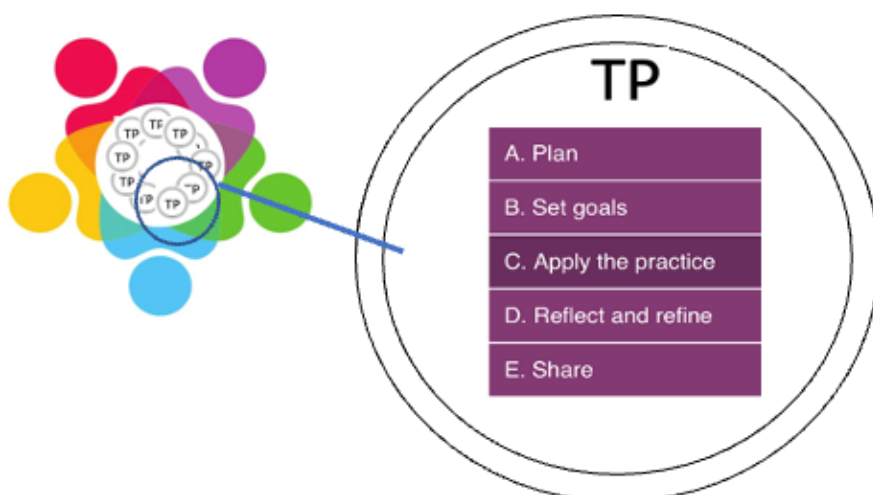
Just as the content, i.e. inclusive teaching practices, on inclusionED was informed by research, so too was the design of inclusionED itself. An interactive transdisciplinary process of *research through design* (Zimmerman et al., 2010) was primarily driven by co-design and multiple stakeholder collaboration (Kerr et al., 2022). The result of this process of co-design led to a platform for educators designed to share information on individual evidence-based teaching practices, which is illustrated in Figure 1. In and of itself, this would meet the definition above of “diffusion”.

Figure 1: Depicting multiple teaching practices housed on inclusionED



Addressing how teachers’ engagement with inclusionED could lead to them enacting what was essentially professional learning, each inclusive teaching practice had integrated within it, a cycle of professional learning as seen in Figure 2.

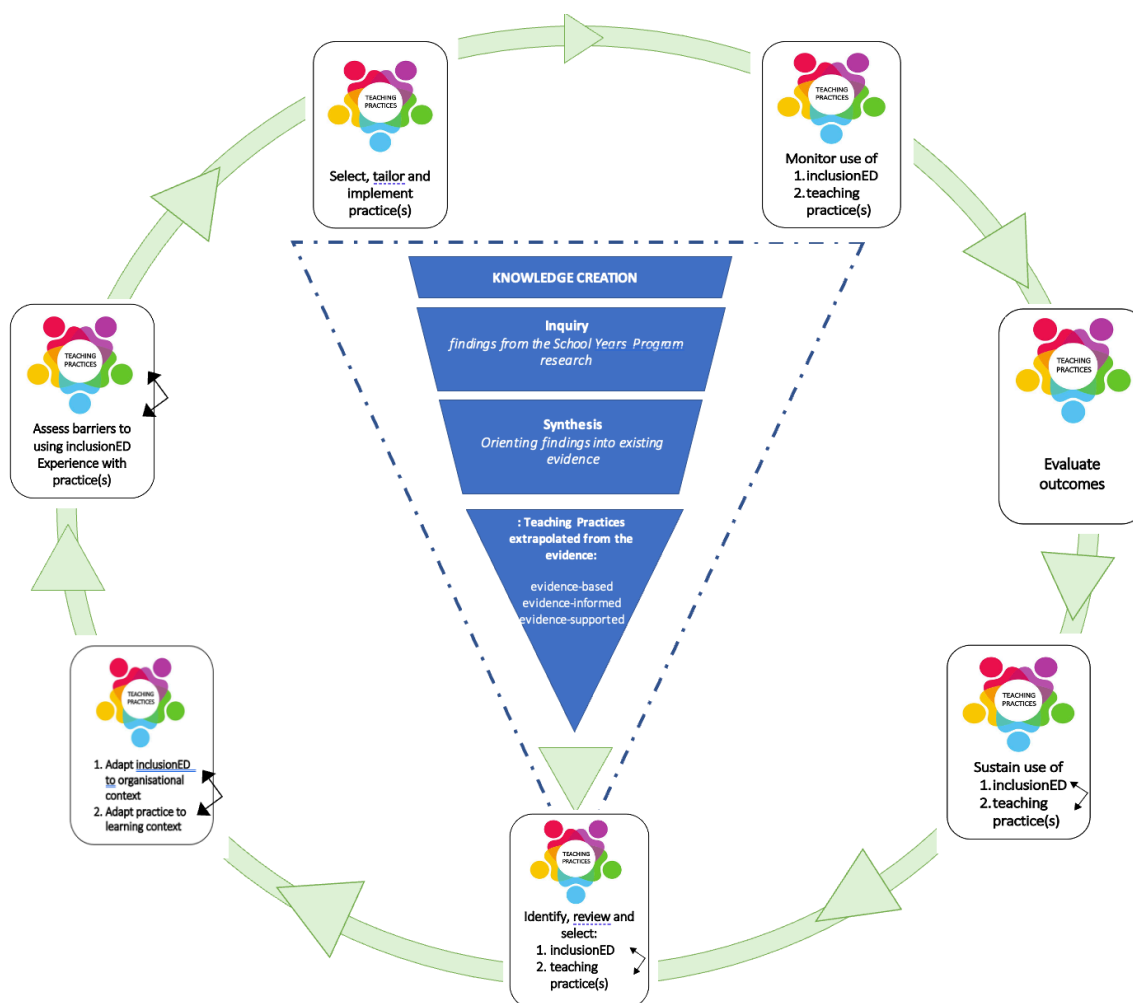
Figure 2: Each teaching practice on inclusionED incorporates a Professional Learn Cycle consisting of Plan, Set goals, Apply the practice, Reflect and refine, and Share



