

Developing an Extension Model of Practice to guide and empower extension practitioners

Angela Williams¹, John James² & Paul Prichard³

¹Canegrowers Isis, 48 Churchill Street, Childers QLD 4660

²Enablers of Change, PO Box 321, South Hobart TAS 7004

³Murdoch Children's Research Institute, 50 Flemington Road, Parkville VIC 3052

Email: john@enablersofchange.com.au

Abstract. A model of practice is a professional framework that guides practitioners and is informed by and integrates the core concepts, theories, tools, interventions and elements of work in a profession. A multi-disciplinary team contributed to the development of an Extension Model of Practice. Using a mixed methods research design, data were gathered from a) semi-structured interviews (n=206) and a survey (n=90) with extension practitioners, b) six co-design workshops with extension agents (n=88), c) three semi-structured interviews with farmers (n=60) and extension leaders. The resultant model conceptualises the helping process of extension and the way extension professionals engage with and support farmers. A suitable support system comprising targeted awareness sessions and training modules is required to sustain its implementation. The model supports early-career professionals and guides service-delivery and the helping process for all extension practitioners to better address the imperative for greater practice change in agriculture in partnership with farmers.

Keywords: agricultural extension, adoption, model of practice.

Introduction

Purposeful improvement of practice is essential for maintaining excellence in one's profession and is at the core of being a professional (Schön 1983; Mylopoulos & Farhat 2015). This lifelong quest for excellence is based on continuous self-improvement and self-examination (Peters & Waterman 1982; Peters & Austin 1985). The concept of reflective practice helps professionals reflect both during and after their activities, to improve their practice (Schön 1983; Bandura 1986; Mann et al. 2007).

Whilst continuous improvement is important, a model of practice provides practitioners with a consistent framework that is informed by and describes the core concepts, theories, models, tools and elements of their work in a given profession and can help guide interventions and evaluations (Hussey et al. 2007; Borg et al. 2010; Higgs 2016). A model of practice helps them know what to do, and refers to a theoretical construction about action-consequence relationships, and primarily instructs practitioners how to intervene to produce a desired effect. In contrast, a conceptual model helps us analyse and understand, and refers to a theoretical tool that helps explain or predict a construct and how the constructs relate to one another (McCull & Pranger 1994).

While commonly used in the education, health, allied health and social work professions (Evans 1976; Weick 1983; Krefling 1985; Kane 1997; Boon et al. 2004; Corey 2013; Toklu & Hussain 2013; Richard & Villarreal Sosa 2014; Taylor et al. 2019; Beamish et al. 2020), a model of practice (or professional framework for the helping process) is not commonly used by agricultural extension practitioners.

Extension is 'the process of enabling change in individuals, communities and industries involved in the primary industry sector and with natural resource management' (State Extension Leaders Network 2006, p. 3). It involves extension agents working with farmers, their families, their management teams and others in the wider agricultural innovation system (as appropriate) to encourage and support voluntary change to improve production, profitability, environmental and social outcomes. It includes raising awareness, understanding, skills, motivation, and pathways to change (Rogers 1962; Feder & Umali 1993; Black 2000; Coutts et al. 2017). Extension practitioners perform a critical role in establishing effective relationships in order to enhance and improve farming practices (Pannell et al. 2006). They use a variety of extension approaches which generally exist along a continuum ranging from top-down directive approaches to bottom-up participatory approaches (Chambers 1988; Feder & Umali 1993; Chamala & Keith 1995; Black 2000; Coutts et al. 2005; Hunt et al. 2011). While there are various extension models, as described by Coutts & Roberts (2003), they all involve interactions with people. However, the importance of building relationships and the enabling qualities of unconditional positive regard, humility and empathy are not emphasised to the degree they are in the Family Partnership Model (Davis & Day 2010), an evidence-based model of practice for helping in the child and family health profession.

Extension is based upon several social principles and approaches (e.g. Tully 1964). The person-centred approach (Rogers 1951) assumes that people change in relationship with others, resolving their problems through a supportive, non-judgemental relationship with a counsellor, without the need of an authoritative, directive intervention (Coghlan 1993; Corey 2013). Ecological systems theory (Bronfenbrenner 1979) situates the individual centrally and surrounds them with interrelated ecological systems. Adult learning principles (Knowles 1973) include the concept of building on the existing knowledge and experience of the adult learner and treating them with respect and unconditional, positive regard. Action learning involves taking action and then reflecting upon the results (Revans 1983). The concept of reflective practice (Schön 1987) explores experience, interaction and reflection, enabling awareness of implicit knowledge and learning from experiences. The farmer-first approach (Chambers et al. 1989) acknowledges farmers as intrinsic problem-solvers and innovators and assisted the move away from transfer of technology approaches to more participative processes. Participatory action research builds on this and emphasises action and participation (Chambers 2008; Chevalier & Buckles 2019). A strength-based practice (Rapp 1998; Buckingham & Clifton 2001; Seligman 2004) emphasises the benefit of building upon an individual's strengths, rather than using a deficit focus. Additionally, healthy professional relationships and strong social bonds have been shown to contribute to productive farmer-advisor interactions (Kuehne et al. 2019). Conversely, a lack of trust and empathy with the farmer is detrimental to this relationship and has contributed to farmers valuing opinions of their peers over scientific experts (Neef & Neubert 2011; King et al. 2019; Frei & Morriss 2020; Rust et al. 2020).

