Chapter 11
Changing the Professional Identity of Food Technology Teachers in New South Wales, Australia

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Abstract If a pre-service technology teacher is to teach Food Technology (FT) within Technology Education (TE) using a holistic approach, then the advancement of their professional identity as a technology teacher will be reliant upon the grasping of essential Technology Education concepts. During the period that this research was undertaken, 2012–2017, TE underwent major curriculum changes and this succession of curriculum change generated high levels of tension and confusion (Seemann, J Technol Educ 14:11, 2003), resulting in a change in identity for secondary TE teachers (Harfield, *Liminality, transition, transformation and educational re-thinking*. Paper presented at the Proceedings of the 8th Biennial International Conference on Technology Education: Learning for Life, Sydney 1 (pp. 96–104), 2014; Williams, Int J Technol Des Educ 23:1–9, 2012) and a resistance to further TE curriculum changes (Howard and Mozejko, *Teaching and digital technologies: big issues and critical questions*. Cambridge University Press, Port Melbourne, 2015).

This study focuses on the professional identity changes required to support the modifications to the TE curriculum, particularly Food Technology, and identifies a way to promote professional identity transition. It demonstrates how the developing professional teacher identity is impacted within the Technology Foundation Course that is mandatory for all pre-service Technology Education students at The University of Newcastle, NSW, Australia, and identifies the factors causing the greatest change. The focal lens is on the coursework and how authentic activity, including the Technology Day, held at a local secondary school, leads to a solid understanding of Technology Education. It uses personal folios, online reflective journaling and interviews as a way to trace the professional identity change and the results are presented using the Logic Framework Model. This research makes an important contribution to the field of Food Technology by identifying the factors that promote professional identity change in pre-service TE students. The research findings inform higher Initial Technology e-Education ITE programmes, whose aim is to promote a transition of a pre-service student's professional identity.

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Introduction

This chapter investigates, and identifies the factors that shape the professional identity of pre-service Food Technology (FT) education students who are transitioning from secondary education to university in order to become secondary Technology Education (TE) teachers. Technology Education is now called Technologies by the Australian Curriculum, Assessment and Reporting Authority [ACARA] (2016). In their official documentation and on their website the NSW Educational Standards Authority (NESA) have used Technologies as an umbrella to encompass the syllabuses of Computing Technology, Design and Technology, Engineering Studies, Food Technology, Industrial Technology and Textiles Technology.

Curriculum change is a constant in the Technologies and with a succession of curriculum change teacher's experience high stress levels and turmoil (Seeman, 2003), resulting in resistance to further curriculum change (Howard & Mozejko, 2015) and a change in teachers identity (Harfield, 2014; Williams, 2012). As such, the challenges associated with professional identity development must be addressed to enable the effective transition of a pre-service student to a Food Technology teacher.

This chapter focuses on the professional identity changes required to support the modifications to the NSW FT curriculum and seeks to identify a way to promote professional identity transition. This chapter makes an important contribution to the field of teaching Food Technology in secondary schooling by identifying the factors that promote professional identity change in pre-service FT students. The findings will inform higher education TE programmes, whose aim is to promote a transition of a pre-service student's professional identity.

Overview

The Technology Education (TE) curriculum in Australia has undergone change over the past 40 years, and with the national curriculum, there is more to come. These changes and a lack of understanding about what TE entails have resulted in the fragmentation of groups of TE teachers (Harfield, 2014; Seemann, 2003; Williams, 2012). Many pre-service TE students enter the Initial Teacher Education (ITE) programme believing that they will teach their professional skills using a didactic, lockstep, master-and-apprentice approach. The impact of the current and future curriculum, based on a contemporary, design-thinking, project-based learning approach, leaves them in conflict, wondering exactly what and how they will teach the critical thinking required in FT. The reconciliation of these internal tensions and conflicts is required to enable the effective transition of a pre-service TE student to a TE teacher.

