

The role of communities of practice in improving practice in Indigenous health and education settings: A systematic review

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Abstract

Introduction: Several workforce development strategies have been developed to improve practice in Indigenous health and education settings. These programs are often not implemented well, and as a result, they don't have the intended effect on Indigenous health and education outcomes. Building capability of the health and education workforces is critical to improving health and education outcomes for Indigenous Peoples. Interventions that foster communities of practice are effective at influencing practice in various sectors, however no systematic reviews have investigated the impact of communities of practice in Indigenous health or education settings.

Methods: This systematic review investigates the role of communities of practice in supporting existing workforce development strategies in Indigenous health and education settings. Seven databases were searched in 2019 and again in 2020. Data synthesis was through thematic analysis.

Results: Eleven qualitative studies were included. Most community of practice interventions were situated in education settings. Interventions that foster community of practice can successfully include both Indigenous and non-Indigenous health and education professionals, allowing them to share personal stories, knowledge and resources and engage in personal and group reflection. This supports them to develop culturally responsive health and education tools, assessments and strategies and, therefore, may play a role in improving Indigenous health and education outcomes.

Conclusion: Participation in communities of practice coupled with increased training and teaching about Indigenous culture may play a role in improving practice of Indigenous health and education professionals. Further research is required to determine what impact this has on Indigenous Peoples.

Keywords: Aboriginal people; health practitioner; teaching; mentoring circle; continuing professional development; qualitative research

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Introduction

Many health and education professionals enter their roles in Indigenous settings with limited knowledge and experience to practise effectively in Indigenous settings, and relevant training and professional development opportunities to support these professionals are limited (Jorgensen, 2010; Lyons et al., 2006; Ockenden, 2014; Office of the Auditor General of Canada, 2004; Scougall, 2008; Zavros-Orr & Holden, 2018). As a result, these workforces, that largely do not identify as Indigenous, often experience feelings of disempowerment, low levels of social control and remuneration, demanding workloads and high levels of anxiety, often resulting in poor retention and frequent turnover of staff (Matthews et al., 2005; Mills & Gale, 2003; Office of the Auditor General of Canada, 2004; Price-Robertson & McDonald, 2011; Scougall, 2008; Wilson et al., 2017; Wilson et al., 2016; Zavros-Orr & Holden, 2018). In an attempt to reduce these issues, researchers have called for integrated training programs that comprehensively address the needs of health and education professionals to incorporate cultural safety and competency concepts in their practice (Bowra et al., 2020; Guerra & Kurtz, 2017; Socha, 2020; Andersen, 2009; Lyons et al., 2006; Mackinlay & Barney, 2012; Wilson et al., 2015; Zavros-Orr & Holden, 2018). However, there is a paucity of published literature regarding ways to engage education and health professionals in these programs, and where they do exist, they are seldom implemented successfully (Bowra et al., 2020; Guerra & Kurtz, 2017). Communities of practice may assist in filling this gap, but no systematic reviews have investigated the role of community of practice as a strategy to support workforce development programs in Indigenous health and education settings. Understanding how communities of practice affect health and education professionals may assist in the development of new approaches to engage health and education professionals in existing workforce development programs and support their implementation in Indigenous settings.

Background

Indigenous Peoples are diverse and distinct in their traditions and characteristics, and display great strength, tenacity and resilience globally (Mokak, 2016; United Nations Permanent Forum on Indigenous Issues, n.d.). The term “Indigenous Peoples” has been used throughout this review as an umbrella term to describe people who live in or have connection to geographically distinct traditional habitats or ancestral territories, identify themselves as being part of a distinct cultural group, descend from groups that were present prior to colonisation and/or who maintain cultural and social identities that are separate from the dominant society or culture in which they live (United Nations Permanent Forum on Indigenous Issues, n.d.). Indigenous knowledge systems have always been integral to the health and wellbeing of Indigenous Peoples (Greenwood & Lindsay, 2019), and the Western academic system has come to recognise Indigenous knowledges as protective and enhancing factors for Indigenous Peoples’ wellbeing (Goodkind et al., 2010; Greenwood & Lindsay, 2019; Marsh et al., 2018; Straits et al., 2019). However,

inclusion of Indigenous knowledges in health and education settings continues to be underrepresented. Furthermore, despite resilience and determination of Indigenous Peoples to maintain cultural traditions and knowledge, social and cultural determinants continue to drive health and social disadvantages for Indigenous Peoples globally (Mokak, 2016, Verbunt et al., 2021). Education and health are particularly important, as each influences the other. For example, poor health has a negative impact on education, and education mediates health outcomes at individual, family and community levels (Johnston et al., 2009). Education also affects health outcomes through influencing health literacy and behaviour, sense of control, empowerment and life chances (Johnston et al., 2009; Mokak, 2016).

Education professionals are paid to teach, educate or facilitate learning. Health professionals study, diagnose and treat human illness, injury and physical and mental impairments (Strasser et al., 2013). Thus, these professionals may play an important role in addressing issues related to health and education outcomes for Indigenous Peoples. However, to work effectively in Indigenous settings, health and education professionals, and the institutions in which they work, must collaborate with Indigenous people to incorporate Indigenous knowledges and perspectives into their practice and address the institutional and interpersonal racism experienced within both systems (Bodkin-Andrews & Carlson, 2016; Bourke et al., 2019; Delbridge et al., 2022; Gatwiri et al., 2021; Markwick et al., 2019; Pitama et al., 2018; Socha, 2020; Williams et al., 2019). This can be a difficult and uncomfortable task. Thus, increased confidence and ability of health and education professionals to address these issues may assist in improving their practice and, potentially, health and education outcomes of Indigenous Peoples (Cohen & Syme, 2013; Delbridge et al., 2018; Johnston et al., 2009).