The uptake and adoption of new farming practices, particularly those associated with best management practices, are regarded by some as too slow and not reaching the desired peak level of adoption (Lindner 1987; Pannell et al. 2006; Llewellyn 2007; Kuehne et al. 2017; Rickards et al. 2018). This is affecting contemporary extension challenges in Queensland, including minimising the runoff of sediment and nutrients from coastal farms into the catchments of the Great Barrier Reef (Waterhouse et al. 2017). Another pressing challenge is the practice change imperative for farmers to adopt best management practices to maintain their social licence (Wilburn & Wilburn 2011; Williams et al. 2011).

Extension practitioners play a key enabling role in this change process. Extension practice appears to straddle the disciplines of agricultural science, environmental science, social science, behavioural psychology, sociology and social work. In other helping professions, staff use models of practice to provide a consistent process with evidence-based guidance on practice implementation.

An explicit Extension Model of Practice (EMoP) that integrates many of the above-mentioned theories, principles and processes into a professional framework, could act as a decision-making and service-delivery framework to guide and underpin the work of extension practitioners in their helping role with farmers and others in the system. An EMoP could enable extension agents to be more intentional in their work, with improved clarity of purpose and practice processes to enable greater change in their farming systems. The model of practice could also be highly beneficial to the recruitment, induction and professional development of early-career extension practitioners.

Identifying this as a possible gap and an opportunity for learning from other sectors, a multi-disciplinary team undertook a research project to explore the potential development of an extension model of practice.

Methods

A mixed methods research design enabled the collection of predominantly qualitative data during 2019 and 2020. A purposive sampling technique was used to represent the range of views of extension practitioners and farmers across Queensland. To provide greater representation, an opportunity was provided for the Queensland-based members of the Australasia-Pacific Extension Network (APEN) to contribute via an online survey. This anonymous online survey collected data from 90 respondents from September to December 2019, and posed 10 predominantly open-ended qualitative questions. Key questions included: what is your understanding of the terms extension, adoption and practice change; what challenges, difficulties and worries do you face in your work; what extension approaches are working well; what difficulties and challenges do farmers face; what outcomes would you like to achieve with the farmers with whom you work; what attributes are required to achieve these outcomes; what are the characteristics of an effective relationship with a farmer; and how do you describe your extension approach? Note: for brevity, while the term farmer has been used, the broader farm family and management team are implied to be included.

Semi-structured interviews based on these survey questions were held with 206 extension practitioners/managers from September 2019 to May 2020. These interviews were facilitated via one-on-one and small group discussions. These were predominantly undertaken in person, though some occurred via telephone and virtual meetings.

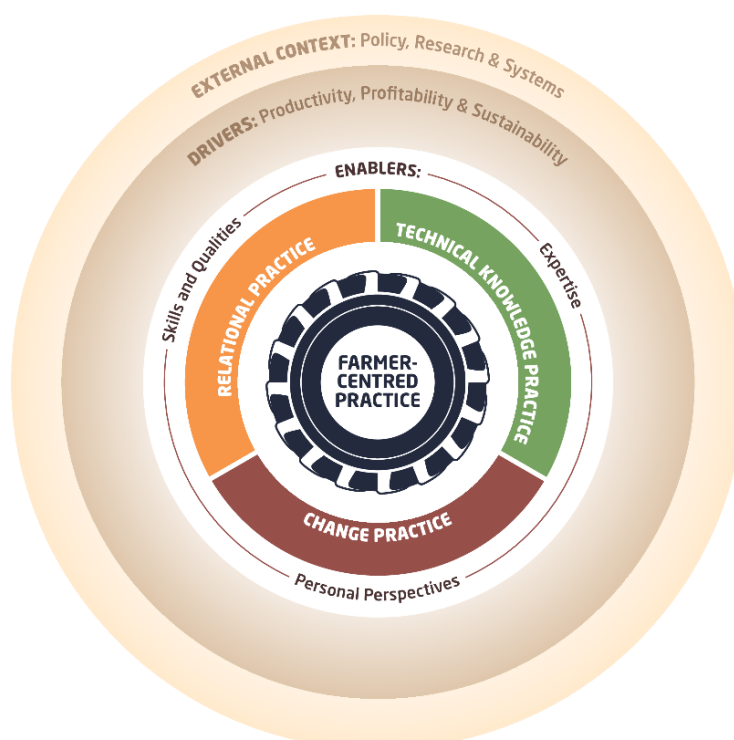
Five semi-structured interviews were conducted with 60 farmers between September to December 2019. These were conducted physically in small groups and were based on the survey questions. In addition, six online co-design workshops were attended by 88 extension practitioners from May to July 2020. Although initially planned as physical meetings, online delivery was considered the most practical option due to COVID-19 travel and physical distancing restrictions. The use of Zoom for the online meeting and Padlet (an online collaboration tool) to gather data, provided a blend of synchronous and asynchronous communication. This allowed respondents the opportunity to personally enter their thoughts and ideas onto the Padlet canvas both during and after the workshops.