In 1991, the NSW TE curriculum moved from a skill-based, 'lockstep' curriculum to a technology curriculum focusing on design and critical thinking, yet, almost three decades later, many teachers are still resisting change (Howard & Mozejko, 2015; Turner & Seemann, 2004; Walmsley, 2008). On the other hand, a few teachers are implementing contemporary changes, such as fully utilising technology in the classroom (Leonard, Fitzgerald, & Bacon, 2016), integrating blended learning situations (Alammary, Sheard, & Carbone, 2014), using flipped classrooms (Howitt & Pegrum, 2015), integrating e-learning (Weng, Tsai, & Weng, 2015) or considering the vertical integration of subjects using a science, technology, engineering and mathematics (STEM) approach (Boy, 2013, Doe, 2016; McAuliffe, 2016).

This resistance to change has resulted in a fragmented schema of TE (Williams, 2012), whereby pre-service TE students and new graduates find it difficult to clearly define what TE entails, to locate their situational professional identity (Hamilton & Pinnegar, 2015), and implement the expected curriculum changes (O'Connor & Scanlon, 2005). If pre-service FT educators continue to resist changes and focus of various Technologies curriculum, there is a risk that they might not comply with the Australian Institute for Teaching & School Leadership AITSL (2010) standards. There is a need, therefore, to investigate how the transitioning of professional identity may be supported in order to promote change imperatives in their classrooms.

Technology Education and Food Technology Curriculum Change, Tensions and Resistance

Technology Education was traditionally founded in skill-based learning using lock step progression. Traditionally the females studied 'cooking' to prepare them for married life and the boys studied woodwork. It was heavily influenced by a 1987 report entitled 'What Employers Want' which aimed to identify what business and industry needed and fulfil these needs with students educated and ready to move into work. This led to The Carrick Review in 1989 where the goal was to reduce gender bias and promote inclusive education using technology and design processes to develop practical skills and nurture a capacity for problem solving.

The mandatory, 1991, NSW Design and Technology Syllabus Years 7–10, considered an innovation-based syllabus that would build capacities to help Australia's future and quality of life (NSW Board of Studies, 1991). The syllabus moved away from the teacher-directed, manual training approach to that of a holistic learning style with the teacher in a creative facilitator role. The teacher view placed a high priority on developing skills first before students could attempt design projects, which were largely open ended (Turner, 2012). The syllabus supported a constructivist approach and many teachers were ill-prepared to teach this new pedagogy (McDonald & Gibson, 1995). The 2005 Technology (Mandatory) syllabus intentionally emphasised an object skills theme. The situation opened a serious disparity between fundamental needs to engender design and innovation skills for the future (Turner, 2012).

The implementation of The Technologies, a design-based holistic technology curriculum has forced Food Technology teachers to re-examine their professional identity. These curricular changes have resulted in confusion for Technology teachers (MacGregor, 2013) and a fragmentation of the teaching of Technology Education. The main barriers to the implementation of curriculum change are a lack of agreement of, and understanding about, what Technology Education encompassed, and a clear description of Technology Education schema (Forret, Edwards, Lockley, & Nguyen, 2013; Williams, 2009). An understanding of the nature of Technology heavily influences perceptions of Food Technology Education (FTE) and consequently shapes teaching practice (Forret et al., 2013).

Although the current continuum from stage 5 to stage 6 appears to provide a sound lead-in on paper, there is very little correlation to food science, innovation or environmental aspects. While nutrition may encourage students to take Food Technology in the senior years, students frequently choose Hospitality (Turner, 2012). The 2010 review for the NSW Stage 6 Syllabus for Food Technology resulted in a syllabus rewording. Higher-order thinking skills involving food science, innovation and holistic technological practice were removed and cooking recipes again replaced experimentation and testing of recipes.

This theme has played out over decades and the disconnection in teaching food science and technology as perceived by the profession of food technology has posed a significant problem in linking the subject to possible careers. This change in the syllabus has ensured debate between conservative curriculum values and the contemporary demands of a syllabus (Turner, 2012).

