Learning to Teach Without Teaching: A Mixed Methods Case Study of Preservice Teachers' Efficacy Beliefs and Perceptions of an Evidence-based Creative Arts Subject

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Abstract: Recognition of the inherent value of the Creative Arts in society seldom extends beyond rhetoric to meaningful action. The powerful ways the Creative Arts are positioned within curriculum documents, for example, stand in contrast to entrenched problems such as poor teacher attitudes, disengaging teaching practices and low status. Initial Teacher Education (ITE) programs and preservice teachers are essential to the long-term improvement of Creative Arts education. Creative Arts in ITE is also an interesting context in which to examine the divide between Subject Matter Knowledge (SMK) and Pedagogical Knowledge (PK) that has influenced both educational research and policy. This paper reports on a mixed methods case study of 24 preservice teachers' Creative Arts teaching efficacy beliefs and perceptions as they completed an evidence-based, discipline-focussed creative arts subject. The Likert scale efficacy data, collected via the CATEBI-B, modified from the established STEBI-B (Enochs & Riggs, 1990), were analysed via MANOVA with repeated measures and T-tests. These analyses were complemented by thematic analysis of qualitative survey data. Results showed statistically significant increases in participants' personal Creative Arts teaching efficacy upon completion of the subject. The significance of Creative Arts teaching outcome expectancy increases was questionable and the qualitative results were somewhat mixed despite being mostly positive. Implications of these findings and directions for further research in this space are discussed.

Keywords: Creative Arts, Initial Teacher Education, Efficacy, Mixed Methods, Preservice Teacher, Tertiary

Introduction

There has long been substantial dissonance between the acceptance of Creative Arts as overwhelmingly beneficial and the relatively marginal position of Creative Arts in our education system; with this low status being partially attributed to the subjective nature of the Creative Arts disciplines (Barton et al., 2013; Eisner, 2002) being contrary to neo-liberal conceptualisations of education. Pursuit of Creative Arts can fulfill both foundational and higher order needs (Lloyd, 2017). Creative pursuits are central to human experiences of

imagination, feeling, spontaneity, self-awareness and judgment (Richards, 2007; Silvia et al., 2014). Creative Arts can also catalyse the development of the critical (Eisner, 1965; 2002) and reflective (Lampert, 2006) thinking skills needed for individuals to function as global citizens (Ewing, 2010) in increasingly complex, demanding economies (Cahill & Toner, 2018). Creative Arts based therapies also have improved reported patient outcomes in mental health support (Cole et al., 2018) and clinical settings (Shafir, 2020). Caldwell and Vaughn (2012) described the detrimental educational and social impacts of the marginalisation of arts currently occurring in schools (Gibson & Anderson, 2008). Unsurprisingly, major reviews have highlighted the importance of Creative Arts education and recommended substantial improvements be made, with tertiary level arts being seen as vital for long-term, sustainable change (Bamford, 2006; Davis, 2008).

Ostensibly, the Australian Curriculum: The Arts, published in 2015, acknowledges the wide-reaching importance of the Creative Arts (i.e. dance, drama, media arts, music & visual arts) by classifying them as a "*basic entitlement for all Australians*" (Lane, 2020, p.iv) and advocating for embodied, experiential and reflective teaching practice. However, a longstanding criticism is that the noble vision underpinning the Australian Arts curriculum is undermined by its crowded nature (ACARA, 2015; Nilson et al., 2013); further exacerbating the lack of time available in a national curriculum with a heavy, if understandable emphasis on numeracy and literacy (Ewing, 2010; Garvis & Pendergrast, 2010). This issue may be a cause of the inconsistent approaches across jurisdictions, where arts programs can be minimised, outsourced from regular primary teaching, addressed in shallow ways and/or diminished to production lines of uniform 'creative' output with little meaningful student engagement. However, such approaches are undeniably short sighted given that high quality Creative Arts education has been linked to improvements in students' numeracy, literacy and overall academic achievement (Bamford, 2006; Hetland et al., 2015; Kimberly et al., 2023).

The following literature review positions the research presented in this paper in the broader context of Creative Arts education. Initially, the challenges experienced by primary education in implementing effective Creative Arts curriculum will be described. Secondly, an informed discussion of the potential of professional development will lay a foundation for an overview of the role of preservice primary Creative Arts programs in Initial Teacher Education (ITE). Additional issues in Creative Arts ITE will also be outlined, with a particular emphasis on the tension between Subject Matter Knowledge (SMK) and Pedagogical Knowledge (PK). Finally, the theoretical framework (Efficacy) will be described and contextualised in Creative Arts education to consolidate the critical literature review of literature prior to the presentation of the research questions.

Literature Review

The implementation of the ambitious Australian Arts Curriculum is made more challenging by generalist primary teachers who do not feel equipped to adequately teach dance, drama, media arts, music and visual arts (Alter, et al., 2009a, 2009b; Garvis & Pendergast, 2010). Nilson et al. (2013) argue that teachers with poor arts engagement and confidence rely more heavily on 'bag of tricks' approaches that reduce students' engagement to simple mimicry (e.g. 'paint by numbers'), which denies them the opportunity to engage in the critical thinking development associated with Creative Arts education. Simply put, direct instruction in the Creative Arts is no substitute for experiential learning that fosters creativity (; Upitis, 2011; Zimmerman, 2009). The impacts of teachers' aversions to the Creative Arts can be further exacerbated by other systemic issues, such as poor resourcing (Adams, 2011), a lack of peer support (Branch Jr., 2018) and limited opportunities for professional

development after their Initial Teacher Education (ITE) (Tomljenović & Novaković, 2017). Generational changes alone cannot be relied upon to improve the quality of primary arts education as preservice teachers are broadly deficient in terms of Creative Arts teaching confidence and competence (Jeanneret & Stevens-Ballenger, 2013; Lowe et al., 2017).

High quality and accessible professional development is viewed as vital to the long-term, sustainable improvement of in-school creative education (Chapman, 2019; Nilson et al., 2013; Tomljenović & Novaković, 2017); indeed, innovative practices, such as e-mentoring (Branch Jr., 2018), have been shown to be beneficial for inservice teachers. However, the targeting of inservice teachers is rendered less effective as geographic dispersal and limited time allocation (Alter et al., 2009a) combine to make the provision of high quality professional development more resource intensive in an already financially limited system (Rowe & Perry, 2020). Further to this point, the sub-optimal Creative Arts beliefs and practices that can emerge in childhood and stubbornly persist after ITE (Lindsay, 2021) may become more entrenched as teachers advance in their careers (Tomljenović & Novaković, 2017). Indeed, a series of 12 qualitative case studies suggested that educators attribute their poor Creative Arts knowledge and skills to childhood experience and ineffective preservice education (Lindsay, 2021). Therefore, we argue that improvement to the quality of Creative Arts education in ITE must be the cornerstone to the long-term, sustainable improvements sought.