The qualitative data were analysed through a highly recursive process of coding and categorising, in order to allow the themes to emerge. Several researchers were involved in this process to reduce individual bias.

Results

The resultant Extension Model of Practice has farmer-centred practice at its heart (see Figure 1), supported by the three core practice elements of relational practice, change practice, and technical knowledge practice. These in turn are supported by three enablers: the skills and qualities of the extension agent; the personal perspectives, constructs and world views of the extension practitioner and farmer; and the expertise of the extension practitioner and the farmer. Influencing the core practice elements and the enablers, are the drivers of change for making decisions about farming practice: farm productivity, profitability and sustainability in the context of land stewardship. Finally, the model operates within the external structural context of policy, research and development initiatives, the wider social, political and economic climate, and sector systems and structures.

Figure 1. A diagrammatic representation of the Extension Model of Practice



The model situates the farmer centrally, drawing attention to the bi-directional flow of influence within and across the multiple systems that exist in a farmer's broad ecology. This extension practice framework provides an explicit focus on the helping process. It has a greater emphasis on relationships and the crucial qualities of humility, empathy and unconditional positive regard as they relate to the quality of the outcomes and practice change. This is relevant for any

purposeful interaction between two or more individuals, and would apply to all five models (Group facilitation/empowerment, Technological development, Programmed learning, Information access and Personalised consultant) proposed by Coutts & Roberts (2003). It has particular relevance to the Personalised consultant model, with its focus on the farmers and their needs.

Overarching theme: farmer-centred practice

From the analysis of the data collected at the semi-structured interviews and co-design workshops, an overarching theme of farmer-centred practice emerged. This approach requires extension professionals to:

- Engage authentically with farmers, by seeking to engage in a respectful and responsive way.
- Maintain a collaborative partnership, by engaging farmers as full partners in all discussions and decisions.
- Strengthen farmers' capacities, by looking for and acknowledging the strengths, knowledge and skills of farmers and seek to build on these.
- Respond to farmers' priorities, by attending to the issues that are most important to them and seek to help the farmers with them.
- Obtain feedback from farmers, by seeking regular feedback from them. This helps to avoid assumptions and promotes a farmer-centred approach in practice.
- Engage in reflective practice, by taking an in- depth perspective of the strengths and challenges of extension practice with support from others. Reflective practice creates opportunities for learning and change.

Core elements of the emerging model of practice

Analysis of the data also identified three core elements of effective practice: relational practice, change practice and technical knowledge practice. Relational practice relates to the relationship between the farmer and the extension practitioner, which is seen as central to the change process. Change practice relates to both the process and outcome of the collaboration between the farmer and extension agent. Technical knowledge practice relates to the wealth of technical knowledge accrued in practical farming practices and access to networks of expertise. It is asserted that technical knowledge practice helps facilitate a process that acknowledges, utilises and builds on the farmer's existing expertise and knowledge.

These three core practices, together with farmer-centred practice, are all interrelated and cannot be undertaken in isolation. There is a synergy and complementarity achieved from practicing them concurrently.

Relational practice

Relationships between extension practitioners and farmers, while valuable, are also a means for supporting change, so relational practice is at the core of the change process. The aim of relational practice is to develop rapport and understand the needs, goals and priorities of the farmer. Relational practice requires understanding a farmer's world view—demonstrating attentive listening to understand their values, needs and goals (both personal and business). This provides the foundation for change. The emphasis on relational practice is particularly important, as people generally change when in relationship with others (Rogers 1951; Tully 1964).

As part of their relational practice, extension practitioners should be supportive and empathic, by being encouraging, caring and enthusing. Farmers need to experience a connection and rapport with extension practitioners. An effective extension practitioner is facilitative—working alongside farmers to help them achieve their goals; purposeful—helping guide and inspire change; and influential—being focused, determined and persistent. Many of these core attributes are similar to those in counselling and helping roles (Day et al. 2015).

However, if these relationships with farmers are primarily only supportive and connected, the practitioner role can lack purpose and is therefore likely to be more akin to a friendship than working together towards a mutually agreed goal. Conversely, if their role is primarily influential, then the relationship is more akin to that of an advisor.

Change practice

Change practice is fundamental to the extension relationship. Change practice is enabled when time is invested into building effective relationships to achieve a mutually agreed goal. In this context, change is seen as both a process and an outcome, and results from the collaboration between the farmer and the extension practitioner. Both are important and need to be monitored. It is important for the extension practitioner to listen to the farmer, understand what they are saying and elicit what the farmer wants to work on first. Such disciplined practice is opposed to

the common extension practice reflected in having predefined project objectives and limited time to develop meaningful relationships.

Technical knowledge practice

Technical knowledge practice is the third and final core element. It includes knowledge and understanding of the industry and agricultural production systems, current science and research, evaluation (critical thinking and data analysis), and natural systems and the environment. Extension practitioners should have skills and knowledge around the design, conduct and evaluation of suitable interventions that facilitate engagement with farmers, and support organisations and farming communities. These skills include a range of extension methods and techniques, project design, implementation and evaluation.

Enablers

The core practices are supported by three enablers: the skills and qualities of the extension practitioner, the personal perspectives, constructs and world views of the extension agent and the farmer, and the expertise of the extension officer and the farmer.