If the secondary students were to study both subjects, Food Technology with food science being taught from a strong perspective, and Hospitality, a syllabus which is gleaned from nationally accredited TAFE content, they would graduate with an excellent understanding of all food areas. The great chefs of the world do not use their amazing skills to emulate food production; they research, test, experiment and use their highly developed skills to create products that distinguish them from the norm. Some Australian teachers who suffer from a fragmented professional identity choose to focus on cooking skills in both courses, ensuring that their students do not see a difference and only elect to study one of these subjects, leaving them to flounder in food mediocrity as opposed to excelling in the creations of their chosen area of understanding. Food science and research was removed from Hospitality many years ago, allowing many students to wallow in mediocrity.

The implementation of The Technologies, and Food Technology as a design-based holistic technology curriculum, has forced teachers to re-examine their professional identity. These curricular changes have resulted in confusion for Food and Technology teachers (MacGregor, 2013) and a fragmentation of the teaching of Technology-based subjects. The main barriers to the implementation of curriculum change are a lack of agreement of, and understanding about, what Technology Education encompasses, and a clear description of Technology Education schema (Forret et al., 2013; Williams, 2009). An understanding of the nature of Technology heavily influences perceptions of Technology Education and consequently shapes teaching practice (Forret et al., 2013).

Promoting Professional Identity Transition

In the study The Changing Professional Identity of Food Technology Teachers (Trevallion, 2017), the participants enrolled in a TE Foundation course embedded within a Bachelor of Education—TE programme. This programme is only available to students with: a technology-related industry background, a minimum of 6 years' work experience, demonstrated success in ongoing learning and a range of personal attributes. Students enter the teaching programme on a competitive basis through an analysis of an evidence-based entry folio prepared by the applicant.

This research, based on the ontology of experience (Clandinin, 2007) used reflective narratives to capture the pre-service TE students' life stories. It is these stories that have provided insight into the pre-service TE students' professional identity. Identity is not viewed as static or fixed; instead, identity is framed using language formation where changes in professional identity are described by a socialising process that shapes identity (Woolfolk, 2007; Zare-ee & Ghasedi, 2014). This identity formation involves both identification and negotiability (Maynard, 2011). Identity is shaped by a lifetime of activity and interactions including past and present personal and professional life experiences (Day, Kington, Stobart, & Sammons, 2006; Furlong, 2013), prior university courses (Smith, 2007) and school and community-based encounters and collaborations (Rodríguez-Sabiote & Gallego-Arrufa, 2015; Woo, 2015).

Lev Vygotsky, in 1978, coined the term 'social constructivism', arguing that cognitive functions originate in, and are products of, social interactions. Learning is not just the assimilation of new knowledge; it is the process used to integrate learning into a knowledge community (Creswell, 2009; Lincoln & Guba, 2000). A key assumption in the constructivist classroom is that what the student currently believes, whether correct or incorrect, is important. In this study, all TE student beliefs and understandings were valued and built upon allowing open discussion of all perspectives. The researcher assumed that despite the pre-service TE students having the same learning experience, each TE student will base their learning on the understanding and meaning personal to them. Constructing meaning is an active and continuous process, and as a result the TE students understanding changed as they progressed through the coursework, completed activities and gained experiences that challenged and expanded their thinking.

Learning, involved some conceptual changes, for example in this case the student's conceptual understandings about TE moves from a traditional, hands-on, approach to TE that focusses on problem solving. In order to do this, it is necessary to acknowledge that when a student constructs a new meaning, they may not believe it but may give it provisional acceptance or even rejection. As constructing meaning is continuous, understandings evolve over time as the students undertake the responsibility to learn more about imposed concepts.