Despite being the focus of broad national critique (Davis, 2008; Pascoe, 2007), ITE programs must be central to the improvement of Creative Arts education in Australian primary schools. A compelling argument on the basis of scale can be made as there is a ratio of 100 public primary schools to one ITE provider in Australia (ABS, 2020; AITSL, 2019). There is evidence that Creative Arts subjects in ITE can enhance the confidence and competence of preservice teachers (Collins, 2016; Gibson & Ewing, 2015; Heyworth, 2018; Paganono, 2020). Ewing and Gibson (2015) reported that imaginative use of arts practice and pedagogy can develop preservice teachers' identities as professional Creative Arts teachers. Collins (2016) had preservice teachers move from passive learners, wherein the preservice teachers were supported to teach Creative Arts to their peers as they would in a school setting. This fusion of content and pedagogy resulted in large increases in participants' efficacy scores. Creative Arts programs can be enriched by technologies, such as music looping software, in ways that have shown to enhance generalist primary teachers' music teaching self-efficacy beliefs (Heyworth, 2018). A sample of 208 Australian preservice teachers attributed their increased dance teaching efficacy beliefs to strong collaboration and performance opportunities within their dance courses (Pagano, 2020).

Yet, a national review suggested that graduate teachers feel ill-prepared to teach the Creative Arts effectively (Davis, 2008), with some directly attributing this to their preservice education experiences (Lindsay, 2021). Any improvements to the quality of Creative Arts in ITE programs would require preservice teachers to experience established Creative Arts practices, such as: creative, critical and reflective thinking (e.g. Heid, 2005); collaborative practice (e.g. Burke, 2020); embodied, hands-on and active practice (e.g. Kenny et al., 2015); cross curricular integration (e.g. Ewing, 2010); orientation to life-long learning (e.g. Sinclair, et al., 2012); and, micro-teaching for praxis-based learning (e.g. Collins, 2016). Such creative andragogies (Grainger et al., 2004) can prepare preservice teachers for their future professional roles through explicit development of their Creative Arts Pedagogical Content Knowledge (PCK) (Zakaria & Ahmad, 2021). It has long been argued that experience in the Creative Arts alone does not constitute adequate preparation for effective Creative Arts teaching (Goetz & Zwirn, 2010) due to the complexity of theory-praxis interactions (Hall, 2010). For example, educators require sophisticated PCK to pursue meaningful integration of the Creative Arts with literacy and numeracy to ensure each learning area is suitably enriched

(Barton et al., 2013). Teaching focus within Creative Arts ITE is also a vehicle to activate the intrinsic motivation of preservice teachers for the sake of meaningful engagement with their Creative Arts studies (Collins, 2016).

Despite the arguments for the integration of Creative Arts discipline or subject matter knowledge (SMK) and pedagogical knowledge (PK) in ITE, there have been concerted efforts to separate the knowledge domains in ITE programs (NESA, 2018). The possible argument that such separation allows for more thorough Creative Arts learning is offset by the breadth of the Australian Arts Curriculum, which leaves preservice Creative Arts academics in the unenviable position of having to dedicate just 1-2 weeks for dance, drama, media arts, music and visual arts instruction. A substantial issue is that confidence and competence in Creative Arts instruction is context specific and difficult to define, and thus difficult to capture quantitatively (Hall, 2010). Nonetheless, a focus on teaching practice in preservice Creative Arts education is necessary to motivate individuals who aspire to be educators rather than artists. Lindsay (2021) eloquently captured these sentiments as follows: *"unless limiting visual arts self-efficacy beliefs are disrupted by constructivist theoretical knowledge and combined with practical skills and knowledge, the visual arts curriculum offered to children may be significantly compromised"* (p. 80).

Much like their in-school counterparts (Ewing, 2010; Alter et al., 2009a; Lane, 2020), preservice Creative Arts academics face considerable barriers to the provision of high quality Creative Arts teaching in Australian ITE. Economic rationalisation has increased resource scarcity and employment insecurity throughout higher education (Cahill & Toner, 2018; Fitzgerald & Knipe, 2016). Furthermore, the proportion of higher education students studying online has risen sharply over the past 15 years (Norton & Cakitaki, 2016; Norton, Cherastidtham & Mackey, 2018); which has presented a unique challenge to academics delivering Creative Arts subjects in Australian ITE as they have struggled to adapt their embodied, collaborative and reflective practices to online, often asynchronous learning modes (Burke, 2020; 2021). The long-standing issue of limited time for Creative Arts in ITE programs leaves academics with precious little curricular time for extended engagement with and reflection upon all Creative Arts disciplines (Collins, 2016; Trinick & Joseph, 2017). These issues specific to higher education only serve to compound the more systemic issues in Creative Arts education, such as poor teacher confidence, limited resources, inadequate professional development opportunities and low status in school curricula (Ewing, 2010; Lane, 2019; Lindsay, 2021). At worst, this can result in disjointed, shallow Creative Arts teaching that could reinforce the notion that piecemeal, outsourcing and rote learning approaches, which propagate deficit models of education in Creative Arts (Caldwell & Vaughan, 2011), are acceptable in primary school Creative Arts education programs. Clearly, Creative Arts ITE programs are central to improving the status and quality of Creative Arts teaching in primary schools and therefore must reflect the ideals and evidence-base of the profession.

Theoretical Framework - Efficacy in Education

In response to the natural absence of objective "achievement" measures in Creative Arts education, efficacy in education was adopted as the theoretical framework for this research project. Efficacy, broadly defined in this context as an individual's judgement of his or her competence to execute a task (Bandura, 1977), is a strong predictor of human motivation and behaviour (Bandura, 1986) that has been long-established in educational research broadly (Tschannen-Moran & Hoy, 2001; Tschannen-Moran et al., 1998). For educators, teacher efficacy encompasses both individual and collective beliefs about the

capacity to aid students' learning. Indeed, a recent meta-analysis of 35 studies, reporting on data from 2087 schools, showed a large positive correlation between collective teacher efficacy and student achievement (Çoğaltay, & Karadağ, 2017). A similarly powerful meta-analysis, comprising 43 studies with over 9000 educators, revealed a significant, meaningful relationship between teacher efficacy and observed (3rd party) performance (Klassen & Tze, 2014). Furthermore, Chesnut and Burley (2015) confirmed a link between teachers' self-efficacy and their commitment to the teaching profession in their deep analysis of 33 studies reporting on data collected from 1622 preservice and inservice teachers. Since the publication of Gibson and Dembo's (1984) Teacher Self Efficacy Scales (TSES), efficacy has been strengthened as a measure in educational research through continued validation (Nie Et al, 2012), modification (Roberts & Henson, 2001; Tschannen-Moran & Hoy, 2001) and, adaptation to different national contexts (Klassen et al., 2009) and more precise cohorts of educators (Denzine et al., 2005). Beyond alternative teacher efficacy scales, such as the Ohio State Teacher Efficacy Scale (OSTES) (Tschannen-Moran & Hoy, 2001), teacher efficacy has been established in an array of education disciplines, such as Mathematics (Enochs et al., 2000) and Physical Education (Humphries et al., 2012). The corpus of efficacy literature in educational research has shown that teachers with high levels of efficacy are more likely to remain committed to teaching, perform better in the classroom and enhance student achievement. For these reasons, and the obvious challenge in quantifying the achievement in inherently expressive, subjective Creative Arts, efficacy is a worthy foundation for research in Creative Arts teaching in initial teacher education.