Skills and qualities

The effectiveness of the model of practice is dependent on the interpersonal skills and personal qualities of the extension practitioner and most importantly, how they are experienced by the farmer. Interpersonal skills are the behaviours and communication methods the extension practitioner uses to interact with others. Personal qualities are the characteristics and disposition of the extension practitioner; how they come across to others and their attitude within the process of change. These qualities are observed and felt by others, and while often thought as intrinsic to an individual, they can be acquired and practiced.

A core set of extension practice skills and qualities emerged from the data, as related to the core elements. Firstly, those related to relational practice:

- Attentive listening—giving careful attention; concentrating; paying attention to non-verbal cues; responding appropriately; maintaining curiosity.
- Genuineness—being authentic, reliable and honest with farmers; being transparent without defensiveness.
- Clear communication—being clear and specific; summarising what has been heard or understood; choosing words carefully; responding to non-verbal cues.
- Emotional intelligence—having emotional strength to hear and accept farmers' thoughts and ideas; maintaining perspective while appreciating others' perspectives; awareness of your own personal feelings and reactions.
- Adaptability—being able to adapt to new information and situations; responding to farmers in a way that suits their style and needs.
- Flexibility—being flexible and able to learn from others.
- Empathy—demonstrating understanding of farmers' experiences; making sense of what you feel as you listen; imagining the farmers' thoughts and feelings; respectfully sharing your thoughts and insights.
- Respectful—valuing farmers' expertise and experience; enabling farmers to make positive decisions; keeping confidentiality.

Secondly, those that related to change practice:

- Negotiating—facilitating joint decision making to come to mutual agreement throughout the change process.
- Working together—explicitly discussing what you can reasonably expect of each other; checking in on the agreement and amending where necessary.
- Utilising strengths—an awareness and understanding of the strengths that each bring to the relationship and how these can be best utilised.
- Reserving judgement—being constructive and sensitive in making judgements.
- Vulnerability—having humility; being aware of our own limitations; being realistic about ourselves.
- Warm enthusiasm—encouraging realistic hope; developing confidence and capacity.

Finally, those related to technical knowledge practice:

- Advocacy—communicating (e.g. research trial results) with farmers and with the public in an accessible way; being there for the farmer's benefit and communicating to all on their behalf.
- Critical thinking—knowing and being able to distinguish effective practice.
- Sharing information—sharing new trends or new ideas from other farms; enabling knowledge exchange.

- Being present—being on farm, seeing something physical happening.
- Responding to individual needs—tailoring advice to an individual farmer’s practice or situation to get best result for individual farmers.
- Self-awareness—understanding your limitations and being explicit about what you can or can’t do.

Personal perspectives

Another enabler considered to be integral to supporting the core practices of extension work is personal perspectives. Practitioners will undoubtedly bring their own perspectives to any given situation and these unique perspectives influence thinking processes, reactions and responses. In turn, the way people respond to any given situation, event or information influences the perspective of the person being engaged.

Perspectives determine how practitioners view their work, their involvement and roles, and can influence the way they see themselves and their feelings and behaviours. These perspectives influence the willingness and ability of practitioners to engage and use the help available, and their perception of others including their strengths and difficulties. For extension work to be effective, the extension practitioner/farmer relationship needs to develop a common, shared set of perspectives that provide an accurate and helpful understanding of the farmer’s situation.

Expertise

The farmer brings the expertise of their individual farming practices and experience, farm history and community to the extension relationship. The extension practitioner’s expertise comprises their practice and acquired knowledge. Through the relationship, the extension practitioner and farmer can come to understand and appreciate the expertise and limitations of each other. Extension practitioners need the skills to facilitate the sharing of expertise in a way that acknowledges, utilises and builds on the farmer’s own expertise and knowledge, and mobilises the combined strengths and expertise in complementary ways. The relationship is most effective when farmers and extension agents utilise their complementary expertise to collaboratively identify priorities, address challenges and support change.

Drivers

Three drivers of change were identified from the data: productivity; profitability; and sustainable farming, land stewardship and succession. Participants collectively stated that it was crucial to know and understand these key drivers and their interactions when working towards a change in farming practice as they directly influence decisions and affect behaviour.