The relationship between the inclusionED *content* and the *platform itself* can be understood as (a) a level of the ‘intervention’ and (b) an implementation level (Fixsen et al., 2005) respectively. Aligned with Fixsen et al. (2005), in their conceptualisation of knowledge translation, Graham and colleagues (2006) consider that the relationship between these levels is symbiotic. The first stage is the creation of knowledge through inquiry, synthesis and the eventual development of tools and products. The individual evidence-informed teaching practices housed on inclusionED represent these tools and products and can be seen in Figure 3 as the lower section of the funnel which is represented by an inverted triangle. The implementation level described by Fixsen et al. (2005) is represented by Graham and colleagues as a cycle of action which surrounds their funnel. In Figure 3, we have combined both positions and placed inclusionED within this representation.

Figure 3: An amended version of the Knowledge Translation action process

The inverted triangle or ‘funnel’ (Graham et al., 2006) correlates to Fixen’s 2005 ‘intervention’ level and the green, outer cycle of the Graham et al. (2006) model correlates to Fixen’s ‘implementation’ level



The ultimate objective of teachers’ engagement with the inclusionED platform is to develop their inclusive teaching practice through the implementation of the inclusionED practices, and the associated information on the site. It is exactly this embedding of practices within the inclusionED innovation that speaks to its complexity because, at this stage in its development, it is not the outcomes of the individual practices when implemented by individual teachers, that are of interest. These individual practices have been informed by research. Rather, it is the outcomes from teacher engagement with inclusionED in order to access and implement the teaching practices which is of initial interest. Adding to this complexity however is our hypothesised symbiotic relationship between practice and platform as suggested by Graham et al. (2006). A teacher’s experience in engaging with the inclusionED platform will likely impact on their development of teaching practices, and experience with the practices themselves will likely impact on teacher’s sustained engagement with the platform.

The objective to support teachers’ implementation of research findings was informed, in part, by the co-design process involving stakeholders such as classroom teachers, specialist teachers, school leaders, policy makers, parents and students on the autism spectrum. Analysis of the contributions from the educators pointed to the importance of incorporating the professional learning cycle within each practice. Incorporating an opportunity to undertake a cycle of professional learning when

engaging with inclusionED content provides the potential for inclusionED to operate as a vehicle of implementation rather than a means for diffusion alone.

Individual teacher professional learning: what do we know?