The pre-service TE students' transitioning of professional identity evolves through social constructivism, such as, social group membership (Hooley, 2007). Here the pre-service TE students share a common goal of becoming a TE teacher

and share characteristics such as dignity, pride, respect, shared values and beliefs. As they work together to achieve their goal, their professional identity will be impacted upon through social constructivism. This research, based on the ontology of experience (Clandinin, 2007) and the ethnology of cultural experience, uses reflective narratives to capture the pre-service TE students' life stories. The learner's environment transmits the cultural tools, which include language, cultural history, social context and electronic forms of information access. It is these 'stories' that provide insight into the pre-service TE students' professional identity.

Framing Identity Through the Foundation Course

The study examined how pre-service TE students' professional identity adapts during the TE Foundation course in the first semester at university. The first semester at university is of prime importance, as this is when the greatest professional identity change occurs (Atkinson, 2012). The study explored how aspects of the course context shaped the professional identity of the pre-service TE students and how the TE Foundation coursework is underpinned by research in TE. The goal was to create a course that would clarify issues, reduce tensions and assist in the transitioning of the professional identity of pre-service TE students. The intervention coursework includes sharing life histories and builds trust and rapport to unify the students so that these connections encourage identity evolution. The specific TE Foundation coursework strategies contribute to the pre-service students' professional identity transition from trade workers to pre-service technology educators. An overview of the TE Foundation course is provided in Table 11.1.

Table 11.1 describes, and contextualises, the course content, strategies and experiences that are included in the TE Foundation course. The listed course inclusions provide information that, along with the time series analysis (as discussed later in this chapter), make it possible to identify which factors impacted on the pre-service TE students' professional identity. Through the reflections documented in the electronic journals, this study scrutinises the factors impacting professional identity and how it empowers pre-service TE students to move toward the teacher that they want to become.

Methodology

The multiple case studies used qualitative research to explore changing behaviours, perspectives, feelings and experiences of pre-service Technology Education students, in order to identify the factors that have affected their professional identity. Case study research assumes that examining the context and other complex conditions related to a case are integral to understanding a case (Yin & Davis, 2007). The relevant case study data comes from multiple sources of evidence, including entry folios, concept maps, reflective journals and semi-structured interviews that are used to triangulate results.