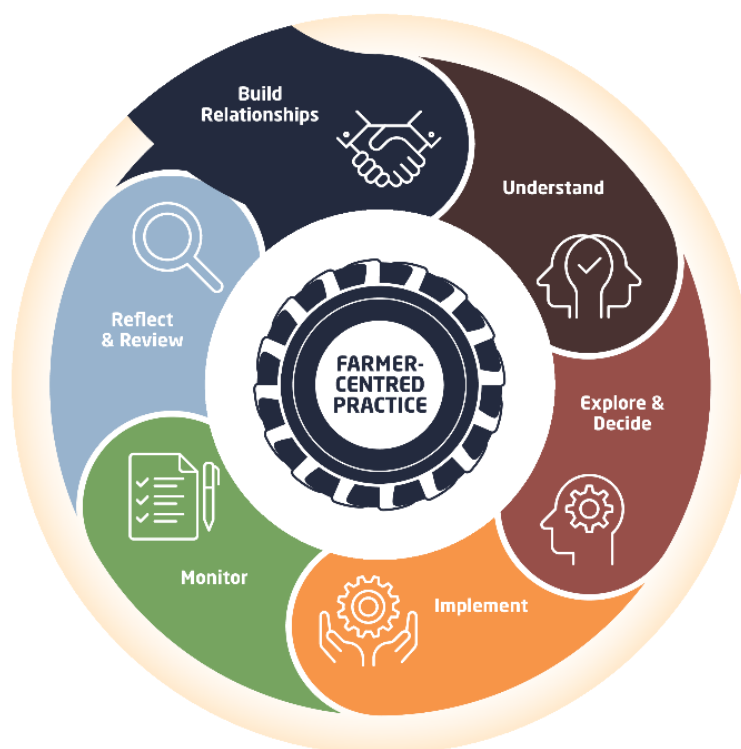
External context

The EMoP highlights the influence of the external context on extension practice and outcomes. External factors including policy, research and development initiatives, the wider social, political and economic climate, and sector systems and structures, also inevitably influence the relationship between the farmer and the extension practitioner, and the resulting practice change. These are particularly important to consider when choosing which other members of the wider agricultural innovation system to include in the project design and implementation.

The extension practice data highlighted six external factors that influence extension practice: industry sector factors; systems; governance, organisations and workplaces; funding and resources; policy and politics; and stakeholders and interactions.

Implementation process

A six-step implementation process (see Figure 2) emerged from the workshops and though it might not be as relevant to the Programmed learning and Information access models, it could be relevant to the other models of Group facilitation/empowerment, Technological development, and Personalised consultant. These steps build on the core element of change practice and further highlight the central focus of farmer-centred practice. The implementation process builds and sustains farmer engagement and supports shared understanding of values, goals and priorities. The order is important—it is essential to establish a collaborative partnership with farmers and an understanding of their preferred priorities and outcomes before identifying strategies for addressing farm challenges or concerns.

Figure 2. Implementation steps for the Extension Model of Practice

The six sequential steps are as follows:

1. Build relationships. Establish the foundation for a collaborative relationship. Begin to get to know the farmer (or group of farmers) and their context, or continue to sustain an existing relationship. Be welcoming and inclusive, engage with farmers and seek to understand them and their context.
2. Understand. Work with farmers to understand their wants and needs, and identify their concerns and priorities. Explore the culture, identity, values and circumstances of the farmer (or group of farmers) and learn about the issues most important to them.
3. Explore and decide. Consider how best to address concerns. Find out what strategies the farmer (or group) is already aware of or using, and share with them information about other effective strategies. Help them to decide what action (if any) they want to take.
4. Implement. Support the farmer (or group) as they undertake their chosen plan. Provide support for change and help them to identify and measure changes or improvements.
5. Monitor. Monitor and evaluate with the farmer (or group) whether the chosen strategy or plan has had the desired effect. If not, revisit earlier steps in the sequence.
6. Reflect and review. Routinely review the priorities and outcomes for the farmer (or group), and reflect on what they have achieved.

Step 1 (build relationships) and step 2 (understand) are foundational steps and may need some time to achieve. They are foundational because the following steps will not be effective if these two steps are not in place, as the priorities of both the farmer and the extension practitioner need to overlap to move forward.

Steps 3 to 6 for the implementation of the EMoP can be viewed as action learning. In practice, these steps can be iterative and flow into one another. The process of review may lead to repeating some earlier steps to refocus.

It is considered important that the implementation is not constrained or rushed. The extension practitioner must view their initial engagement with a farmer as 'relational work' before moving into traditional expertise-driven processes. Subsequently, the early steps in the process may need to be taken more slowly, particularly with those farmers who are unfamiliar in dealing with extension services and professionals. It is important that the process occurs at a pace that is attuned to the needs of the farmer.

Throughout the process, the extension practitioner should facilitate respectful review to identify necessary changes. Negotiated strategies will not always work in predetermined ways and

necessary adjustments need to be readily considered. Such flexibility should be viewed as a strength rather than a weakness, as the process of regular adjustment makes will enable extension interventions to be manageable and effective for the farmer.

Discussion

While the focus of this EMoP is on the helping process and the interaction between a farmer and an extension practitioner, the principles will hold true for groups of farmers interacting with each other in a peer-to-peer program, and with one or more extension practitioners and others involved in the wider agricultural innovation system. Naturally, when scaling up and out, the greater the number of people and organisations involved, the greater the time and resources will be required.

Support frameworks

Supporting practice change can be a very difficult process. Sustained change in practice requires continued focus, support and commitment from stakeholders at all levels. Professionals can be supported to recognise opportunities for change in their practice, but without focused attention and support, they can experience 'practice drift' back to default practices (Regehr & Mylopoulos 2008). It has been understood in the human services sector for some time that while new knowledge, skills and expertise can be transmitted through various forms of teaching, to sustain and embed new learning in professional practice requires more sophisticated strategies (Chaudoir et al. 2013; Bauer et al. 2015; Albers et al. 2020).

Previous approaches to the dissemination of training across workforces have commonly reflected a 'train and hope' approach—where the significant investment made in the delivery of training is followed by hope that the training will then be applied in practitioners' practice (Stokes & Baer 1977). In reality, professionals can be inspired through training to accept new learning and recognise the potential for personal practice change. However, the adult learner must also be supported in a variety of ways to keep new learning alive and applied (Knowles et al. 2014).