Professional learning opportunities are designed to translate knowledge into teacher practice and there are characteristics of teacher professional learning opportunities associated with more positive outcomes for teacher practice. These characteristics include those opportunities which provide teachers with greater agency to choose and endorse the topic (Dadds, 2014; Fiszler, 2004) including that the content has professional relevance to participants (Louws et al., 2017; Visser et al., 2014). Teacher agency is critically important to impactful professional learning (Flint et al., 2011; Fraser et al., 2007; King, 2014). It is also important that teachers set goals as part of the learning process (Bubb & Earley, 2010), and that these are followed up through reflection and feedback (Louws et al., 2017). Learning opportunities made up of more than a single or 'one-off' session is also associated with positive outcomes (Darling-Hammond & Richardson, 2009; Yoon et al., 2007), as are those which involve peer learning (Buczynskil & Hansen, 2010) including when they occur within established networks (Kishida, 2011; Lock, 2006; Visser et al., 2014).

While the above characteristics of learning opportunities tend to lead to better outcomes, the impact from these opportunities on teacher practice remains unreliable. Outcomes are individual, variable and complex; no one-size of professional learning fits all and singular outcomes cannot be confidently predicted (Opfer & Pedder, 2011). It is suggested that personal knowledge, beliefs and experiences, referred to as 'intra teacher' factors by Opfer and Pedder (2011) or 'intrinsic teacher' factors (Harper-Hill et al., 2022) play a role in the range of outcomes realised from knowledge mobilisation efforts (Mosher et al., 2014).

The initial design of inclusionED should theoretically address known factors impacting professional learning outcomes for teachers. On the platform teachers enact agency by choosing practices that are relevant to them and drive their own implementation of these. Incorporation of a professional learning cycle enables both goal setting and reflection on progress towards these goals. The learning cycle also provides an opportunity to join an online community. All of these are available to access and re-access over periods of time, avoiding the learning being 'one-off' in nature. As with the intrinsic teacher factors however, a further factor known to impact outcomes from implementation efforts is the school environment within which it occurs and again, this is not determined by inclusionED.

The importance of context

The power to influence the outcomes of engagement with inclusionED is its fit for use in different contexts (Moore et al., 2015). It is clear that teacher learning is not an event, but a complex process incorporating the individual teacher, the learning activity, and the wider institutional and social context (Opfer & Pedder, 2011). The context will include the international and national imperatives for the implementation of inclusive education; the wider community context in which the school operates; a school's configuration; the 'external' stakeholders in each learning community; and, of course, the individuals who participate in the community. It is clear that outcomes from professional learning are vulnerable not only because of the nature of the learning opportunity itself or the individual teacher characteristics, but also by school and systems level factors (McChesney &

Aldridge, 2019). These include the collective ‘awareness, beliefs, and dispositions’ within schools (Opfer & Pedder, 2011) and adds further to the complexity of studying inclusionED as an implementation effort (Figure 4).

School leadership

Effective school leadership is an important factor in bringing about any significant change in the education system (Day et al., 2009). Change for inclusion in schools takes time due to the critical reflection, dialogue, and commitment to shared values of equity and inclusion required to support long-term actions for the greater good in schools. A critical and transformative approach to school leadership (Carrington, 2022) will support school leaders to build relationships and work in partnership with students, parents, and educators in schools to initiate transformative reform and support equity in education. inclusionED could support reflection, dialogue, and lead to implementation of new practice in classrooms. We know that schools are communities made up of school leaders, teachers, students, and families and they all have obligations and roles to play in the school to ensure they are respected, included, and belong.