However, despite efficacy being an established construct, well aligned with the experiential nature of Creative Arts, it is still only emergent within research on Creative Arts education (e.g. Morris et al., 2017; Pagano, 2020); a field that relies overwhelmingly, albeit understandably, on qualitative research (e.g. Garvis & Lemon, 2013; McLaren & Arnold, 2016; Mullet et al., 2016). In recent years, researchers have begun to explore efficacy in Creative Arts educational research more fully (Branch Jr., 2018; Chapman, 2019; Collins, 2016; Heyworth, 2018; Lane, 2020; Lemon & Garvis, 2017). Collins (2016) adapted Bandura's (2006) "Teacher Self-Efficacy" (TSES) instrument in a quasi-experimental research design to investigate the impact of a combined Creative Arts discipline and teaching subject on over 100 preservice teachers' personal and teaching efficacies for dance, drama, visual arts and music. The diagnostic use of the efficacy instrument, modelling of Creative Arts practice and choice to position preservice teachers in instructor roles covaried with seemingly large increases of unspecified magnitude in participants' Creative Arts efficacy scores. Lemon and Garvis (2017) used the TSES instrument to compare the English, mathematics, technology and Creative Arts efficacy of 339 preservice teachers from three Australian universities. The findings showed participants' dance and music efficacy were significantly lower than the other disciplines and there were significant variances in the Creative Arts teaching efficacies across the three university cohorts. Such findings indicate that Creative Arts teaching remains an area for concern and that different experiences at university can lead to different Creative Arts outcomes, and thus warrant further investigation (Lemon & Garvis, 2017). Morris et al. (2017) were the first to modify the Science Teaching Efficacy Belief Instrument (STEBI) for use in visual arts and music education in their validation of the Arts Teacher Efficacy Beliefs Instrument (ATEBI). Pagano (2020) adjusted the ATEBI to focus on dance efficacy through the Dance Teaching Efficacy Belief Instrument (DTEBI). This paper contributes to this emerging subfield of Creative Arts ITE research by modifying the STEBI-B to focus on the Creative Arts broadly because Creative Arts subjects in ITE are often required to address all disciplines included in the Australian Curriculum (i.e. music, visual arts, drama, dance and media arts).

Creative Arts education research has often relied on qualitative methods (Barton et al., 2013; Chapman, 2019; Lindsay, 2021; Mullet et al., 2016), descriptive statistics (Collins, 2016; Lane, 2019) and the more general TSES instrument (Branch Jr., 2018; Collins, 2016; Lemon & Garvis, 2017). This research makes a methodological contribution to this field by transitioning the Science Teaching Efficacy Belief Instrument-B (Bleicher, 2004; Deehan, 2017; Enochs & Riggs, 1990) into Creative Arts education (Morris et al., 2007; Pagano, 2020) and applying parametric data analyses for rigour. Beyond this methodological contribution, this paper aims to examine the impact of the separation of content and pedagogy in an important, yet relatively underserviced area in Creative Arts ITE by answering the following questions:

1. Does participation in an evidence-based Creative Arts discipline subject covary with improved Creative Arts teaching efficacy beliefs in a cohort of preservice teachers?
2. What are the perceptions of a cohort of preservice teachers of an evidence-based Creative Arts discipline subject?

Methodology and Methods

The research adopted a sequential explanatory design, where the quantitative data were complemented by qualitative data (Creswell & Creswell, 2018). A Type II Case Study was conducted through a quasi-experimental design (Yin, 2014), wherein data were collected from a single cohort of preservice primary teachers over the duration of a 12-week Creative Arts content subject. The quantitative Creative Arts Teaching Efficacy Beliefs Instrument-B (CATEBI-B) was administered at the beginning and the end of the subject. An anonymous qualitative survey was sent to students after the teaching had concluded. Ethical clearance was received for this project (H20002).

Context

ART101 is a single semester (12-week) subject offered to preservice teachers across two four-year education degrees: 'Kindergarten to Grade 12' (K-12) and 'Early Childhood and Primary' (ECP) at a regional Australian university. The subject is placed in the first semester of the second study year in both degree structures, with students in the K-12 degree also having the option to complete the subject in their third year. Graduates of both degrees (ECP & K-12) are expected to be confident educators capable of meeting students' needs in a primary school setting. ART101 was delivered by a PhD holding lecturer with 20 years of experience in Creative Arts ITE education and a record of consistently scoring well above average on student satisfaction metrics.

In accordance with an ITE accreditation mandate requiring preservice teachers to be taught SMK prior to PK in their degree pathways (NESA, 2018), ART101 enables preservice teachers to engage with and work through the creative art forms of music, visual arts, drama, dance and media arts. ART101 includes no explicit references to the teaching profession, including the Australian Curriculum (ACARA, 2015; 2021), the NSW K- 6 Creative Arts Syllabus (NESA, 2006), and primary pedagogies and assessment strategies. However, the Creative Arts content and educational design of ART101 are aligned with Creative Arts in primary teaching without violating the aforementioned mandate. This is achieved through the selection of Creative Arts discipline content based on, but not explicitly alluding to, the NSW Education Standards Authority's (NESA) content descriptors, such as: using knowledge,

skills, techniques, processes, materials and technologies to explore arts practices and make artworks that communicate ideas and intentions (NESA, 2006).

ART101 aims to provide opportunities for preservice teachers to explore numerous creative processes, art practices and engage with the five art forms included in the Australian Curriculum (ACARA, 2013) - music, visual arts, drama, dance and media arts. The workshops and assessments encourage students to: draw on a variety of stimuli to make their own, or group, creative products; to actively reflect on their own Creative Arts history; to connect with Creative Arts theoretical frameworks and elements of the five art forms to analyse their personal and group creative processes during the composing, performing of, appreciating and responding to, their five creative artworks (NESA, 2006).