Successful implementation of the EMoP requires those involved in the extension service system to collectively embrace and embed the model in all extension related activities and practices. This would require employing bodies and funders to acknowledge and understand the EMoP. This means farmers and those involved in governance, policy development, project monitoring and evaluation, human resource management, staff management and supervision would need to be supported to understand the model. While dissemination of literature might be the most efficient means to support this step, the most effective strategy for supporting key stakeholders to understand the model and its application would be the provision of specially targeted awareness raising sessions and short, targeted training modules for the practitioners, their managers and funders. These would help provide broad exposure to the detail that lies within and behind the model. Utilising strategies that support farmers and key stakeholders to explore the model may enable a more critical examination of structural and procedural adjustments required to ensure the sustainable implementation of the model.

Another support mechanism would be to create a community of practice of EMoP practitioners, enabling peer-to-peer learning and co-development of practical and creative ways to utilise the EMoP. This could also enable mentoring and professional supervision to be undertaken in a supportive environment. A natural fit for this would be the professional association for extension practitioners, such as APEN in Australia and New Zealand. The association could take ownership and carriage of the EMoP to ensure it is given the necessary gravitas for its successful implementation by key stakeholders in the extension sector. The EMoP could provide the foundation of the training activities associated with the APEN professional development credits scheme. Whilst APEN can only guide and recommend best practice extension approaches, it is hoped that sufficient employing organisations will take heed of their recommendations.

Limitations

Despite this model evolving within Queensland, and that the participants did not represent all related industries, a diverse array of participants contributed to the development of the model of practice for extension. It is therefore argued that the EMoP can be considered as applicable to other jurisdictions both within Australia and further afield. Consequently, it would be beneficial for the extant model to be validated in other areas across Australia and New Zealand by running several pilot workshops with representatives from a range of regions and industries. A pre-conference workshop session at the next APEN conference could be one part of this.

Conclusion

This study makes an original and significant contribution towards further building the professionalism of agricultural extension. It highlights that what extension professionals do in the

helping process is important, but it's how they do it that makes the difference. The EMoP integrates many of the core concepts, theories, tools, interventions and elements of previous models to present a unified practice framework. It is this farmer-centred practice, together with relational practice, change practice and technical knowledge practice that forms the core of the model. These practices are interrelated and need to be utilised by the extension practitioner concurrently, whilst explicitly implementing the sequential helping process to realise practice change.

It is intended that the adoption of the EMoP will support the early-career professional to better understand their professional practice and provide support mechanisms. The EMoP could also further raise the level of professionalism in agricultural extension, and better meet the practice change imperative in agricultural industries across Queensland, Australia and beyond.

Acknowledgements

The authors gratefully acknowledge the funding provided through the Enhanced Extension Coordination Program, developed as part of the Queensland Government's Reef Water Quality Program, managed by the Department of Agriculture and Fisheries. The many extension practitioners and farmers who contributed to the co-design of the model are acknowledged, as are the regional extension coordinators, and the members of the project reference panel: Deb Telford (Chair), Mark Mammino, Jeff Coutts, John James, Katri Haanterä, Cathy Mylrea, Graham Harris and Jean Erbacher. The contribution of Joanne Hall (Isis Canegrowers) and Deb Sestak, Tim Moore and Vikki Leone (MCRI) was crucial to the development of the EMoP. The constructive feedback from the two anonymous reviewers was greatly appreciated.