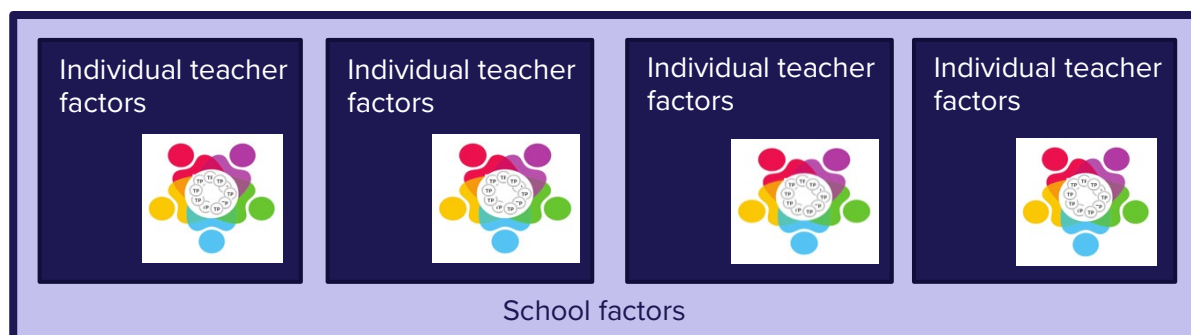
Implementation strategies

An aspect of school settings that is determined by school leaders and has the potential to impact on successful engagement with inclusionED, relates to the support that is provided to teachers to (a) engage in professional learning, and (b) develop capability to meet the needs of all students by mobilising what they have learnt. Within the discipline of implementation science, these support structures are referred to as implementation strategies and there are existing resources within many schools which could operate as implementation strategies.

These include facilities which are currently responsible for ensuring the educational needs for students with disability are addressed. In their current form, it is unclear whether these structures and facilities can operate to support the successful engagement with inclusionED by classroom teachers however, successful inclusion relies upon building the capacity of individual classroom and specialist subject teachers to meet the needs of all their students.

Figure 4: Each individual teacher’s engagement with inclusionED

Their engagement will be influenced by factors specific to them. The outer square represents that there will be context-specific factors at play



Thus far, we have presented the case for developing a single whole-of-program knowledge translation mechanism for the Autism CRC School Years Program of research. The result of the co-design and advisory collaboration with educators was an online platform called inclusionED. Previous paragraphs have contextualised inclusionED in the field of implementation science and it is the cycle of professional learning within each inclusionED practice that is considered a key factor in supporting teachers to implement inclusive practices, rather than simply disseminating the findings from the School Years Program of research. Whilst acknowledging a likely and important role of the inclusionED learning cycle, the research literature also points to a wide number of additional factors which influence the notoriously variable outcomes of learning opportunities for teachers. Insight into which of these factors, and under what conditions they are most effective is critical to optimising teacher success from engaging with inclusionED across a range of inclusive school settings.

Program logic

Understanding why or how ‘a program’ works is supported by refinement of its underpinning theory and logic. Presented graphically, a logic model illustrates the “shared relationships among the resources, activities, outputs, outcomes, and impact for your [the] program. It depicts the relationship between your [the] program’s activities and its intended effects.” (Center for Disease Control and Prevention, 2018, para. 1).

Further, Nilsen (2020) propose that the relationships depicted within the model should be supported from the empirical research and represent a series of hypotheses (e.g., if a teacher has inclusive values, then they will be motivated to develop their inclusive practice). Informed by teacher insights which have been further validated by the research literature, the logic model in Appendix A guides our initial understanding of why and how engagement with inclusionED may or may not result in new or enhanced inclusive teaching practice. Essentially the model reflects our understanding of “the mechanisms by which implementation is more likely to succeed” (Nilsen, 2015, p1).

Whilst the hypothesised mechanisms within the inclusionED program logic are grounded in stakeholder knowledge, their experience and empirical support, there have been calls for even greater framing of understanding implementation through the application of appropriate and overarching theory (Nilsen, 2015). As such, to gain greater understanding of which components or factors determine the outcomes from the implementation of inclusionED, the application of a suitable framework is required (Nilsen, 2015). One advantage of considering the implementation of inclusionED through a comprehensive framework is that it provides an opportunity for potential factors that hereto have not been identified or considered. As a ‘backward mapping’ endeavour, the current evaluation is primarily interested in factors associated with the behaviour or practice of individuals who implement inclusionED, namely teachers and members of school communities.

Theoretical Domain Framework

Informed by 33 behaviour change theories, the Theoretical Domain Framework (TDF) has undergone multi-phase development and validation (Cane et al., 2012; French et al., 2012; Michie, Atkins, & West, 2014; Michie et al., 2005; Michie et al., 2008; Michie, West, et al., 2014) and has been used consistently to interrogate implementation. It consists of 14 domains and 84 component constructs (Appendix B) and has been applied in systematic intervention design, process evaluations, the identification of behaviour change techniques as well as investigations of the enablers and barriers to the implementation of evidence-based behaviours (Atkins et al., 2017). Whilst predominantly used within medicine and allied health disciplines, the application of the TDF has recently emerged in research investigating implementation within educational contexts (e.g., Kennedy et al., 2022; Zucker et al., 2021; Tristani et al., 2022).