Community of practice surfaced in academic literature in the 1990s and was originally developed as a learning theory. It has since been successfully used as management tool and continues to evolve as a concept (Aljuwaiber, 2016; Li et al., 2009a, 2009b; Schenkel & Teigland, 2008). Community of practice is described by Wenger, McDermott and Snyder (2002) as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 4). Communities of practice can support the public health workforce to engage in reflective practice, increase networking opportunities and change their practice (L. Barbour et al., 2018) and may assist in supporting health and education professionals to participate in and benefit from existing workforce development strategies targeted at improving their practice in Indigenous settings. Community of practice is also grounded in concepts of learning within a relational, collective and reciprocal context, thus aligning with several Indigenous communities’ values of relationships, collectivism and reciprocity (Denzin & Lincoln, 2017; Haar et al., 2019; Raju Nikku, 2020).

The purpose of this review is to systematically search and synthesise the literature regarding interventions that foster communities of practice in Indigenous health and

education settings. The review seeks to determine the impact that community of practice interventions have on health and education professionals and how, if at all, this influences their practice in Indigenous health and education settings. This review does not seek to offer new workforce development strategies or programs but, rather, aims to improve and support implementation of those that already exist and may be developed in the future.

Methods

A systematic review was chosen as the most appropriate method to ensure unbiased scoping and synthesis of published literature. All studies were published, thus ethical approval to conduct this review was not required.

Figure 1

Example Search Strategy (MEDLINE)

#	Searches
1	("communit* of practice" or "communit* of interest" or "communit* of learning" or "communit* of knowledge" or "learning communit*" or "knowledge communit*" or "situated learning" or "group learning" or "group mentoring" or "group supervision" or apprenticeship or "learning network" or "knowledge network" or "learning circle" or "community network" or "teacher professional learning" or "train-the-trainer" or "knowledge transfer" or "mentoring circle" or "communit* of action")
2	exp Oceanic Ancestry Group/
3	exp American Native Continental Ancestry Group/
4	("oceanic ancestry group" or "American native continental ancestry group" or indigen* or aborigin* or sami or samii or samis or inuit* or "first nation*" or maori or "torres strait island*" or "ATSI" or "TSL" or "kung san" or berbers or hadzabe or maasai or bantu or ogoni or tuareg or Sahrawi or Ainu or Assyrian or Kazhak or Mongol or Tajik or Tibetan or Ugyur or "Eurasian nomad*" or miao or shan or Karen or Chakma or Kurd* or "American india*" or metis or mayan or Aymara*)
5	2 or 3 or 4
6	exp Health Personnel
7	("health workers" or "health practitioners" or clinician or "health staff" or "medical staff" or Nurs* or "health personnel" or Physician or "medical personnel" or "audiologist*" or "case manager" or "medic* faculty" or "nurs* faculty" or "health educa*" or "nutritionist" or Dietitian or "occupational therapist" or "community health worker" or Optometrist or "hospital personnel" or Pharmacist or Dentist or "physical therapist" or "teach* personnel" or "educ* personnel" or Teacher or educator or "teach* staff" or "educa* staff" or "social worker")
8	("clinic* setting" or "teach* setting" or "health setting" or "medical setting" or "educ* setting" or "teach* area" or "educ* area" or "health area" or "place of learning" or "place of teaching" or "health education")
9	6 or 7 or 8
10	1 and 5 and 9

Search strategy

MEDLINE, CINAHL, EMCARE, Web of Science, Pro Quest, Scopus and Informit were searched in July 2019. Key terms relating to “Indigenous People”, “health settings”, “education settings”, “health professionals”, “education professionals” and “community of practice” were used and subject headings such as “health care personnel” and “oceanic ancestry group” were included where available. An example search strategy is shown in Figure 1. Key terms used were identified through Google searches and extracted from previously published literature (L. Barbour et al., 2018). The Lowitja Institute and Australian Indigenous Health *InfoNet* were also searched with only the key term “community of practice” to identify any peer-reviewed articles located in grey literature, as these are recognised sources of reputable information regarding Indigenous health. The search was rerun in August 2020 using the same key terms and subject headings across all databases used in the original search to identify any newly published research. This review concluded in September 2020.

Inclusion and exclusion criteria

Health and education professionals were chosen as the focus of this study due to the similarities between their work roles and challenges faced in Indigenous settings (Matthews et al., 2005; Mills & Gale, 2003; Office of the Auditor General of Canada, 2004; Price-Robertson & McDonald, 2011; Scougall, 2008; Wilson et al., 2017; Wilson et al., 2016; Zavros-Orr & Holden, 2018). Inclusion and exclusion criteria are shown in Figure 2. No limits were applied to publication date, research design or language.

