Key Principles for Successful Agricultural Industry School Partnerships

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Abstract

This research explores the key principles for successful agricultural industry school partnerships (ISPs) identified by educators and industry professionals who participated in an ISP program delivered as part of the Raising Aspirations in Careers Education Gippsland (RACE) project from 2021-2023. This qualitative case study analysed data collected from 59 primary and/or secondary educators and 61 agricultural industry professionals, including pre-program surveys, and pre- and post-program semi-structured interviews. Survey data provided demographic information analysed through frequency counts. Interview data was analysed thematically. Through an ecological system lens, this case study generated four key principles for successful agricultural ISPs, relating to: participant engagement, funding, planning, and frequency. To improve outcomes for all stakeholders, these principles can be considered by those participating in and designing similar ISPs.

Introduction

Industry school partnerships (ISPs) are one approach to improve students' knowledge of the agricultural industry and associated careers (Torii, 2018). Connecting students to the agriculture industry may help to reduce workforce shortages (Azarias, Nettle & Williams, 2020; Bochtis et al., 2020; Food and Agriculture Organization of the United Nations, 2017). However, limited research explores the practical delivery of agricultural ISPs, potentially due to a historical lack of funding for these programs.

This case study analysed data collected as part of the Raising Aspirations in Careers and Education Gippsland (RACE) project which initiated 57 new agricultural ISPs in the Gippsland region of Victoria, Australia, from 2020-2023. The project was funded by the Victorian Department of Education. Each ISP was facilitated by one member of the research team, with support from up to five other team members. The programs were designed to be adaptable to accommodate the unique needs of both schools and industry partners. The ISPs were short-term, as they only included one or two incursions and/or excursions.

Whilst ISPs are not a new concept and have featured in Australian education policy for many years (Australian Government Department of Education, Employment and Workplace Relations, 2013; Education Council, 2019; Lonsdale et al., 2011; Torii, 2018), peer reviewed research is lacking, and even more so that with an agricultural focus (O'Dea et al., 2022). Bryson, Crosby and Stone (2006) argue that ISP research should include both theoretical and practical perspectives. This advice was adopted by Flynn (2015) when exploring mining and energy ISPs, combining Bronfenbrenner's (1976) Ecological Systems Theory (EST) and operational principles (elements required for an ISP to function) into a conceptual framework. Whilst a limited number of studies utilise EST as a lens to understand agricultural ISPs, this has not been combined with key operating principles. Hence, this paper seeks to answer the following research questions:

1. What key principles for successful agricultural ISPs are identified by educators and industry professionals?
2. How are the key principles for successful agricultural ISPs operationalised in agricultural ISP programs?

Ecological systems theory

Bronfenbrenner's EST provides a valuable framework for understanding ISPs. Originally used to understand child development (Bronfenbrenner, 1976), this theory has been applied to various contexts, including ISPs by Flynn (2015), Hands (2005), and Leonard (2011). Bronfenbrenner (1976, p.5) depicts his theory as a 'nested arrangement of structures, each contained within the next.' Applying this logic to ISPs and building upon the works of Flynn (2015) and Leonard (2011), we summarise the components of EST's five systems as:

(1)   Microsystem –stakeholders directly involved such as teachers, students, facilitators, and industry partners.
(2)   Mesosystem –principals, industry participants' managers, students' families.
(3)   Exosystem –education departments and industry bodies
(4)   Macrosystem –educational, social, legal, and political systems
(5)   Chrono-system –influences over time.

Whilst this study only collects data from the microsystem, ecological systems theory is applied to understand how the interconnections between all systems enable the key principles identified to be operationalised.

This paper first outlines the case study research design employed to answer this study's research questions. Second, demographic information describing the participants is provided before presenting the results from thematic analysis of interview. Next, the results are discussed in the context of previous research. Lastly, implications, limitations and directions for future research are outlined.

Research design

A case study research design was chosen because it is well-suited to address the study's research questions, particularly to understand the key principles for successful

agricultural ISPs, as identified by educators and industry professionals. The purpose of this design was to provide an 'intensive, holistic description and analysis of a single unit or bounded system' (Merriam, 1998, p.12). Yin's (2014) method has been used to add clarity to the research design: a holistic single case. The unit of analysis, or the case, is the RACE Gippsland ISP project, spanning 2020-2023.

This research design aligns with both the overarching EST framing the study and the researchers' constructivist perspective, emphasising knowledge construction from participants' experiences (Creswell & Poth, 2016). Ethical approval for this research has been granted by the CQUniversity Australia Human Research Ethics Committee, under approval number 22822.