Kennedy et al. (2022) used the TDF to determine behaviour change strategies when planning a mindfulness intervention for teachers. The TDF was applied post-hoc to data collected via interviews, focus groups and surveys by Zucker et al. (2021) who identified barriers to the implementation of an academic language curriculum by early childhood teachers. In a planned application of the TDF, Tristani et al. (2022) investigated those domains predicting teachers' intentions to implement inclusive physical education. Whilst each of these studies applied the TDF in different ways with different intentions, similarities in two of the domains identified can be seen with all three studies identifying the domains of knowledge and memory, attention, and decision processes. Of note is the relative variability of the other domains implicated in each of the three studies, as shown in Table 1. This suggests that application of the TDF in the development of data collection tools will indeed provide an opportunity to identify relevant barriers to and enablers of engagement with inclusionED which may not have been identified previously during the initial co-design process or subsequently from the research literature (see Table 1).

Table 1: Theoretical Domain Framework (TDF) domains
Implicated domains in recent studies applying the TDF to educational contexts

Authors	TDF domains	Educational contexts
Tristani et al. (2022)	TDF domains which predicted teacher's intentions to implement inclusive Physical Education	<ul style="list-style-type: none"> • Knowledge • Social/professional role & identity • Memory, attention, and decision processes • Social influences • Emotion
Kennedy, Haley & Evans (2022)	TDF domains implicated in the needs of, and barriers to, a mindfulness-based intervention for teachers	<ul style="list-style-type: none"> • Skills • Cognitive, and interpersonal skills • Memory attention and decision-making processes • Knowledge • Environment context and resources • Social/Professional role and identity • Beliefs about capabilities • Beliefs about consequences • Intentions: goals • Reinforcement: emotion
Zucker, Jacobs & Cabell (2021)	TDF domains implicated in the barriers to teacher implementation of an early childhood language curriculum	<ul style="list-style-type: none"> • Environmental Context • Skill • Knowledge • Memory, attention, and decision processes • Beliefs about consequences

In summary, successful engagement with inclusionED will be evidenced in the development of inclusive teaching practices. In part, these will be dependent on factors which are associated with the design of the site. Other influential factors will arise because of differences in the individuals using the platform and the contexts within which they work. We also hypothesise that each of these factors will interact to influence other factors and the subsequent outcomes for teacher professional learning in the form of inclusive teaching practice.

The question becomes, *What are these site-centric, individual or contextual factors?* and *Which of these factors should we heed?* Answering these questions is important if teachers and school leaders are to bridge the gap between our research and their practice by answering the question 'Will it [inclusionED] work for me/us?' (Joyce & Cartwright, 2020).

In approaching this multi-phase investigation into the implementation of inclusionED, the following were proposed:

1. The first phase of this project focused on user behaviour that occurred between the launch of the inclusionED platform on 18 May 2020 and 31 December 2021. These behaviours were extracted from existing user activity data in the back end of the platform and provide descriptions of user activity.
2. During the second phase, a series of 'pop-up' survey questions were presented to users as they engaged with the inclusionED platform. These questions were designed to probe the intentions and decisions made by users and were present on the site for a three-month phase in 2022 which concluded on 31 July.

3. The third phase of the project involved a cross-sectional multiple case-study investigation that explored enablers of, and barriers to teacher engagement with inclusionED over a 6-month period. Interview and survey questions were informed by the TDF.
4. The final phase of the project followed-up on previous co-design activities conducted with Post-school Option educators from the Diocese of Toowoomba and the Queensland Department of Education. This fourth phase captured feedback in two teacher case studies on the value and feasibility of resources and content of post-school options inclusionED practices.

Each phase is described in further detail and the results reported in the following sections.

Our values



Inclusion

Valuing lived experience



Innovation

Solutions for long term challenges



Evidence

Truth in practice



Independence

Integrity through autonomy



Cooperation

Capturing opportunities together



AutismCRC

Independent national source of evidence for best practice



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