References

- Albers B, Shlonsky A & Mildon R 2020, *Implementation science 3.0*, Springer Nature, Switzerland.
- Bandura A 1986, *Social foundations of thought and action*, Prentice Hall, Englewood Cliffs, NJ.
- Bauer MS, Damschroder L, Hagedorn H, Smith J & Kilbourne AM 2015, 'An introduction to implementation science for the non-specialist', *BMC Psychology*, vol. 3, article 32, pp. 1-12.
- Beamish W, Macdonald L, Hay S, Taylor A, Paynter J & Tucker M 2020, 'A model of practice for building teacher capacity in educating young school-age children on the autism spectrum: user perspectives', *International Journal of Disability, Development and Education*, pp. 1-17, <https://dx.doi.org/10.1080/1034912X.2020.1774046>.
- Black A 2000, 'Extension theory and practice: a review', *Animal Production Science*, vol. 40, no. 4, pp. 493-502.
- Boon H, Verhoef M, O'Hara D & Findlay B 2004, 'From parallel practice to integrative health care: a conceptual framework', *BMC Health Services Research*, vol. 4, no. 1, pp. 1-5, <https://dx.doi.org/10.1186/1472-6963-4-15>.
- Borg M, Karlsson B & Suzie Kim H 2010, 'Double helix of research and practice—developing a practice model for crisis resolution and home treatment through participatory action research', *International Journal of Qualitative Studies on Health and Well-being*, vol. 5, no. 1, Article 4647, pp. 1-8, <https://dx.doi.org/10.3402/qhw.v5i1.4647>.
- Bronfenbrenner U 1979, *The ecology of human development*, Harvard University Press, Cambridge, MA.
- Buckingham M & Clifton DO 2001, *Now, discover your strengths*, The Free Press, A Division of Simon and Schuster, New York, NY.
- Chamala S & Keith KJ (eds) 1995, *Participative approaches for Landcare: perspectives, policies, programs*, Australian Academic Press, Brisbane, Qld.
- Chambers R 1988, 'Farmer first', *International Agricultural Development*, no. Nov-Dec, pp. 10-12.
- Chambers R 2008, 'PRA, PLA and pluralism: Practice and theory', *The Sage handbook of action research. Participative inquiry and practice*, vol. 2, pp. 297-318.
- Chambers R, Pacey A & Thrupp LA (eds) 1989, *Farmer first: Farmer innovation and agricultural research*, Intermediate Technology Publications, England.
- Chaudoir SR, Dugan AG & Barr CH 2013, 'Measuring factors affecting implementation of health innovations: a systematic review of structural, organizational, provider, patient, and innovation level measures', *Implementation Science*, vol. 8, no. 1, p. 22.
- Chevalier JM & Buckles DJ 2019, *Participatory action research: Theory and methods for engaged inquiry*, Routledge, London, UK.
- Coghlan D 1993, 'A person-centred approach to dealing with resistance to change', *Leadership & Organization Development Journal*, vol. 14, no. 4, pp. 10-14.
- Corey G 2013, *Theory and practice of counseling and psychotherapy*, Brooks/Cole Cengage Learning, Belmont, CA.
- Coutts J, Murray-Prior R, Long P & Coutts B 2017, *Review report: practice change, education and extension in reef catchments project*, Coutts J&R, EHP, DAF.
- Coutts J & Roberts K 2003, 'Extension models and best practice in extension', in *Australasia-Pacific Extension Network Forum*, Hobart, Tas.
- Coutts J, Roberts K, Frost F & Coutts A 2005, *The role of extension in building capacity: what works and why: a review of extension in Australia in 2001-2003 and its implications for developing capacity into the future*, Rural Industries Research and Development Corporation, Canberra.
- Davis, H & Day, C 2010, *Working in partnership: The family partnership model*, Pearson, London, UK.

- Day C, Ellis M & Harris L 2015, *Family partnership model: Reflective practice handbook*, South London and Maudsley NHS Foundation Trust, London, UK.
- Evans R 1976, 'Some implications of an integrated model of social work for theory and practice', *The British Journal of Social Work*, vol. 6, no. 2, pp. 177-200, <https://dx.doi.org/10.1093/oxfordjournals.bjsw.a056702>.
- Feder G & Umali DL 1993, 'The adoption of agricultural innovations: a review', *Technological Forecasting and Social Change*, vol. 43, no. 3, pp. 215-239.
- Frei F & Morriss A 2020, 'Begin with trust', *Harvard Business Review*, vol. 98, no. 3, pp. 112-121.
- Higgs J 2016, 'Deliberately owning my practice model: Realising my professional practice', in *Educating the Deliberate Professional*, ed. F Trede & C McEwen, Springer, pp. 189-203.
- Hunt W, Vanclay F, Birch C, Coutts J, Flittner N & Williams B 2011, 'Agricultural extension: Building capacity and resilience in rural industries and communities', *Rural Society*, vol. 20, no. 2, pp. 112-127.
- Hussey S, Sabonis-Chafee B & O'Brien JC 2007, *Introduction to occupational therapy*, Elsevier Mosby, St. Louis, Mo.
- Kane M 1997, 'Model-based practice analysis and test specifications', *Applied Measurement in Education*, vol. 10, no. 1, pp. 5-18, https://dx.doi.org/10.1207/s15324818ame1001_1.
- King B, Fielke S, Bayne K, Klerkx L & Nettle R 2019, 'Navigating shades of social capital and trust to leverage opportunities for rural innovation', *Journal of Rural Studies*, vol. 68, pp. 123-134.
- Knowles M 1973, *The adult learner: a neglected species*, Gulf, Houston.
- Knowles MS, Holton III EF & Swanson RA 2014, *The adult learner: The definitive classic in adult education and human resource development*, Routledge, London, UK.
- Krefting LH 1985, 'The use of conceptual models in clinical practice', *Canadian Journal of Occupational Therapy*, vol. 52, no. 4, pp. 173-178, <https://dx.doi.org/10.1177/000841748505200402>.
- Kuehne G, Llewellyn R, Pannell DJ, Wilkinson R, Dolling P, Ouzman J & Ewing M 2017, 'Predicting farmer uptake of new agricultural practices: A tool for research, extension and policy', *Agricultural Systems*, vol. 156, pp. 115-125, <https://dx.doi.org/https://doi.org/10.1016/j.agsy.2017.06.007>.
- Kuehne G, Nettle R & Llewellyn R 2019, 'Key social processes sustaining the farmer/advisor relationship', *Rural Extension and Innovation Systems Journal*, vol. 15, no. 1, p. 20.
- Lindner R 1987, 'Adoption and diffusion of technology: an overview', in *Technological Change in Postharvest Handling and Transportation of Grains in the Humid Tropics*, 1987, ACIAR, Bangkok, Thailand.
- Llewellyn RS 2007, 'Information quality and effectiveness for more rapid adoption decisions by farmers', *Field Crops Research*, vol. 104, no. 1, pp. 148-156.
- Mann K, Gordon J & MacLeod A 2007, 'Reflection and reflective practice in health professions education: a systematic review', *Advances in Health Sciences Education*, vol. 14, no. 4, p. 595, <https://dx.doi.org/10.1007/s10459-007-9090-2>.
- McCull MA & Pranger T 1994, 'Theory and practice in the occupational therapy guidelines for client-centred practice', *Canadian Journal of Occupational Therapy*, vol. 61, no. 5, pp. 250-259.
- Mylopoulos M & Farhat W 2015, "'I can do better": exploring purposeful improvement in daily clinical work', *Advances in Health Sciences Education*, vol. 20, no. 2, pp. 371-383.
- Neef A & Neubert D 2011, 'Stakeholder participation in agricultural research projects: a conceptual framework for reflection and decision-making', *Agriculture and Human Values*, vol. 28, no. 2, pp. 179-194.
- Pannell D, Marshall G, Barr N, Curtis A, Vanclay F & Wilkinson R 2006, 'Understanding and promoting adoption of conservation practices by rural landholders', *Australian Journal of Experimental Agriculture*, vol. 46, no. 11, pp. 1407-1424.
- Peters TJ & Austin N 1985, *A passion for excellence. The leadership difference*, HarperCollins Business, London, UK.
- Peters TJ & Waterman RH 1982, *In search of excellence: Lessons from America's best-run companies*, HarperCollins Publishers, London, UK.
- Rapp CA 1998, *The strengths model: Case management with people suffering from severe and persistent mental illness*, Oxford University Press, New York, NY.
- Regehr G & Mylopoulos M 2008, 'Maintaining competence in the field: learning about practice, through practice, in practice', *Journal of Continuing Education in the Health Professions*, vol. 28, no. S1, pp. 19-23.
- Revans RW 1983, *ABC of action learning*, Chartwell-Bratt, Bromley, UK.
- Richard LA & Villarreal Sosa L 2014, 'School social work in Louisiana: A model of practice', *Children & Schools*, vol. 36, no. 4, pp. 211-220, <https://dx.doi.org/10.1093/cs/cdu022>.
- Rickards L, Alexandra J, Jolley C, Farhey K & Frewer T 2018, *Review of agricultural extension*, ACIAR, Canberra.
- Rogers CR 1951, *Client-centered therapy: Its current practice, implications and theory*, Constable, London, UK.
- Rogers E 1962, *Diffusion of innovations*, Free Press of Glencoe, New York, NY.
- Rust NA, Stankovics P, Jarvis RM, de Vries JR, Ingram J, Mills J, Glikman JA, Parkinson J, Toth Z & Reed MS 2020, *Have farmers had enough of experts?*, Newcastle University, UK, <https://dx.doi.org/10.17605/OSF.IO/6W2Y7>.
- Schön D 1983, *The reflective practitioner*, Temple Smith Ltd, London, UK.
- Schön DA 1987, *Educating the reflective practitioner*, The Jossey-Bass Higher Education Series, San Francisco, USA.
- Seligman ME 2004, *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*, Simon and Schuster, New York, NY.