Figure 2

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Is a study • Reports on the impact of a community of practice or similar program that meets Wenger, McDermott & Snyder’s (2002) description of a CoP on participants • CoP consists of health and/or education professionals who work with Indigenous peoples as a key part of their work 	<ul style="list-style-type: none"> • Program does not meet Wenger, McDermott & Snyder’s (2002) description of a CoP • Is not based in an Indigenous setting • Is presented as a news-style piece, personal opinion, editorial article or thesis dissertation • Does not report on the impact of the CoP to health and/or education professionals

Study selection

All publications identified from database searches were exported to Endnote and screened for title and abstract against the inclusion and exclusion criteria by one researcher. Full-text articles were then retrieved and screened against the inclusion and exclusion criteria. Where uncertainties occurred, a secondary researcher was consulted and discussions

between both individuals determined whether the publication would be included or excluded.

Data extraction and quality assessment

Data extracted included design of the intervention (purpose, time/frequency, researcher/facilitator involvement, location) and study description (methods of data collection and analysis, purpose of study, outcomes of interest, participants/sample characteristics, limitations). Outcomes from the studies were extracted as verbatim quotes from any text under “findings” or “results” headings as recommended for qualitative synthesis in systematic reviews (Thomas & Harden, 2008) and from “discussion” headings where the readers’ interpretation of the data differed from that discussed (Heydari et al., 2017).

Quality assessment was completed at the time of data extraction through use of the Critical Appraisal Skills Program (CASP) Qualitative Research Checklist (CASP, 2018). One researcher assessed each study against the “hints” provided in Questions 1–10 and then recorded an overall answer of “yes”, “no” or “unsure/unclear” to each question based on the majority response to the hints. Question 10 was modified to match the format of the other questions and method of recording responses from “How valuable is the research?” to “Is the research valuable?”. The CASP tool was chosen as all studies contained qualitative data, and the tool considers quality in relation to appropriateness of the research question, design and methods used.

Data synthesis

Data was synthesised through a method of “inductive thematic synthesis” (Thomas & Harden, 2008). Extracted text from each study was coded line by line and then organised into common concepts to construct descriptive themes before being arranged and rearranged to develop the analytical themes shown in Table 1.

Results

The 2019 search identified 837 articles. After removal of duplicates, magazine and newspaper articles and screening of title and abstracts, 35 publications were found to be suitable for full-text screening against inclusion and exclusion criteria. In total, 26 of these were excluded as they did not show evidence within their intervention of Wenger, McDermott and Snyder’s (2002) description of a community of practice (n = 10), did not report a relevant outcome (n = 3), were not a study (n = 8), did not include a relevant sample (n = 2), were presented as a thesis dissertation (n = 1) or the researcher was not able to determine the extent of involvement in an Indigenous setting (n = 2) (Figure 3). Nine studies met inclusion criteria for this study and were reviewed in July 2019. A further two articles (Papp, 2020; Triyanto & Handayani, 2020) were identified from the search rerun in August 2020 and were also reviewed against the research aims and previously developed analytical themes.

Table 1*Themed Findings*

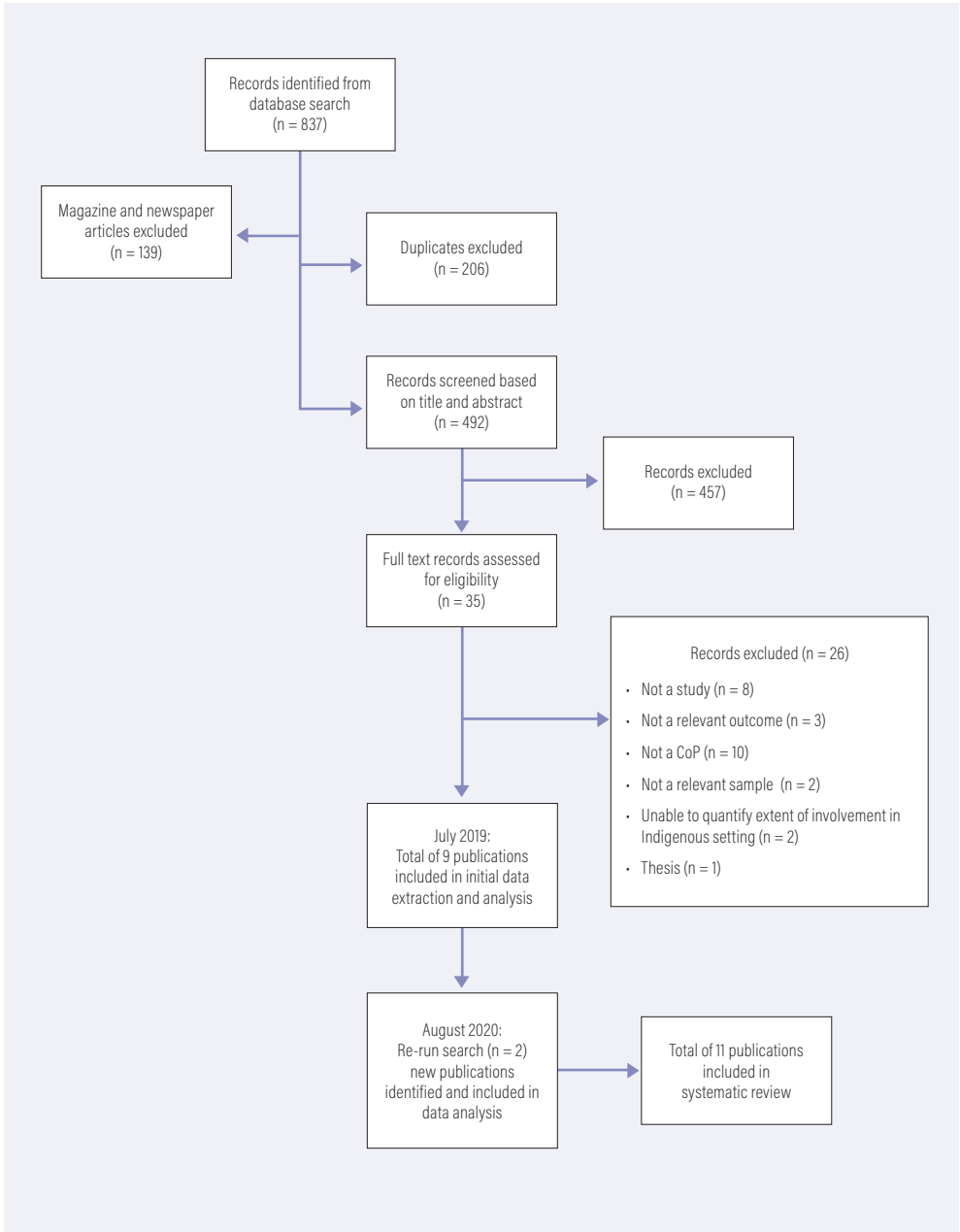
Citation	Outcome to Participants' Practice in Indigenous Health/ Education	Influence on Participants' Support Networks	Impact to Indigenous Students/Clients	Outcomes to Participants' Feelings	Types of Reflection Within CoP	Materials Shared Within CoP	Resources Developed from CoP Activities
Coles-Ritchie & Charles (2011)	Increased skill/knowledge	Desire for ongoing collaborative work		Safety; trust/ respect; connectedness	Personal; practice	Resources; knowledge; goals; emotions/feelings	Informative/ education materials; assessment tools
Duren-Winfield & Barber (2010)	Increased skill; increased quality of service	Desire for ongoing collaborative work; development of social support network		Equality; connectedness; empowerment		Experiences; stories	Informative/ education materials
C. Burgess & Cavanagh (2006)	Increased skill/knowledge; change in practice; overcoming sociocultural barriers to practice	Support and endorsement for program; development of social support network		Equality; connectedness; trust/respect; empowerment; confidence	Personal	Information; experiences; emotions/feelings	
Handayani et al. (2019)	Change in practice; reduced time burden			Safety; equality; trust/respect; decreased isolation	Personal	Knowledge; information	Strategies to improve practice
Delbridge et al. (2018)	Change in practice; increased skill/knowledge; overcoming personal barriers to practice; continuing work in Indigenous setting	Participants collaborating outside of formal sessions; development of social support network		Safety; decreased isolation; confidence; courage	Personal; practice	Ideas; experiences; resources	