Methods: data collection & analysis
This research collected data from educators (n=61) and industry professionals (n=62). Volunteer sampling was used to recruit participants who were willing to, or who did, participate in a RACE ISP program(s). All participants had the opportunity to complete a pre- and post-program survey and interview, except five educators and 15 industry professionals who only participated in the pre-program research as they did not participate in an ISP program. This data was retained as it includes examples of participants who may not have been able to overcome challenges to participate in an ISP. This helps to produce a holistic understanding of this case and reduce the survivor bias in the sample (Katopol, 2017). Participants could participate in more than one program and complete surveys and interviews for each. Due to this, and the voluntary nature of participating, the data collected varied from participant to participant.

Demographic data from pre-program surveys was utilised for this paper because the remaining questions, and post-program surveys, were not related to key partnership principles. Of the 23 questions asked in the pre-program survey for educators, two were used to provide demographic information for this paper. Of the 12 questions asked in the pre-program survey for industry professionals, two were used to provide demographic information for this paper. During interviews, participants were asked about any previous ISP experiences, and how they wanted to participate. Those that participated in a program were asked how they found participating and the structure of the program, if it was successful, and what influenced them to participate. Additional questions were asked that are outside the scope of this article. Technical errors meant four pre-program interviews with educators, and one post-program interview with an industry participant could not be transcribed. This resulted in data analysed for this paper from:

- 59 primary and/or secondary school educators, including:
  - 57 pre-program surveys from 49 educators
  - 51 pre-program semi-structured interviews from 44 educators
  - 26 post-program semi-structured interviews from 21 educators
- 61 industry professionals, including:
  - 59 pre-program surveys from 58 industry professionals
  - 57 pre-program semi-structured interviews from 54 industry professionals
  - 44 post-program semi-structured interviews from 41 industry professionals

Educators (n=56) had from less than one to 30 years of teaching experience, with 41% (n=23) having less than 10, 34% (n=19) between 10-19, and 25% (n=14) having 20+ years of experience. Most educators (n=57) were currently teaching in a rural town of less than 5,000 people (n=26; 46%), with 42% (n=24) in a town with between 5,000-18,000 people, 11% (n=6) in a large town with between 19,000-49,000 people, and 2% (n=1) in a major city with between 50,000-250,000 people.

Industry professionals (n=55) were aged between 20 and 71, with 13% (n=7) in their 20s, 27% (n=15) in their 30s, 36% (n=20) in their 40s, and 24% (n=13) aged greater than 50 years. Most industry professionals (n=56) had worked in the agriculture industry for over 20 years (n=33; 59%), whilst 32% (n=18) had between 5 and 19, and 9% (n=5) having less than 5 years of experience.

Semi-structured interview transcripts were analysed via Braun and Clarke's (2021) method of thematic analysis. One researcher transcribed and reviewed interview recordings before coding the transcripts. Themes were then developed by one researcher and subsequently reviewed and refined by all team members.

Results

Thematic analysis of the data generated four themes, as listed in Table 1. From these, four key principles were distilled. Each participant has been provided a pseudonym letter(s) and number combination, E=educator, I=industry professional, F=facilitator.

Table 1 – Themes and subthemes identified through thematic analysis with exemplar quotes and the resulting key principles for successful agricultural ISPs.

Theme	Subtheme	Exemplar Quotes	Key Principles
Participant engagement		"*If you're dragging people that aren't particularly interested out here, it's just a… huge waste of everyone's time*" (I44). "*You just need a teacher on that's willing to drive it and that really wants to do it*" (E7).	All participants need to be engaged and the sessions need to be engaging for students to participate in.
	Engaging activities	"*Practical sort of demonstrations… where kids can get their hands dirty*" (I32). "*They learn a lot better hands on, so seeing it and experiencing it for themselves, that was really good*" (E48).	
Program funding	Facilitator	"*I don't think we could have done it without your* [facilitator] *help*" (E21).	ISPs work best when funded, including transport for students, and a facilitator to organise activities.
	School-level costs	"*The barriers would also be the costs associated with transporting the kids out, and then the CRT[1] costs*" (E23).	
	Industry partner payment	"*The cost would put me off again next year… there needs to be allocative of model of cost recovery funds for industry to participate*" (I47).	