The pedagogical approach in ART101 is underpinned by a constructivist model of meaningful learning and aims to engage the student through Howland et al.'s (2012) five characteristics of meaningful learning - active, collaborative, constructive, authentic, and goal directed. Through constructivist pedagogy the students are encouraged to construct (and co-construct) their own understanding and knowledge of the Creative Arts and creative processes, through making, performing and reflecting. A mixed pedagogical approach of online resources (detailed modules, readings, videos and forum discussion) and face to face workshops are offered weekly. Teaching approaches include student-centred activities, practice-based activities and individual experiences. There is also a strong focus on collaborative, small group work (activities and discussions) to encourage peer support for those preservice teachers with limited experience and lower confidence in the arts. The different art forms are broken into two (three hour) workshops over two weeks each. The first week's workshop offers group activities and discussions to explore theory and related elements pertaining to that art form. The final hour of the workshop is dedicated to the small groups brainstorming ideas for their group (or individual) art product. The second week's workshop focuses on creating, performing and recording the group/individual art product (e.g. artworks, musical video clips, dramatic skits, dance-off videos, multimedia presentations, etc.). A variety of media and resources for specific art forms are provided in each second workshop to inspire creativity. When developing, creating and performing the creative artworks, the groups are reminded to critically reflect on that art form's elements and how they are utilised to construct/co-construct meaning with the intended audience. The main assessment for this subject is a series of journal entries related to each art form/creative artwork. The task provides opportunities for students to document their learning in all art forms, creating a personal narrative or learning story (Carr, 2001), to review and critically reflect on their art-making and performance processes.

Efforts have been made to ensure ART101 embodies creative teaching principles in the context of ITE (Grainger et al., 2004), including: metaphor; pace; tutor confidence; valuing students; emotional engagement; and learning reflection. The only element that could not be fully realised was contextualisation as teaching principles could not be included in the subject due to the aforementioned mandate. This is a problematic omission as praxis-based learning is essential for authentic Creative Arts teaching (Cutcher & Cook, 2016). Table 1 shows the connections between evidence-based practices in Creative Arts education and the educational design of ART101.

Creative Arts Approach	Representation in ART101
Creative/ critical/ reflective thinking (Eisner, 2002; Grainger et al., 2004; Heid, 2005; Nilson et al., 2013)	Connection to Creative Arts theoretical frameworks and elements of the five art forms to allow students to analyse their personal and group creative processes during the composing, performing of, appreciating and responding to, their five art form products.
Collaborative practice (Burke, 2020)	Use of group work to compose and perform the five art form products. The workshops encourage the sharing of knowledge, joint problem solving of emergent issues, making meaning through the co-construction of an art form product for an audience, and reflection on the group creative processes.
Embodied/ hands on/ active practice (Burke, 2020; Dinham, 2020; Gibson & Ewing, 2015; Kenny et al., 2015)	Using a variety of stimuli to compose and perform the five creative artworks. Every workshop includes hands-on activities and active practice. Embodied learning occurs through encouraging students to connect with themselves, their group members and to the world of Creative Arts.
Cross curricular integration (Ewing, 2010; Robinson, 2001)	Although this is a discipline subject, initial student discussions often focus on how their past experience of Creative Arts at school was restricted to a weekly double period of art (unless they did an elective form of art in secondary school). This prompts a one-off discussion on cross-curricular integration as it relates to their university studies. This discussion is not taken further as it does not relate to the learning outcomes for ART101.
Orientation to life-long learning (Laal, 2014; Sinclair, Jeanneret & O'Toole, 2012)	Life-long learning is an integral part of teaching. This subject provides a platform that aims to encourage confidence in the Creative Arts, helping student teachers to feel positive about themselves and their learning in an area where many feel uncomfortable. Engaging in Creative Arts processes in a safe and supportive environment enables preservice teachers to connect new knowledge and skills to personal experiences. In turn, this process encourages students to be more active and responsible about their learning and also the extension of that learning when they become teachers.
Micro-teaching (Collins, 2016)	Micro-teaching strategies and modalities employed by the lecturer throughout each dedicated art form workshop include: • continual motivation and support at whole class and small group level; • continual feedback throughout the composition and performance of art form products; • learning guides on understanding different creative processes; • one-one time with students to revisit understanding of the skills and knowledge needed to analyse individual and group processes, and; • multiple content delivery formats (face to face, online videos, readings, podcasts, presentations, group discussion). Implementation is cyclical as the lecturer plans, teaches skills, provides feedback, then re-plans, re-teaches and provides feedback in the next art form workshop.

Table 1: *Evidence-based Creative Arts approaches in ART101*

Sampling & Participants

A combination of convenience and purposive sampling was utilised for this project as participants needed to be enrolled in the appropriate offering of the ART101, available for data collection and willing to provide free and informed consent. A sample of 24 preservice teachers was recruited. Both recruitment and in-semester research activities were conducted by researchers not involved in the delivery of the subject. To avoid a potential conflict of interest, the lecturer was only able to gain access to the data after the grades for the subject had been finalised. All participants were undergraduate students studying for education degrees at a regional Australian university, specifically Kindergarten to Year 12 (10) or Early Childhood and Primary qualification (10). Four participants did not disclose their degree. First (4), second (17) and third (3) year preservice teachers were included in the study, the majority of whom were studying on-campus (20). All but 5 of the participants were recent high school graduates between 18 and 24 years of age. A total of 12 participants provided qualitative survey data, with 10 and 6 opting to describe the most helpful and least helpful subject components respectively. Only a quarter of these respondents opted to provide additional commentary in the open comment section.

Surveys – CATEBI-B & Anonymous Survey

The Creative Arts Teaching Efficacy Belief Instrument-B (CATEBI-B) is a modified version of the valid and reliable Science Teaching Efficacy Belief Instrument-B (STEBI-B); originally designed to measure both the personal science teaching efficacy beliefs and broader science teaching outcome expectancies of preservice teachers (Enochs & Riggs, 1990) using the same subscales as the inservice focussed Science Teaching Efficacy Belief Instrument-A (STEBI-A) (Riggs & Enochs, 1990). The STEBI-B has already been validated for visual arts and music in the form of the ATEBI (Morris et al., 2007) and dance through the DTEBI. The CATEBI builds on the existing transition of the STEBI into the Creative Arts by providing a broader instrument based upon the same core scales. The STEBI, and its variations, have been widely utilised in educational research, with over 257 research outputs in a recent meta-analysis (Deehan, 2017). The STEBIs also have strong international reach (Bleicher, 2004; Enochs, et al., 2000). The modified CATEBI-B requires preservice teachers to report their personal and general Creative Arts efficacy beliefs by responding to a series of 5-point Likert scale items ranging from "strongly disagree" to "strongly agree". Select items are added to create two interval subscales. The Personal Creative Arts Teaching Efficacy (PCATE) subscale measures preservice teachers' beliefs in their own capacities to help students to meet Creative Arts learning outcomes. An example of a reverse code PCATE item is, "*I do not feel I have the necessary skills to teach Creative Arts in primary school*". The Creative Arts Teaching Outcome Expectancy (CATOE) subscale measures preservice teachers' views about the influence Creative Arts teaching has on Creative Arts learning outcomes in a general sense. An example of a CATOE item is, "*When a student does better than usual in Creative Arts, it is often because the primary teacher exerted a little extra effort*".