Citation	Outcome to Participants' Practice in Indigenous Health/ Education	Influence on Participants' Support Networks	Impact to Indigenous Students/Clients	Outcomes to Participants' Feelings	Types of Reflection Within CoP	Materials Shared Within CoP	Resources Developed from CoP Activities
Wilson et al. (2017)	Change in practice; commitment to working in Indigenous setting	Continuation of program outside formal research project; participants collaborating outside of formal sessions; development of social support network		Safety; trust/ respect; connectedness; decreased isolation; confidence	Practice	Emotions/ feelings; experiences; ideas; advice	
Mombourquette & Bruised Head (2014)	Change in assessment; change in student/teacher interaction		Increased academic performance				Strategies to improve practice; assessment tools
Mazel & Ewen (2015)	Increased skill/knowledge; change to teaching and learning practice; change to Indigenous student recruitment techniques; reduced workload of individual members; continuing work in Indigenous setting	Participants collaborating outside of formal sessions; development of a network of members	Increased enrolment	Safety; connectedness; decreased isolation; confidence		Experiences; ideas; knowledge; resources	Informative/ education materials; strategies to improve practice
Holden et al. (2015)	Change in practice; increased skill/knowledge; ongoing reflection and evaluation; reduced time burden; increased advocacy for Indigenous education; commitment to working in Indigenous setting	Continuation of program outside formal research project		Safety; connectedness; trust/respect; decreased isolation; empowerment; confidence	Practice	Resources; experiences; knowledge	

Citation	Outcome to Participants' Practice in Indigenous Health/ Education	Influence on Participants' Support Networks	Impact to Indigenous Students/Clients	Outcomes to Participants' Feelings	Types of Reflection Within CoP	Materials Shared Within CoP	Resources Developed from CoP Activities
Triyanto & Handayani (2020)	Change in teaching and learning practice; ongoing reflection and evaluation	Collaboration			Practice	Experiences; ideas; opinions; information; observations	Strategies to improve practice; lesson plans
Papp (2020)	Change in practice; increased skill/knowledge; change in student/teacher interaction	Collaboration	Increased ability to connect with material in culturally appropriate ways; increased self-esteem, confidence, attendance, trust, respect and healing; shared ownership and leadership between students and teachers	Connectedness; trust/respect	Practice	Experiences; information	