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[1] Casual Relief Teacher

Proper planning	Suitable content	*"Not just the normal parts of agriculture… try and keep it nice and broad, so that you can attract as many young people into different areas as possible"* (I8). *"If they* [students] *can link anything they learn back to the curriculum, well that's an advantage"* (E29).	Planning is important, including good communication, discussing timing, being flexible and ensuring activities include suitable content.
	Good communication	*"Communication's key to make sure everything runs smoothly and is successful"* (I30).	
	Timing	*"For me, just keep it short and sweet and simple"* (I4). *"Trying to stick things with our timetable and availability is often a difficulty"* (E11).	
	Flexibility	*"Because every day is a bit different you can sort of never know exactly what's happening on that particular day"* (I31). *"The flexibility was good in terms of when it… happened"* (E40).	
Frequency		*"The best case would be… regular ongoing relationships with the same people. So that they* [students] *can build that comfortability and that awareness and that familiarity"* (E50).	ISPs that include multiple sessions or ongoing contact with an industry professional are preferred, especially by educators.

Next, each theme and related key principle will be discussed in depth, including examples of how they were, or were not, operationalised.

Participant engagement

The first theme generated from the data was participant engagement. This theme referred to participants being engaged, meaning they were attentive and actively involved, in the partnership activities. This included one subtheme: engaging activities, to highlight the design of partnerships to be engaging for students.

Participants identified that educators, students, and industry partners needed to be engaged in the ISP for it to be successful. I44 stated that *"I don't like to give my time and resources to this type of thing, unless everyone's, you know, really invested in and keen and there's a sort of excitement about it"*. Industry partners were disappointed when *"the teachers didn't seem to be very supportive of encouraging the students to participate…[and] would have hoped for some more teacher support"* (I17). I1 believed that *"the teacher needs to be invested and actually interested first"*. Positive experiences were had when students were engaged; I32 described that in the ISP they participated in *"the kids were very engaged, so that … always makes it interesting and worthwhile"*.

Educators like E14, discussed that:

> *Having people [industry partners] who actually have a passion for what they do is what makes it more successful, to ensure engagement and an experience for the students.*

E14 added that "*yourself* [facilitator] *and I23 bring a wealth of experience and ability to the delivery of the programme*", demonstrating how both an engaging industry partner (I23) and the facilitator added to the success of the program.

Engaging activities
Engaging activities refers to the activities delivered during the ISP and whether they engaged students (for example students were attentive and actively participated). To ensure the students were engaged, it was key that partnership activities were engaging for students, which was often identified as needing to be "*hands on for the kids so they actually get involved*" (I22). This hands-on element was identified by both industry professionals and educators with other examples including: "*have a little test or quiz, quizmaster or hand out a prize at the end of the day to make it more interactive*" (I10) and "*because I know those types of kids they're hands on learning kids, and they want to do more prac*[tical] *than sitting there*" (I28). One teacher stated that:

> *Definitely hands on activities engage them, anything visual, or like they even like to watch some videos on farming and industry and things they wouldn't like go and watch on YouTube themselves. But definitely hands-on and going out to... particular places like where there is like a business or farm that they can see and interact with (E21).*

Success was identified where hands-on activities were included. For example, I6 stated that:

> *Having a facilitator like yourself there F1 keeps it all engaged… you had those tools^2… so that was a really good interactive… I think having the activity was really important for the kids.*

Likewise, E43 identified that "*it was good for the kids to have some hands-on activities*".

Program Funding
Program funding included three subthemes: facilitation, school-level costs, and industry partner payment. The RACE project was funded, which included the facilitator, and transport for students, though industry partners volunteered their time.

Facilitation
Funding for a facilitator was critical to the success of RACE ISPs. Participants identified that "*you* [facilitator] *just make it happen*" (I3) and "*I don't know that I would have been able to do it without you* [facilitator]" (E33). One industry participant articulated the benefit of a facilitator who understood the agricultural component of the ISP ecological system:

> *Someone that just understands what happens on farms, pressures on farms…We get some funny requests sometimes to be around all day in the middle of calving season, or… to get animals to do certain things, and you just go, you've got no idea…we just can't accommodate that. So just to have someone who has an understanding of what*

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^{2} hands on sensors for students to use on farm

happens on farms, and some of the time pressures and how best that school groups or groups can be brought onto farms is really handy rather than sort of say… getting all those requests from the school and you're just tearing your hair out going we just can't do it, we can't accommodate that. So that is definitely helpful (I55).