For the original STEBI-B, both the personal science teaching efficacy scale (α=0.90) and outcome expectancy scale (α=0.76) were shown to be reliable (Enochs & Riggs, 1990) and this has been emulated across different contexts (Deehan, 2017; Bleicher, 2004; Olgan et al., 2014; Velthuis et al., 2014). Personal Efficacy and Outcome Expectancy scales have also shown to be reliable in the other Creative Arts iterations of the instrument (AETBI & DTEBI) (Morris et al., 2017; Pagone, 2020). Table 2 presents the Cronbach's Alpha

reliability coefficients for the PCATE and CATOE subscales of which the modified CATEBI-B is composed. Through rounding, both scales on both the pre- and post-test occasions reached or surpassed the accepted lower limit of 0.7 needed to be deemed reliable (Chandrasegaran et al., 2007), although the reliability of the pre-occasion CATOE is dubious (Kline, 1991). In fact, the relatively low reliability of the CATOE subscale echoes trends in the STEBI literature (Morris et al., 2017; Pagone, 2020; Velthuis et al., 2014), where preservice teachers are considered by some to lack the professional contextual understandings to consistently respond to outcome expectancy measures that, by their very nature, are complex constructs open to influence from an array of antecedent variables (Mulholland & Wallace, 2003). Regardless, outcome expectancies, such as the CATOE subscales, should be incorporated into educational research designs. Sufficient belief in efficacy of the teaching profession will be necessary to sustain early career and preservice educators as they develop their own professional and pedagogical experience repertoires (Loughran et al., 2004) during a career period marred by high burnout risk (Taylor et al., 2019).

	PCATE		CATOE	
Scale	Pre Occasion	Post Occasion	Pre Occasion	Post Occasion
	$\alpha = 0.805$	$\alpha = 0.820$	$\alpha = 0.697*$	$\alpha = 0.775$

Denotes a borderline reliability score
Table 2: *Cronbach's alpha Reliability Coefficients for the CATEBI-B subscales (N=24)*

At the conclusion of the semester, the participants were invited by a member of the research team who was not involved in the delivery of the ART101 subject to complete an anonymous qualitative survey. The survey consisted of three short questions: 1) What about this subject did you find most helpful in your learning?; 2) What about this subject did you find least helpful in your learning?; and 3) Are there any additional comments you would like to make?

Data Analyses

A Multivariate Analysis of Variance (MANOVA) with repeated measures on the occasion of testing (pre- & post- test) was used to determine if the participants' PCATE and CATOE scores underwent significant change between the commencement and conclusion of the ART101 subject (Johnson & Wichern, 2014). This was complemented by two paired T-tests with modified Bonferroni corrections to further account for the relatively limited, although still acceptable sample size. The magnitude of changes were assessed through the calculation of Cohen's d effect sizes. IBM Statistics Package for the Social Sciences (SPSS) version 27 was used to conduct the quantitative data analysis for this research project.

The baseline statistical assumptions for the MANOVA with repeated measures were generally met. The two dependent variables (PCATE & CATOE) and independent variables (pre & post occasions of testing) were appropriate for this type of analysis. Due to fixed scores of the CATEBI subscales, there were no outliers in the dataset; as indicated by Mahalanobis distance (MD) scores below 13.82 for the two dependent variables. Shapiro Wilk normality tests showed that the data were normally distributed for the PCATE post-test ($p=0.678$), the CATOE pre-test ($p=0.400$) and the CATOE post-test ($p=0.388$). It should be

noted that the PCATE pre-test was not normally distributed (p=0.006), with scores falling overwhelmingly in the "uncertain" range (24-30). The sample size can be deemed sufficient, albeit small, as the number of cases (24) exceeded the number of independent variables (2 - Pre and post test) multiplied by the number of dependent variables (2 - PCATE & CATOE) (VanVoorhis & Morgan, 2007). However, the sample still falls below the threshold of 7 participants per cell needed for moderate power (0.5) (Tabachnick & Fidell, 2012). The reason limited sample size may be a factor is the low correlations between the PCATE and CATOE subscales on both the pre-occasion (r=-0.022) and post-occasion (r=0.273) of testing as a sample of 50 of greater is typically required for Pearson's r Correlation Coefficient Analyses (Vanvoorhis & Morgan, 2007). This means that only the post-occasion data are both correlated ($r \geq 0.2$) and non colinear ($r \leq 0.9$). We speculate further on both the distribution issue for the pre-occasion PCATE data and the correlation issue for the pre-occasion data in the discussion section of this paper.

To address the aforementioned issues with the CATEB data, two complementary dependent mean T-tests were calculated from the PCATE data (pre & post) and the CATOE data (pre & post). A modified Bonnerfoni correction was applied to these tests to reduce the likelihood of a Type 1 error by dividing the accepted p value ($p \leq 0.05$) by the number of T-tests (2); meaning that a p value equal to or less than 0.025 would be required for significance.

Thematic analyses were conducted on the qualitative survey data collected after the ART101 subject had concluded. An open, axial and selective coding process was applied through a series of collaborative meetings to achieve a consensus level of interrater reliability (Williams & Moser, 2019). Each full response was openly analysed before being organised into axial groupings based on the different questions via QSR NVivo 12. In accordance with the qualitative approach adopted for the anonymous survey, themes emerged during the analytic processes rather than from an a priori set. Jaccard's similarity coefficients were calculated to ascertain the overlap amongst themes, ranging from no overlap (0) to duplication (1) (Jackson & Bazeley, 2019). The selected themes were an efficient, clear representation of the participants' views as no themes were duplicated. To supplement the informed manual analyses of the authors, the prominence of themes as determined by code counts was considered in the selection and presentation of themes. Ultimately, the decision was taken by the research team to classify the themes presented in Table 5 as positive and negative.

Results

The findings are organised based on the research questions. The first subsection will investigate the relationship between 24 preservice teachers' participation in an evidence-based Creative Arts discipline subject and their Creative Arts teaching efficacy beliefs. The second subsection will outline the participants' perceptions of the ART101 subject.