Figure 3

Study Selection Process



Study description

The 11 included studies are described in Table 2. Of these, two studies reported on the same intervention (Delbridge et al., 2018; Wilson et al., 2017), and another two were reported by the same authors and based in the same location, though it is unclear if they report on the same intervention (Handayani et al., 2019; Triyanto & Handayani, 2020). Most interventions that fostered communities of practice ($n = 7$) were comprised of education professionals; two included only health professionals (Delbridge et al., 2018; Holden et al., 2015; Wilson et al., 2017), and one reached broadly across both health and education settings, including health education institutions (Mazel & Ewen, 2015). Most interventions were conducted through face-to-face meetings, though some ($n = 4$) utilised a combined method of regular online meetings and occasional face-to-face meetings (Delbridge et al., 2018; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017). Intervention duration varied considerably across the studies; some consisted of long sessions (6–8 hours) spread over a small number of days (minimum 2 days, maximum 4 weeks) (C. Burgess & Cavanagh, 2016; Coles-Ritchie & Charles, 2011; Duren-Winfield & Barber, 2006), and some consisted of shorter sessions (2 hours) spread less frequently over a longer period of time (minimum 4 months, maximum 4 years) (Delbridge et al., 2018; Handayani et al., 2019; Holden et al., 2015; Mazel & Ewen, 2015; Mombourquette & Bruised Head, 2014; Papp, 2020; Triyanto & Handayani, 2020; Wilson et al., 2017). Purpose of the intervention varied, with some studies focusing on building health and education professionals' capacity to work with Indigenous People or in Indigenous settings (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018; Holden et al., 2015; Mombourquette & Bruised Head, 2014; Wilson et al., 2017) and others on developing specific resources (Coles-Ritchie & Charles, 2011; Duren-Winfield & Barber, 2006; Handayani et al., 2019; Triyanto & Handayani, 2020) or a combination of both (Mazel & Ewen, 2015; Papp, 2020). Some interventions included a combination of Indigenous and non-Indigenous participants (C. Burgess & Cavanagh, 2016; Coles-Ritchie & Charles, 2011; Duren-Winfield & Barber, 2006; Handayani et al., 2019; Mazel & Ewen, 2015; Mombourquette & Bruised Head, 2014; Papp, 2020), where others selected a very specific group of participants who all identified as non-Indigenous (Delbridge et al., 2018; Wilson et al., 2017) or Indigenous (Triyanto & Handayani, 2020). Researcher involvement was not reported in all studies, however those who provided detail of their involvement included the researchers as participants (Duren-Winfield & Barber, 2006), facilitators (Coles-Ritchie & Charles, 2011; Handayani et al., 2019) or both (Delbridge et al., 2018; Wilson et al., 2017).

Table 2*Study Description*

Author (year)	Setting, Location & Indigenous Group	Participants	CoP Purpose	Type, Frequency and Length of Contact	Researcher Role in CoP
C. Burgess & Cavanagh (2016)	Education New South Wales, Australia (Aboriginal People)	Teachers from 14 schools in 5 different regional, rural and isolated areas (mostly non-Indigenous)	Improve Aboriginal education, build relationships between teachers & Aboriginal community	Face to face; 3 full days	Unclear
Coles-Ritchie & Charles (2011)	Education South-Western Alaska (Yup'ik People)	7 female teachers (1 Indigenous, 6 non-Indigenous)	Aid teachers to draw from collective knowledge and create culturally appropriate assessments	6-hour face-to-face meetings held every second day for 4 weeks	Course instructors and facilitators (1 female non-Indigenous, 1 male Indigenous)
Delbridge et al. (2018)	Health Australia (Aboriginal People)	11 non-Indigenous dietitians who worked across urban, regional and remote Aboriginal communities/roles	Build the capacity of dietitians to work in Aboriginal health through personal and professional development and critical reflection	Initial once only face-to-face meeting; online, nine 2-hour Skype sessions every 6 weeks over 12 months	2 of 3 involved as both participants and facilitators
Duren-Winfield & Barber (2006)	Education Southeast Africa (Malawian People)	Malawian school teachers and US-based researchers who worked together previously	Empower teachers and develop culturally comprehensible HIV/AIDS instruction materials	Face to face; 2 full days	Active participants worked alongside teachers to develop resources
Handayani et al. (2019)	Education Special Region of Yogyakarta, Indonesia (Javanese ethnic)	Total of 9 participants, 6 Javanese science teachers, 1 lesson study expert, 2 Javanese elders	Preserve Indigenous knowledge in Java through lesson planning activities	Face to face, 8-step cycles repeated 6 times over 4 months	Developed and guided learning community

Author (year)	Setting, Location & Indigenous Group	Participants	CoP Purpose	Type, Frequency and Length of Contact	Researcher Role in CoP
Holden et al. (2015)	Health Australia (Indigenous Australians)	Total of 12 participants from across Australia (11 female, 1 male; 1–5 years in role (1 year most common); 2 nutritionists, 10 dieticians	Improve public health nutrition practice for public health nutritionists who work with stores in remote Indigenous communities across Australia	Initial once only face-to-face meeting; teleconference & video conference: 2 hr sessions every 6 weeks for 7 months. Sharing encouraged through online database, email and phone	Unclear
Mazel & Ewen (2015)	Education & Health Australia & Aotearoa/New Zealand (Aboriginal and Maori People)	Indigenous and non-Indigenous medical and health educators, health professionals, faculty leaders, government, community representatives	Develop resources and strategies to increase retention of Indigenous students and improve practice in Indigenous health	Bi-annual reference group meetings and conference (face to face); regional meetings, online forum for sharing resources and sharing with other members	Unclear
Mombourquette & Bruised Head (2014)	Education Western Canada (First Nations people: not specified)	Total of 16 participants, 11 teachers (6 Indigenous, 5 not), vice-principal & principal (Indigenous), university-based educational consultant	Develop enhanced teaching strategies	Mostly weekly meetings (format not specified) over 2 years	Unclear
Papp (2020)	Education Saskatchewan, Western Canada (Indigenous people: not specified)	Total of 7 participants (2 dual role administration & teaching, 4 teachers, 1 division administrator) who had been teaching together for 4–6 years: 2 female, 5 male, 3 self-identified as Indigenous	Professional development: shift from transmission teaching to inquiry-based pedagogy	4 years of weekly professional development meetings	Unclear