Similarly, E41 articulated the benefit of the facilitator understanding the education side of the ISP ecological system:

Because I think if someone [facilitator] was doing it without teaching knowledge that would have been harder and not as good. But yeah, your [facilitator] teaching knowledge really was really obvious. So, you just know how the school system works and the curriculum and the kids and the different ages. Yeah, you just knew the whole teaching aspect, which was amazingly helpful and made it so much easier and effective, for the outcomes (E41).

School level costs
School level costs included student transport and wages. Many educators identified that "*the cost of a bus is so prohibitive*" (E43), and "*then the CRT costs that need to be covered*" (E23). E17 identified that without having the bus costs covered by the RACE project, "*probably… half the kids wouldn't be able to make it*". E21 also thought that "*it was good to have the transport arranged because that, that would have probably been a barrier*".

Industry partner
Whilst most industry participants were willing to volunteer their time, and all identified that they would participate in the future, subject to barriers such as time, one industry partner did identify that "*the cost would put me off again next year*" (I47). She was both a farmer herself, and worked for a farming systems group, having many interactions with farmers. She identified that "*there needs to be* [an] *allocative… model of cost recovery funds for industry to participate*" and further explains this concept:

I think that, you know, to resource sitting fees for industry to engage out of an RDC³ bucket or an education bucket would represent, and I say sitting fees, because… we need a cost recovery, we don't need to profit, you know, like, for me to pull farmers off their farm and say righteo come and contribute to this forum for four hours and then they get a sitting fee of three hundred bucks and then they're paying someone to put seed in the ground on their farm or whatever it might be. So that's the type of economy that I think that we probably need to do… to achieve partnerships in the world that we're in now… Are other industries doing it… I don't know? I don't see a lot of industry participation… How do we actually motivate industry participation? And industry, it's a commercial machine, isn't it? (I47).

Whilst this concept was not raised by other industry professionals, it highlights an important issue regarding increasing industry involvement in education. It is important to note that this research did not include participants who were not willing to participate in an ISP.

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³ Rural Research and Development Corporation

Proper Planning

Proper planning refers to organising an ISP that is effective. It is characterised by good communication, timing, flexibility, and suitable content.

Communication
There was limited communication between educators and industry professionals, as they each liaised with the facilitator. Communication with the facilitator was generally through email, or phone and related to identifying participants' wants and needs, planning and timing of activities. I30 stated that "*communication's key to make sure everything runs smoothly and is successful*". Good communication was identified in numerous ISP programs, for example: "*the communication and everything before, during and after was all great*" (I57), "*the partnership between us was great, because we effectively communicated what both of our needs and wants were*" (E11), "*you* [facilitator] *and I23… were really communicative… I've found you quite accessible, responsive to communications*" (E50). However, in some cases it was identified that more communication would have improved the process: "*I think a bit more detail in advance would have been good, so exactly what the students were expecting to get out of the visit*" (I49).

Timing
Planning to ensure the ISP activities are delivered at a suitable time was also identified as important by educators and industry professionals. Several instances where partnership success could have been improved by changing the timing included where activities were held "*on Friday afternoon*" (E14), and "*end of term* [when] *they* [students] *were probably… fatigued… and don't want to do any more*" (E15). The best timing can also be season and weather dependent, for example, I47 said "*I don't think Autumn is the right time. I think spring is a much, much better time and summer around harvest,*" and E30 identified that "*the only thing that really distracted from the day was that drop in temperature, the weather*".

Aside from selecting the suitable time of year, term, week, and day, which could be a challenge as "*trying to stick things with our timetable and availability is often a difficulty*" (E11), was the length of the sessions. Many industry professionals wanted to "*just keep it short and sweet and simple*" (I4). This worked for I29, who shared that "*we were busy at that time, and it was pretty short and sweet. So that suits me better than a long-drawn-out day of repeating yourself.*" Shorter, part day excursions also worked for many educators, including E21 who stated that "*having the short excursion made it so much more doable*".

Flexibility
Related often to timing, was the need to be flexible. For example, related to seasonal conditions and weather, I47 shared that "*the ability to sort of adapt on the day, being flexible, like when we had rain, stuff like that. Just being quite flexible… was a good sort of thing,*" and I60 indicated that "*tomorrows access will be very much dependent on what kind of activity there is in the pack shed*". I19 discussed flexibility related to the facilitator, stating that "*you* [facilitator] *were flexible around what I needed to do. So that took away any barriers that may have been there.*"

Interestingly, I25, who had been hosting tours of his property for students for decades, shared that "*I used to be a bit more rigid in what I wanted, and I've become more flexible, because everybody starts a different point. So, I'll get what I want fitting in with whatever their outline is*". Educators also raised the importance of being flexible, for example:

> *Being aware to be flexible, because like the last few weeks, we've had to flip here, flip there, come back from COVID, storms, school closed and that happens like yeah, so there'll be times like today we didn't run ag⁴ because we hadn't had a math lesson all last week and we had a CAT⁵ to do… so it's great to have timelines organised, but it doesn't always work out (E5).*

Suitable content

Ensuring that the contents of the activities delivered were suitable for both educators and industry partners was deemed important. Matching educators, students and industry partners who could meet each other's requirements formed part of the role of the facilitator. Some industry participants thought "*it's important for the kids to see as many different perspectives as possible, because everybody's journey is slightly different*" (I6), whilst the need to "*link to the curriculum, so… we're providing teachers with what they need, and then trying to get our… agricultural high-tech lens over that*" (I42) was also identified. Many educators wanted "*to expose the kids to, yeah, multiple ranges of different industries*" (E43). Linking to the curriculum or current learning topic was also important. E11 shared that "*I loved how I could easily link it to the genetics that we had been doing and how that allowed extension for my students*", and for E40 "*it really helped that we also were doing a science topic on food and fibre at the same time, so it slotted in really lovely, it... just worked perfectly for us*".

Frequency

Lastly, ongoing ISPs were identified as key by educators. E23 stated that "*if it was a dream, then it would be being able to facilitate… really strong partnerships to develop and… not for it just to be a one-off thing*". This was mainly highlighted by educators, though some industry professionals also agreed, for example I17 wanted to convey information to students through "*just as much contact with students as possible*". Though for some industry professionals, "*short and sweet and simple*" (I4) suited better than ongoing contact. Educators identified that "*a series of activities will engage the students the most.*" (E14). This could include:

> *A series, so basically, an awareness and activity, maybe at school and raising their understanding of the value of the industry. And then taking them to sites that basically contextualise what it is, with getting their hands dirty. I think that's what's important (E14).*

Several educators wanted partnerships to lead to work experience opportunities for students, for example: "*I would love to do a partnership and do the incursions, excursions, but in knowing that… there might be some sort of partnership to get kids some*

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⁴ agriculture

⁵ Common assessment task

workplace experience" (E48). E27 shared that "*working towards that employment is kind of is the main thing for a lot of them* [students]".

Discussion

This paper sought to answer two research questions. Firstly, what key principles for successful agricultural ISPs are identified by teacher and industry professionals in Gippsland, Australia? And secondly, how are the key principles for successful agricultural ISPs operationalised in RACE Gippsland ISP programs? To answer the first research question, four key principles were distilled from the data, relating to each theme generated, as presented in Table 1. The key principles identified in this study have synergies with both the ISP, education, and ecological literature.

Similarities to this study's first key principle of needing engaged participants, are found across the literature, for example Hands (2005) identifies 'willingness to collaborate' as a key principle for community partnerships, and the Australian Government's seven guiding principles for school-business relationships, includes having the support of the school community, and school and business leadership (Australian Government Department of Education, 2013). Likewise, having engaging activities is often implicit through key partnership principles related to developing shared goals and objectives, agreeing on types of contributions (Pillay, Watters, Hoff, Lutz & Flynn, 2014; Watters, Pillay & Flynn, 2016), and reciprocal relationships, where students' interests and organisational goals are both met (Hands, 2005). Hands-on learning styles have also been shown to increase student engagement (Hattie, 2023; Yilmaz, Ren, Custer & Coleman, 2010).

The importance of funding or resourcing ISPs is clear throughout the literature (Australian Industry Group, 2017; Australian Government Department of Education, 2013; Hands, 2005; Pillay, Watters, Hoff, 2013; Watters, Hoff, Lutz & Flynn, 2014). Partnership facilitation is commonly raised as an important component of ISPs, due to connecting educators and industry professionals, and reducing other barriers to delivery through their knowledge and experience (Australian Industry Group, 2017; Malin, Hackmann & Scott, 2020; O'Dea, et al., 2022; 2023, 2024a, 2024b). The demand for funding and facilitation emphasises the time and resource barriers educators encounter, which are also shown to exist when delivering other types of agricultural education programs (Cosby, Manning & Trotter, 2019).