Research Question One - Does participation in an evidence-based Creative Arts discipline subject covary with improved creative teaching efficacy beliefs in a cohort of preservice teachers?

There is some evidence to suggest that participation in the ART101 subject covaried with statistically significant changes to the pre services teachers' CATEBs. The table below presents the output from the MANOVA with repeated measures on the pre- to post-test occasions of testing for both the CATEBI-B subscales, PCATE and CATOE. There was a

statistically significant main effect due to the occasion of testing ($F_{(1,23)}=8.665$, $p<0.05$), meaning that the participants reported higher Creative Arts efficacy scores at the conclusion of the ART101 subject. Interestingly, there was no main effect due to the CATEB scales ($F_{(1,23)}=3.278$, $p=0.083$), suggesting no difference between participants' personal efficacy beliefs and outcome expectancies for Creative Arts education.

Variable	SS	df	MS	F	p.
Occasion	130.667	1	130.667	8.665	0.007
Error(Occasion)	346.833	23	15.080		
CATEB	66.667	1	66.667	3.278	0.083
Error(CATEB)	467.883	23	20.341		
Occasion * CATEB	16.667	1	16.667	1.619	0.216
Error(Occasion * CATEB)	236.883	23	10.297		

Table 3: MANOVA of CATEB data collected during the ART101 subject

Deeper analysis of the CATEB subscales shows inconsistency between the subscales and sub-optimal efficacy scores for participants. Table 4 presents the descriptive statistics, Effect Sizes (Cohen's d) and T-test output for the PCATE and CATOE data. The dependent mean T-tests provide greater insight into the nature of reported CATEB changes from the beginning to the end of the ART101 subject. There was a significant difference in the participants' PCATE scores at the end of the semester ($t(23) = 2.511826$, $p =0.01948$), with a moderate-to-large positive change ($d=0.697479$). While the CATOE subscale showed small-to-moderate positive effect size change ($d=0.395404$), it did not produce a significant T-test result when the Bonferroni correction was applied ($t(23) = 2.069483$, $p =0.04992$). The descriptives confirm this trend with the mean PCATE growth (+3.16) being more than double the mean CATOE growth (+1.5). For context, it's important to note that neither the PCATE (29.16) nor the CATOE (30) post-occasion means reached the high efficacy threshold (32); wherein a participant would be responding affirmatively with an average of 4 or more across all 8 subscale items. In fact, only 33% and 42% of the participants reached this high efficacy threshold at the conclusion of the subject on the PCATE and CATOE subscales respectively.

	PCATE						CATOE					
	Pre Occasion		Post Occasion		Sig.		Pre Occasion		Post Occasion		Sig.	
	Mean	Std. Dev.	Mean	Std. Dev.	Cohen's d	T-test	Mean	Std. Dev.	Mean	Std. Dev.	Cohen's d	T-test
	26.00	4.77311	29.1667	4.2947	0.697479	p=0.01948*	28.50	3.64751	30	3.93424	0.395404	p=0.04992 ns

*= significant (p$\leq$0.025), ns = not significant (p<0.025)

Table 4: *Descriptive, Cohen's d and T-test statistics for CATEB data collected before and after the ART101 subject (N=24)*

Research Question Two - What are the perceptions of a cohort of preservice teachers of an evidence-based Creative Arts discipline subject?

The qualitative data show that although participants' views were generally more positive, they still identified aspects of their experiences of ART101 that were negative. Positive comments (n=10) were more common than negative comments (n=6) within the anonymous qualitative survey data (n=12) collected after the ART101 subject. Table 5 outlines the prominent subthemes, as defined by the number of contributing participants, categorised as either "Most Helpful/ Positive" or "Least Helpful/ Negative". Five respondents appeared to appreciate the subject in a general way; indeed, one student found the subject to be helpful in addressing external stressors, "*It also gave me so many laughs which I really needed due to a stressful uni/work/home life. It gave me the break I needed*". The interaction with the lecturer (4) and peers (4) was viewed favourably, as one student succinctly stated, "*Got to know my peers better. (Lecturer) was very friendly*". Three respondents felt their experiences in the subject had improved their confidence. In fact, one student reported a wide-reaching positive influence, "*I feel more confident and learnt more in the past 14 weeks than my whole life*". A further three students held more transactional views about how the subject helped them to make progress in their assessment tasks, "*...all the work we did in class was used towards our assessments*". Two preservice teachers changed their views about the importance of the Creative Arts, with one stating "*I value the Creative Arts a lot more than I did at the start of the year*". However, despite the fact that all participants were studying to be educators, there was only one explicit mention of Creative Arts teaching in the qualitative dataset as one student was able to make connections to teaching practice without explicit framing:

> *This class has taught me so much (about) how to become a teacher, improving (my) self-confidence in front of a crowd, teamwork, improvisation. Learning to overcome obstacles. I also learned how to use these skills when I become a teacher and ways to motivate a class.*

Most Helpful/ Positive (n)	Example Quote	Least Helpful/ Negative (n)	Example Quote
General Positive Statements (5)	"I am actually really sad this class has ended."	Online Elements (3)	"Content was hard to locate on (the LMS)"
Lecturer (4)	"(Lecturer) took time to explain things and nothing was ever too silly."	Suggestions for Improvement (2)	"...please don't move this class to online."
Group Work (4)	"I found that large group tasks were very helpful as we would all participate."	Demotivating (1)	"I found this de-motivating."
Gaining Confidence (3)	"I feel more confident and learnt more in the past 14 weeks then my whole life."	Group Work (1)	"Group work is very difficult for a full-time worker and student."
Assessment Focus (3)	"The work we did in class was used towards our assessments."	Irrelevant (1)	"I didn't learn much or see the purpose of this subject."
Changed Views (2)	"I now enjoy creative activities and think they are important."	Poor Confidence (1)	"I am not confident."

Table 5: Themes from the anonymous post-subject survey

The least helpful/ negative responses were more narrowly focused on the online elements of the subject (3). Indeed, one of the suggestions for improvement (2) was a plea for the subject to remain on-campus, "*...please don't move this class to online. You physically need this class in person*". Conversely, another preservice teacher wanted to "*Not have to turn up to all (tutorials)*". The other issues were isolated and were not indicative of larger patterns in the dataset. Regardless, it is noteworthy that one student "*didn't learn much or see the purpose of this subject*". This warrants further discussion when triangulated with the CATEB data and the absence of connections to teaching in the "Most Helpful/ Positive" responses to the open ended survey. One of the three participants who elected to provide an open comment described their Creative Arts background as "*very minimal*" as they were "*never creative*" and were "*always very shy*". While this student felt the Creative Arts to be valuable, "*I value Creative Arts a lot and really admire those that can perform*", they did not feel confident to teach Creative Arts at the end of the subject.