Author (year)	Setting, Location & Indigenous Group	Participants	CoP Purpose	Type, Frequency and Length of Contact	Researcher Role in CoP
Triyanto & Handayani (2020)	Education Bantul District, Special Region of Yogyakarta, Indonesia (Javanese culture)	Total of 9 Indigenous teachers in their 40s (6 females, 3 males) who had been teaching natural science subjects for >10 years from three secondary schools	Develop pedagogical and content knowledge	Unclear	Unclear
Wilson et al. (2017)	Health Australia (Aboriginal People)	11 non-Indigenous dietitians (1 male, 10 female) who worked in urban, regional and remote Aboriginal communities/roles	Build workforce capacity of dietitians who had a specific role in improving nutrition and health-related outcomes for Aboriginal communities	Initial once only face-to-face meeting; online, nine 2-hour Skype sessions every 6 weeks over 12 months	2 of 3 involved as both participants and facilitators

Quality assessment

Quality of the included studies (Table 3) varied considerably with researcher reflexivity, consideration for ethical issues, data collection and analysis being the most common criteria not met through the CASP (2018) checklist. Many publications did not provide sufficient detail for the author to comprehensively assess quality, and thus, many criteria were awarded an unsure or unclear rating. As such, the researcher considered the assessed quality of each study but did not exclude any based on its rating alone.

Findings

Synthesis of results found that the main outcomes experienced by participants of the included studies could be grouped under six main analytical themes: change in practice, influence on support networks, impact to Indigenous students/clients, outcomes to participant feelings, reflection and sharing of materials, and development of resources. Each analytical theme and matching data can be viewed in Table 3.

Change in practice

All studies reported changes in participants' practice, including increased knowledge and skill in their area of work (C. Burgess & Cavanagh, 2016; Coles-Ritchie & Charles, 2011; Delbridge et al., 2018; Duren-Winfield & Barber, 2006; Holden et al., 2015; Mazel & Ewen, 2015; Papp, 2020), improved quality of services provided (Duren-Winfield & Barber, 2006), adopting new approaches to teaching or learning (C. Burgess & Cavanagh, 2016; Handayani et al., 2019; Mazel & Ewen, 2015; Mombourquette & Bruised Head, 2014; Papp, 2020; Triyanto & Handayani, 2020) and improved ability to interact with Indigenous People (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018; Mazel & Ewen, 2015; Mombourquette & Bruised Head, 2014; Papp, 2020).

Influence on support networks

The interventions fostering communities of practice also supported development of social support networks between participants (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018; Duren-Winfield & Barber, 2006; Mazel & Ewen, 2015; Wilson et al., 2017) and, in three interventions, resulted in participants collaborating outside of the formal program (Delbridge et al., 2018; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017). In some studies ($n = 4$), participating in the community of practice model influenced participants' commitment to working in Indigenous settings, which in some situations, resulted in participants staying in a job that they would have otherwise left (Delbridge et al., 2018; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017):

To have colleagues that share some of our challenges and share stories, gives us the strength to carry on and build on a way of learning that provides a model for others to contemplate and learn from. ... I think LIME enables us to be solid together and to work effectively. (Mazel & Ewen, 2015, p. 325)

Table 3*Quality Assessment Against CASP (2018) Checklist*

CASP Criteria	Coles-Ritchie & Charles (2011)	Duren-Winfield & Barber (2010)	Burgess & Cavanagh (2006)	Handayani et al. (2019)	Delbridge et al. (2018)	Wilson et al. (2017)	Mombourquette & Bruised Head (2014)	Mazel & Ewen (2015)	Holden et al. (2015)	Triyanto & Handayani (2020)	Papp (2020)
Was there a clear statement of aims of the research?	Y	N	Y	Y	Y	Y	U	Y	Y	Y	Y
Is the qualitative methodology appropriate?	Y	U	U	Y	Y	Y	U	Y	Y	Y	Y
Was the research design appropriate?	Y	U	U	Y	Y	Y	U	Y	Y	Y	Y
Was the recruitment strategy appropriate to the aims of the research?	N	Y	U	U	Y	Y	U	U	Y	U	Y
Was the data collected in a way that addressed the research issue?	U	U	U	Y	U	Y	U	U	Y	Y	U
Has the relationship between researcher and participants been considered?	U	Y	U	N	U	U	N	U	U	N	U
Have ethical issues been taken into consideration?	N	U	N	N	U	U	N	U	U	U	U
Was the data analysis sufficiently rigorous?	N	U	U	Y	U	U	N	N	Y	U	U
Is there a clear statement of findings?	U	U	U	Y	Y	Y	N	U	Y	Y	Y
Is the research valuable?	Y	U	Y	Y	Y	Y	U	Y	Y	Y	Y

Key: Y = yes, N = no, U = unsure/unclear

I went through probably quite a crisis in terms of where am I going in my professional future last year. I certainly feel that the community of practice has helped me a lot in that, in continuing on. (Wilson et al., 2017, p. 492)

Impact to Indigenous students/clients

Three studies also reported that the change in teachers' practice, resulting from participation in the intervention, had a positive impact on their students' enrolment (Mazel & Ewen, 2015), attendance, self-esteem, confidence, trust, respect (Papp, 2020) and academic achievement (Mombourquette & Bruised Head, 2014).