Planning is highlighted through key principles identified in the literature such as communication (Hands, 2005), 'agreement on roles and responsibilities' (Watters, Pillay and Hoff, 2016, p.14), and 'partnerships should be built on strong foundations with a shared vision and objectives' (Australian Government Department of Education, 2019, p.5). Planning and effective communication is also interconnected with the ecological principle of interdependence (Flynn; 2015; Hands; 2005). Interdependence is characterised by Flynn (2015, p.181) as 'the relationship and communication between the various levels within the entire ISP system'. Stakeholders within the ISP must engage in effective communication to coordinate activities that align with the objectives and needs of each party (Flynn; 2015; Hands; 2005). Flexibility is also identified as an ecological principle by Dekay (1996) and Capra (1994) and is considered crucial to ensure that outcomes align with the objectives of all stakeholders (Hands, 2005).

Finally, educators, and some industry partners wanted the ISP activities to be more frequent. This concept is supported by research indicating that multiple exposures spaced over time lead to better long-term retention of information (Hattie, 2012). This key principle also relates to sustainability, recognised by Flynn (2015), Capra (1994), and Dekay (1996) as an ecological principle. The partnerships in this study were developed to include usually only one incursion, and one excursion. The ongoing sustainability of these partnerships, after the initial facilitated program, is dependent on the willingness and availability of educators and industry partners. Future research that investigates the ongoing impacts of these partnerships may prove valuable.

To answer the second research question, examples of the key principles being operationalised —or not —were provided. In many cases, the role of the facilitator was critical to the operationalisation of the key principles due to their understanding of the ISP ecosystem, which included all stakeholders and partnership influences. For example, by understanding students' interest, the facilitator could better support the industry partner to deliver an engaging experience (e.g. help to plan activities that are interactive, engaging and pitched at the right level), and communication between educators and industry professionals could be bridged by understanding how best to communicate with both stakeholders. This led to the generation of the following overarching key finding: *an understanding of the ecological system improves partnership success.* The crucial support that the facilitator provided led to the generation of a second key finding: *the facilitator is a critical connector in RACE agricultural ISP ecosystems.* This finding also aligns with Bronfenbrenner's (1979) second proposition, which when applied to ISPs, suggests that a well-established ISP has a greater capacity to sustain a program of activities independently. In contrast, newly established ISPs, like those in this case study, may require more initiation and guidance, for example, from a facilitator.

Implications

These findings provide implications for theory, practice, and methodology with agricultural ISP research. First, this study builds on research utilising Bronfenbrenner's EST as a lens to explore ISPs (Bronfenbrenner, 1979; Flynn, 2015, Leonard, 2011). Flynn (2015) took Bryson et al.'s (2006) advice to combine theoretical and practical perspectives in partnership research. Flynn (2015) did this in the context of mining and energy ISPs, though no researchers had previously studied agricultural ISPs in a similar way by including key operating principles. Many of the practical key principles identified in this research align with ecological principles discussed above (Capra, 1994, Dekay, 1996; Flynn, 2015; Hands, 2005). By combining both theoretical and practical perspectives, this research demonstrates the applicability of EST to agricultural ISP delivery.

Second, this research has contributed practical insights for those involved in the delivery of agricultural ISPs. Through the lens of EST, key principles for successful agricultural ISPs have been presented. For industry professionals and educators, these practical key principles can be considered when participating in an ISP to improve success. For policy makers, and those advocating for increased industry involvement in education, this research further highlights the value of funded programs which include facilitation and student transport.

Third, this study expands the application of qualitative case study methodology. The authors previously utilised this methodology to understand the ecological system structure of agricultural ISPs. This approach facilitated a thorough exploration of a complex agricultural ISP project, offering researchers the flexibility to adapt and delve into the valuable insights shared by participants. However, to the authors' knowledge, no other researchers have utilised this methodology in the context of short-term agricultural ISPs, as examined in this study.

Limitations and directions for future research
All interviews were conducted with the facilitator, who was also one of the researchers, and the first named author of this paper. As an insider researcher, this meant it was possible that participants did not want to share negative experiences, or issues with room for improvement, at risk of offending the facilitator. In addition, interviews were only conducted with educators and industry participants who were willing to participate in an agricultural ISP. Research exploring the perceptions of those who are not willing to participate may provide valuable insights in how to improve ISPs to increase participation rates.

Whilst the structure of agriculture ISPs conducted as part of the RACE project have been compiled (O'Dea et al., 2024b, 2024c), and the key principles identified for success explored here, future research would benefit from understanding whether these partnerships are successful and meet each stakeholder's objectives. This may aid those developing partnerships to best structure activities to meet their objectives.

Disclosure Statement

The authors report there are no competing interests to declare.

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