Discussion

There is some evidence presented in this paper to suggest that a small sample of preservice teachers held improved Creative Arts teaching efficacy beliefs after completing an evidence-based Creative Arts discipline subject (ART101). A Multivariate Analysis of Variance (MANOVA) with repeated measures suggested both that CATEB growth from the pre-to-post occasion of testing was statistically significant and that there was no difference between the PCATE and CATOE subscales. However, the supplementary T-tests applied to address issues with the dataset provide a more nuanced view of the participants' CATEBs. Despite the similar mean scores on the post-occasion (0.8 difference), the preservice teachers' PCATE growth (Cohen's d=0.7) was much larger than their CATOE growth (Cohen's d=0.4); an observation that closely resembles the earlier STEBI literature base (Deehan, 2017). Curiously, only the growth on the PCATE subscale (p=0.019) is considered to be statistically significant after the application of a conservative Bonferroni correction. The

mean PCATE and CATOE post-occasion scores suggest a relatively uneven experience amongst the participants, as only a third reported high personal Creative Arts teaching efficacy beliefs and less than half (42%) reported high Creative Arts outcome expectancies. This means that, despite the robust evidence-based approach, more than half of the preservice teachers exited ART101 retaining at least a degree of uncertainty regarding their own capacities as Creative Arts educators and the impact of Creative Arts education on learners more broadly. Although there are some promising findings here, this does suggest that more support is needed for these preservice teachers to become confident and competent Creative Arts educators. Due to sample size and design limitations it is not possible to precisely attribute any of these CATEB findings to specific factors such as: the absence of teaching focused (PK) content in accordance with the state mandate (NESA, 2018); the characteristics of the lecturer; and the traits and circumstances of the cohort, etc. Indeed, a degree of uncertainty could be considered developmentally appropriate. Regardless, these CATEBI-B findings should serve as a catalyst for research at grander scales, including ITE programs, career transitions and jurisdictional audits, if creative ITE is to fulfil its long-term potential (Collins, 2016; Ewing & Gibson, 2015; Heyworth, 2018) to address the myriad of issues in creative education (Jeanneret & Stevens-Ballenger, 2013; Lowe et al., 2017).

To some extent, the qualitative findings from the anonymous post-occasion survey align with the CATEBI analyses as the generally favourable views were accompanied by some points of critique. Unspecific positive statements were the most common positive theme, which speaks to the inherent difficulty associated with investigating the impact of complex, multifaceted university subjects with overlapping approaches. Interestingly, the open and collaborative learning environment was appreciated by the preservice teachers as they reported favourable views of both the lecturer and group work with their peers. If anything, these findings make interpretation of the CATEBI-B data more challenging as they highlight the importance of the ever-present confounding 'teacher variable' in education research (Deehan et al., 2019), that does raise questions of replicability. Although the participants' positive views about cooperative learning are not unprecedented in ITE research (Erdem, 2009), this may have been influenced by the timing of the semester because the participants were returning from nearly a year of online learning due to Covid-19 restrictions. The themes of 'Gaining Confidence' and 'Changed Views' were signs that some preservice teachers' creative trajectories may have been improved during the course of the ART101 semester. However, the negative themes mirror their positive counterparts in some noteworthy ways. Their aversion to the online learning elements contrasts directly with their positive perceptions of lecturer and peer engagement. It could be speculated that the emergent disdain for online learning elements in this subject, even in a primarily face-to-face mode of delivery, is indicative of the struggles of preservice teachers to adapt to rapid shifts to online learning (Blackley et al., 2021). It is important to note that online learning was becoming more prominent within universities prior to the Covid-19 pandemic (Norton & Cakitaki, 2016; Norton et al., 2018) and was intersecting with long-standing ITE challenges around public perception, inconsistent policy and funding (Fitzgerald & Knipe, 2016;). Like other practice-based discipline areas such as science (Deehan, 2021), the Creative Arts are particularly challenging to transfer online effectively (Burke 2020; 2021); suggesting that the Creative Arts in ITE need further research focus and support to overcome both the university-specific challenges and the aforementioned problems beyond the university sector (Lyndsay, 2021; Lane, 2020; McLaren & Arnold, 2016; Barton et al., 2013; Garvis & Lemon, 2013; Ewing, 2010). Also, the presence of 'Demotivating', 'Poor Confidence' and 'Irrelevant' within the theme set does appear to align with the relatively inconsistent CATEBI-B results. One quote in particular alludes to an issue beyond just the design and delivery of ART101 investigated in this paper, "*I didn't learn much or see the purpose of this subject*".

This paper allows some speculation on the relationship between subject matter knowledge (SMK) and pedagogical knowledge (PK); an ever-evolving issue that dates back to the very beginnings of ITE (Rollnick & Mavhunga, 2016). There has been a longstanding move towards merging SMK and PK in conceptualisations of teaching practice, as reflected in foundational frameworks such as: Pedagogical Content Knowledge (PCK) (Loughran et al., 2001); Technological Pedagogical Content Knowledge (TPACK) (Schmidt et al., 2009) and Professional and Pedagogical Experience Repertoires (Loughran et al., 2004). This has often been reflected in ITE programs internationally, particularly in preservice primary education (Deehan, 2022; Rollnick & Mavhunga, 2016). However, concerns continue to be raised regarding the minimisation of SMK in ITE programs (e.g. Wellcome Trust, 2017), despite the unclear relationship between SMK and quality teaching (Rollnick & Mavhunga, 2016). Even with the plethora of evidence for the need to synthesise SMK and PK in the key disciplines of literacy (Freeman & Johnson, 1998), mathematics (Mewborn, 2001) and science (Abd-El-Khalick, 2006), ART101 was affected by a jurisdictional mandate stipulating that only SMK could be taught with no reference to PK (NESA, 2018). This makes ART101 an interesting case study of the separation of PK from an otherwise evidence-based discipline subject delivered by an experienced, qualified Creative Arts academic. Both the CATEB and qualitative survey data indicated preservice teachers' improved their personal Creative Arts teaching efficacy beliefs and held favourable views of their experiences in ART101. However, increases to participants' Creative Arts outcome expectancies were questionable and they did not seem to make many explicit connections between the subject and their future roles as Creative Arts teachers. It is important to note that the majority of the participants did not exit the subject with high efficacy beliefs; although it is likely that their beliefs will be further developed as they progress in their studies and careers. A speculative interpretation would be that the forced removal of PK makes the learning less relevant to preservice teachers and reduces the potential benefits of the ART101 subject. It could be argued that broad mandates in ITE do not adequately consider the feasibility of separation of SMK and PK in the Creative Arts; a field characterised by fluid, more subjective SMK (Barton et al., 2013; Eisner, 2002) across an array of separate, yet related disciplines. Indeed, the separation of content and pedagogy is antithetical to the complex nature of the Professional and Pedagogical Experience Repertoires deployed by effective primary Creative Arts educators (Wiggins & Wiggins, 2008). Clearly, these issues warrant further attention from Creative Arts researchers in ITE programs.