- State Extension Leaders Network 2006, *Enabling change in rural and regional Australia: The role of extension in achieving sustainable and productive futures*, Available from: <<https://www.academia.edu/8372595>> [30/11/2020].
- Stokes TF & Baer DM 1977, 'An implicit technology of generalization', *Journal of Applied Behavior Analysis*, vol. 10, no. 2, pp. 349-367.
- Taylor A, Beamish W, Tucker M, Paynter J & Walker S 2019, 'Designing a model of practice for Australian teachers of young school-age children on the autism spectrum', *Journal of International Special Needs Education*, pp. 1-12, <https://dx.doi.org/10.9782/18-00017>.
- Toklu HZ & Hussain A 2013, 'The changing face of pharmacy practice and the need for a new model of pharmacy education', *Journal of Young Pharmacists*, vol. 5, no. 2, pp. 38-40, <https://dx.doi.org/https://doi.org/10.1016/j.jyp.2012.09.001>.
- Tully, J 1964, 'Operational research in agricultural extension in Queensland', *Agricultural Progress*, vol. 39, pp. 66-76.
- Waterhouse J, Schaffelke B, Bartley R, Eberhard R, Brodie J, Star M, Thorburn P, Rolfe J, Ronan M, Taylor B & Kroon F 2017, *2017 Scientific Consensus Statement: Land use impacts on the Great Barrier Reef water quality and ecosystem condition*, The State of Queensland. Available from: <<https://www.reefplan.qld.gov.au/science-and-research/the-scientific-consensus-statement>> [30/11/2020].
- Weick A 1983, 'Issues in overturning a medical model of social work practice', *Social Work*, vol. 28, no. 6, pp. 467-471, <https://dx.doi.org/10.1093/sw/28.6.467>.
- Wilburn KM & Wilburn R 2011, 'Achieving social license to operate using stakeholder theory', *Journal of International Business Ethics Vol*, vol. 4, no. 2, pp. 3-16.
- Williams J, Martin P & Martin PV 2011, *Defending the social licence of farming: issues, challenges and new directions for agriculture*, CSIRO publishing, Clayton, Vic.