Outcomes to participant feelings

In all but two studies that did not report participant emotions, results (Table 3) showed that participants found the community of practice accessed through their intervention to be a safe place where they could share aspects of their practice without judgement (Mombourquette & Bruised Head, 2014; Triyanto & Handayani, 2020). Feelings of trust, respect (C. Burgess & Cavanagh, 2016; Coles-Ritchie & Charles, 2011; Handayani et al., 2019; Holden et al., 2015; Papp, 2020; Wilson et al., 2017), equality (C. Burgess & Cavanagh, 2016; Duren-Winfield & Barber, 2006; Handayani et al., 2019) and safety (Coles-Ritchie & Charles, 2011; Delbridge et al., 2018; Handayani et al., 2019; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017) were common throughout the interventions and often resulted in feelings of connectedness:

Power distance ... is high in Malawi: it is rare for an administrator, a head teacher, to share personal information and socialize with those he is responsible for. Also, men and women do not typically speak of such things as HIV/AIDS together in a public arena. Regardless, on that day every teacher, the head teacher and deputy head teacher, males and females together, sat down at the table to tell stories tinged with a mix of tenderness and sorrow. (Duren-Wingfield & Barber, 2006, pp. 212–213)

Some studies (n = 5) associated this with reduced feelings of isolation among participants (Delbridge et al., 2018; Handayani et al., 2019; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017). Interventions fostering communities of practice were found to increase participants' confidence to work in Indigenous settings by empowering them to implement new ideas or methods into their practice (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018), inspiring them to feel capable of making a difference or giving them confidence to try (Delbridge et al., 2018; Duren-Winfield & Barber, 2006; Holden et al., 2015; Mazel & Ewen, 2015; Wilson et al., 2017) and helping them feel more confident communicating and building relationships with Indigenous people (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018; Papp, 2020).

Reflection and sharing of materials

The community of practice model, embedded within the interventions, supported reflection on professional practice and personal values/beliefs (C. Burgess & Cavanagh,

2016; Coles-Ritchie & Charles, 2011; Delbridge et al., 2018; Handayani et al., 2019; Holden et al., 2015; Papp, 2020; Triyanto & Handayani, 2020; Wilson et al., 2017), sharing of participants' experiences and stories through storytelling (C. Burgess & Cavanagh, 2016; Delbridge et al., 2018; Duren-Winfield & Barber, 2006; Holden et al., 2015; Mazel & Ewen, 2015; Papp, 2020; Triyanto & Handayani, 2020; Wilson et al., 2017) and sharing of knowledge, information and resources (C. Burgess & Cavanagh, 2016; Coles-Ritchie & Charles, 2011; Delbridge et al., 2018; Handayani et al., 2019; Holden et al., 2015; Mazel & Ewen, 2015; Papp, 2020; Triyanto & Handayani, 2020).

In some studies (n = 3), this resulted in development of a shared solution, idea or goal amongst participants (Coles-Ritchie & Charles, 2011; Mazel & Ewen, 2015; Wilson et al., 2017). Some participants reported that participation in the intervention, in relation to the community of practice model, reduced time burden (Handayani et al., 2019; Holden et al., 2015), workload (Mazel & Ewen, 2015) and assisted in breaking down sociocultural (C. Burgess & Cavanagh, 2016) or personal (Delbridge et al., 2018) barriers to their practice in Indigenous settings.

Development of resources

For many (n = 5) participants, engaging in the intervention, which fostered community of practice resulted in collaborative development of specific resources, including assessment tools (Coles-Ritchie & Charles, 2011; Mombourquette & Bruised Head, 2014), informative tools/education materials (Coles-Ritchie & Charles, 2011; Duren-Winfield & Barber, 2006; Mazel & Ewen, 2015; Triyanto & Handayani, 2020) and strategies to improve practice (Handayani et al., 2019; Mazel & Ewen, 2015; Mombourquette & Bruised Head, 2014; Triyanto & Handayani, 2020):

In the indigenous [*sic*] learning community, the relationship of mutual trust and collaboration between indigenous [*sic*] people and secondary science teachers was well established. Science teachers and Indigenous elders discussed, communicated, and exchanged information to produce a learning design appropriate to the science syllabus and student needs. (Handayani et al., 2019, p. 287)

Discussion

This review sought to investigate the role of interventions that foster communities of practice in supporting and enabling effective implementation of existing workforce development strategies and programs in Indigenous health and education settings. It found that fostering communities of practice through organised interventions, coupled with increased training and teaching about Indigenous culture, may play a role in improving practice of Indigenous health and education professionals. This is the first systematic review to show the potential benefit of interventions that foster communities of practice as a workforce development strategy in Indigenous settings.