Aside from providing further insight into the longstanding SMK and PK tension in ITE, some more tangible recommendations for ITE stakeholders can be made on the basis of this research project. The evidence-based approach embodied in the ART100 subject design can serve as a model for effective Creative Arts practice within and beyond the discipline itself. For example, Creative Arts practices such as: critical reflection (Nilson et al., 2013), collaborative practice (Burke, 2020), active learning (Ewing & Gibson, 2015), orientation to life-long learning (Laal, 2014) and micro-teaching (Collins, 2016) are effective mechanisms for incorporating pedagogical themes into discipline subjects without undermining mandates for SMK and PK separation. Such approaches also have considerable potential to enrich other disciplines and highlight the overarching importance of Creative Arts for preservice educators. It is recommended that ITE academics work collaboratively to examine the impact of SMK and PK separation on preservice educators in a broader sense as they progress through subjects and in-school placements, particularly in terms of academic performance, attitudes, school practical teaching placements and early career experiences. Creative Arts academics could also offer guidance on infusing worthwhile Creative Arts andragogies into other ITE subjects for the benefit of learners and the enhancement of program level cohesion.

There are limitations to this research project that should be factored into any interpretation of the findings presented. The non-probabilistic recruitment strategy and the relatively small sample size of 24 preservice teachers prevents any reasonable generalisation of the findings beyond the context of this study. Although adequate, the sample size still falls short of even moderate power (Tabachnick & Fidell, 2012). Relatedly, there were some shortcomings in the dataset as it related to the assumptions underpinning the MANOVA with repeated measures. Of interest was that the shortcomings, both the abnormal distribution of the PCATE pre-test data and the questionable reliability of the CATOE subscale, provide relevant insights into the research context. The abnormal PCATE distribution can be attributed to the overabundance of preservice teachers reporting unsure scores on the pre-occasion, which would be reasonable given that AT101 is the first Creative Arts subject in their course pathways. Additionally, the dramatic increase in CATOE reliability from the pre- to post-occasion of testing could indicate that exposure to expert Creative Arts teaching, even without explicit PK or PCK development, can help to crystallise preservice teachers' beliefs about the impact Creative Arts teaching can have on learners. Indeed, changes of this nature have been observed in a range of qualitative and mixed method studies of teacher education contexts that emphasise arts-based teaching and learning (Møller-Skau & Lindstol, 2022). In the context of the present methodology, however, the trend towards increased CATOE reliability has been both replicated (Morris et al., 2017) and contradicted (Parone, 2020), which indicates a need for further research. The focus on a single cohort without a control group means that causal links between preservice teachers' CATEBs and participation in the ART101 subject cannot be established due to the impact of confounding variables, such as the traits of the lecturer. Further to this point, the mixed methods were not strongly cross triangulated and the data were distal, which means this paper cannot offer proximal insights into the complex interactions within the ART101 learning environment. The pre-to-post-test design does not enable week-by-week tracking to investigate how specific learning opportunities within the subject influence participants' CATEBs. Additionally, the CATEBI-B instrument itself, despite its reliability and connection to literature, does not differentiate the Creative Arts as others have (e.g. Collins, 2016).

For Creative Arts academics in ITE, this research confirms much of the existing literature (see Table 1) by showing a covariant link between embodied, student-centred teaching practices and improved preservice primary teachers' personal creative teaching efficacy beliefs. Beyond adding to this corpus of literature, this manuscript holds some worthwhile implications for research. First, the CATEBI-B is a reliable and parsimonious means of investigating Creative Arts practice in ITE programs that can allow for comparisons between disciplines, such as science (e.g. Deehan et al., 2017; 2019; 2020; McKinnon et al., 2017), and across jurisdictions (Deehan, 2017). Options for scalability can be pursued through the adaptation of the STEBI-A (Riggs & Enochs, 1990) to a CATEBI-A for inservice teachers; thus allowing for longitudinal research to strengthen the connection between ITE programs and schools. The CATEBI-B is a broad, equivalent complement to the more precise measures of visual arts, music and dance efficacy (Morris et al., 2017; Pagone, 2020) that provides a suite of options for Creative Arts researchers to pursue more varied and expanded projects. Second, the separation of SMK from PK in preservice Creative Arts education requires further research attention and greater scrutiny from policy makers because such separation is often focused on literacy, numeracy and science (Rollnick & Mavhunga, 2016) and does not consider the unique characteristics and challenges associated with Creative Arts education. Third, it is advised that Creative Arts ITE research move beyond single subject research to focus on how ITE programs influence the Creative Arts efficacy beliefs and capabilities of preservice teachers across institutions and beyond formal periods of study. Fourth, the form and impact of online education practices, both long-term and forced by

Covid-19, on the Creative Arts efficacy beliefs, capabilities and career trajectories of preservice teachers needs to be thoroughly interrogated and thoughtfully considered to ensure that the status and quality of Creative Arts in ITE are not diminished. Finally, the impacts of practical and early teaching experiences on preservice and early career teachers' Creative Arts trajectories merits further research to help bridge long-standing school-university divides (Anagnostopoulos et al., 2007).

Conclusion

The implementation of a national Australian arts curriculum highlights the importance of the arts as an educational imperative (Skiba et al., 2010) to nurture creativity and help engage, inspire and enrich student learning (ACARA, 2013) – despite the uneasy history of arts and education (Willerson, 2019). Preservice teacher positive perceptions and confidence in teaching arts is essential for effective incorporation of creativity within the classroom (McLaren & Arnold, 2016; Mullet et al., 2016). This paper shows that an evidence-based, discipline-focused Creative Arts ITE subject can positively influence preservice teachers' Creative Arts teaching efficacy and overall perceptions. However, the somewhat uneven results raise further questions about the separation of pedagogical knowledge (PK) from subject matter knowledge (SMK) in Creative Arts ITE. Despite being a small case study, this project provides useful methodological and field specific insights to direct future research in a field beset by intersectional problems, both field specific (i.e. low confidence) and universal to ITE (i.e. policy inconsistencies & funding shortfalls) that have been both long-term (i.e. online education) and unexpectedly rapid (i.e. Covid-19). It is imperative that ITE researchers and educators continue to work diligently to advance knowledge and collaborate with school-based stakeholders for the sake of informed advocacy to ensure the Creative Arts flourish, rather than succumb to the complex set of challenges.

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