Inclusion of Indigenous cultures and knowledges in health and education professional training may not be enough alone to improve practice in Indigenous settings due to underlying racism, prejudice and stereotypes of professionals in these areas (D. Burgess et al., 2007; Downing et al., 2011; Durey, 2010; Webb & Sergison, 2003). These influences stem from the structure and culture of Westernised institutions, forming their hidden curriculum, which influences what is learned rather than what is taught (Ewen et al., 2012). As stated by Ewen, Mazel and Konche (2012), “Recognizing the influence of the hidden curriculum in Indigenous health education is essential to support formal curricular initiatives, and for lasting and systemic change” (p. 201). New approaches to cultural training should address the hidden curriculum and provide participants with a safe place that supports personal and professional reflection in a way that allows them to unpack the influence of power imbalance and identity on Indigenous health and education outcomes (D. Burgess et al., 2007; Downing et al., 2011; Durey, 2010; Lumby & Farrelly, 2009; Ramsden, 2002). Results from this review suggest that communities of practice provide this space, allowing participants to share their personal stories, knowledge and resources whilst engaging in personal and group reflection. This can foster a sense of connectedness amongst participants, resulting in collaborative work, break-down of barriers to cross-cultural practice and empowerment of teachers and health professionals to make changes to their practice. Furthermore, the literature synthesised in this review suggests that interventions that support the community of practice model can successfully include both Indigenous and non-Indigenous participants in a way that supports health and education professionals to incorporate Indigenous knowledge and perspectives into their practice. This supports them to then develop culturally responsive health and education tools, assessments and strategies. The support provided through communities of practice within organisational interventions, coupled with increased training and teaching about Indigenous culture, knowledge and concepts of cultural competency for health and education professionals, may play a role in improving Indigenous health and education outcomes globally (Downing et al., 2011; Durey, 2010). Despite this, designing and implementing an intervention that can successfully foster community of practice while also engaging participants from differing organisations, levels of experience and professional positions or backgrounds may be difficult and, as such, requires careful consideration on behalf of the facilitator (C. Burgess & Cavanagh, 2016; Duren-Winfield & Barber, 2006; Holden et al., 2015).

Though not an outcome under investigation in this review, some studies reported impacts to students resulting from their teachers’ participation in a community of practice intervention, including increased enrolment (Mazel & Ewen, 2015), self-esteem, confidence, attendance, trust, respect (Papp, 2020) and academic achievement (Mombourquette & Bruised Head, 2014). It appears that outcomes to students or clients resulting from health or education professional participation in a community of practice intervention have not been extensively researched. While there is substantial evidence for the community of practice model improving health and education professionals’ practice,

further research is required to determine if this has an impact on the students and clients receiving services from these workforces, both in Indigenous and non-Indigenous settings (L. Barbour et al., 2018). Traditional outcome-focused studies, such as randomised controlled trials, may be challenging in this setting, and alternative methods, such as realist evaluation, which answers questions about what works for whom and why, may assist in this area (Swift et al., 2017).

Limitations

Identifying and defining communities of practice within the interventions identified was challenging, as many studies used alternative terms, including “mentoring circle”, “teacher learning theory” and “participatory action research” to describe their model despite fitting Wenger, McDermott and Snyder’s (2002) description of a community of practice. While every effort was made in the database searches to capture all alternative terms, it is possible that some publications used different terms, and hence, they may have been inadvertently excluded from this review. It is proposed that with increased research on communities of practice, the term will be more widely incorporated into the literature and, thus, the evidence base strengthened. Furthermore, this review considered peer-reviewed literature only. A broader variety of literature from alternative sources may have added to the depth and value of the data reviewed. Particularly, sources located in grey literature, such as thesis dissertations, personal opinion and editorial articles, may provide valuable insight. Inclusion of these resources may have improved the overall synthesis and recommendations offered by this review. It is hoped that with increased research and awareness in these areas, researchers will be able to gather adequate data from peer-reviewed sources alone.

Quality of the included studies was assessed using the CASP (2018) qualitative checklist. As many included publications did not provide sufficient detail to comprehensively assess quality, studies were not excluded based on their assessed quality. The researchers did, however, consider the assessed quality when synthesising results. This may be seen as a limitation by some, however as noted by R. S. Barbour & Barbour (2003), checklists, which are commonly used to critically appraise systematic reviews, when rigidly applied to qualitative research, cannot adequately address the extensive arguments and descriptions of qualitative data. Lack of standardised reporting for qualitative research further complicates the process of critical appraisal due to incomplete reporting of key elements (O’Brien et al., 2014). As each study varied greatly in terms of its outcome of interest, setting and study design, the studies were in many ways non-comparable, and thus, assessing their quality against one another was considered inappropriate for this review (Katrak et al., 2004).

Conclusion

Interventions that foster communities of practice allow participants to share their personal stories, knowledge and resources whilst engaging in personal and group reflection. These

interventions can foster a sense of connectedness amongst participants, resulting in collaborative work, break-down of barriers to cross-cultural practice and empowerment of teachers and health professionals to make changes to their practice. Engagement in communities of practice, coupled with increased training and teaching about Indigenous culture, knowledge and concepts of cultural competency and safety may play a role in improving practice of Indigenous health and education professionals. This may assist in improving Indigenous health and education outcomes globally. Further research is required to determine the effect that this has on Indigenous Peoples and how, if at all, community of practice influences the health and education disparities experienced by Indigenous Peoples globally.

Acknowledgements

The authors would like to acknowledge the Kaurua People, both past and present, as the traditional owners of the land on which this research was conducted and would like to pay respect to their continued relationship and responsibility to their country.

Conflicts of interest and funding

The authors of this research paper do not have any financial or business interests to disclose. No funding was associated with this project.

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