Table 11.1 Technology education foundation course content

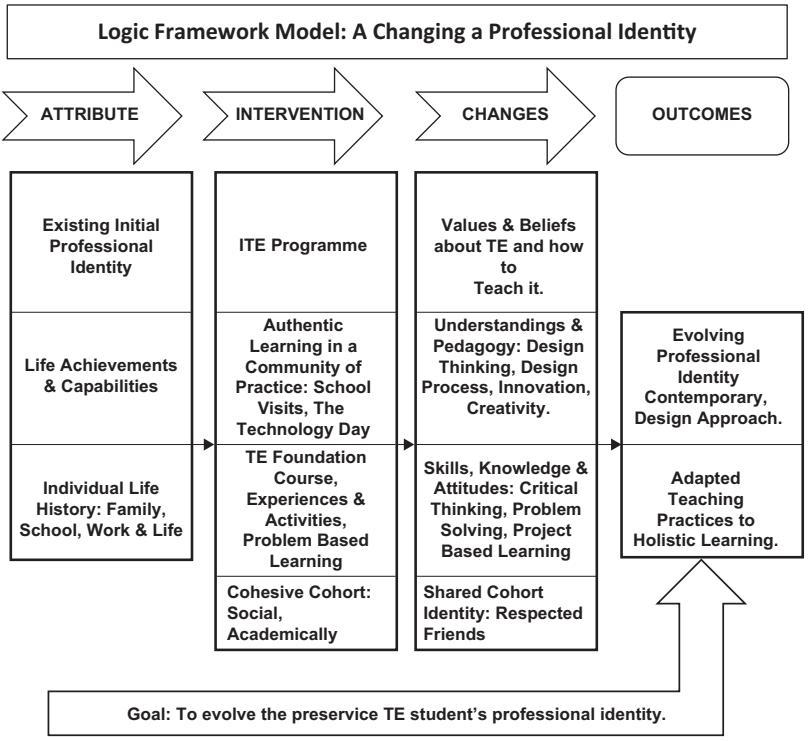
Week	Weekly activity
1	*What is Technology Education?* • Rapport and team building—link existing skills and current and future identities • Recognition of identities/shift in professional identity (Kennedy & King, 2008) • Development of entry concept map (Von Glasersfeld, 1991)
2	*All About Design!* • Building a unified cohort that helps participants to come together • Develop professional identity
3[a]	*Design and Technology—A Contradiction of Terms* • Secondary school visits, observing traditional and holistic approaches • Discourse on school community, classroom teacher, lesson and students • Authentic experiences, professional identity (Flores & Day, 2006) • Authentic images of self in the position of teacher (Beauchamp & Thomas, 2009)
4	*Critical Thinking for All* • TE learning imperatives, especially problem solving and critical thinking • Creation of classroom resources that support the learning imperatives • Journal reflections about school visits, critical thinking and TE • Professional identity—synthesis, integration and action (Sachs, 2001)
5[a]	*Design Thinking* • Interactive visit to a special needs school • Design brief: Promoting literacy in students with low reading motivation
6[a]	*Problem-Based Learning and Authentic Activity* • Implement solutions. Authentic activity promotes critical thinking, (Loepp, 2004) • Connecting academic learning with school experiences promotes deep understandings, which influence the developing professional identity (Zuga, 2000)
7 & 8	*Technology Education Curriculum* • NSW Technology Mandatory Syllabus; activities and lesson planning for The Technology Day. Students write a design brief and prepare lessons and resources • The lessons must be cost effective and will be used for The Technology Day
9	*Creativity* • Peers teach a 20-min segment of a lesson with subsequent feedback suggesting how to support teaching (Jones, 2002)
10[a]	*The Technology Day* • Teach and observe peers teaching TE using contemporary practice • Lessons taught in pairs; one teaches, the other writes an observation • Unified schema of TE resulting in improved classroom practice (Williams, 2012) • Reflective journaling promotes understanding of social identity complexity and, when combined with interactive contexts, they evolve professional identity (Monrouxe, 2009)
11	*Sustainable Design* • Adapting lessons to ensure a sustainability lesson focus
12	*Issues in the Classroom* • Discussion: Issues about TE to ease identity tensions • Shared reflections provide pedagogical space from the authentic learning activities. This space is necessary to synergise evolving identities (Atkinson, 2009), to encourage reflection and avoid projective identification with stereotypes (Mitchell, Cohen, Youakim, & Balaicuis, 2009)
Exam Week	*Case Study Participant Interviews*

[a]Refers to authentic experiences

Case studies of six Food Technology pre-service teachers participating in the foundation Technology Education course were analysed. The data analysis techniques included demographic and interpretive analysis, relational scoring, time series analysis and evaluation using the Logic Framework Model (Wyatt Knowlton & Phillips, 2013) in Table 11.2. For each participant, a Logic Framework Model was used to present the specific pre-service TE student's findings, it provided a technique for scrutinizing and undertaking an evaluation of the change in a cause-and-effect process where the participant's identity was analysed. Interventions affected their identity that resulted in initial outcomes followed by ultimate outcomes. The findings demonstrate that this model can be applied to all Technology education students.

The data collected provided extensive evidence to respond to the research questions. This study examined the professional identity transition of pre-service TE

Table 11.2 Logic framework: changing professional identity (Trevallion, 2018)



Attributes: The attributes refer to the characteristics of the initial professional identity belonging to the participant informed by research question one.	**Intervention:** The intervention is the set of activities that the participant experiences that cause a change in their identity informed by research question four.
Changes: The changes occur because of the interventions. They are characterised by changes in identity, beliefs, attitudes, thinking and behaviours informed by research question two.	**Outcomes:** The ultimate outcomes are the long-term changes that occur after the changes from the intervention informed by research question three.

teachers, including 6 pre-service Food Technology teachers during a TE foundation course. The TE foundation course is mandatory for all pre-service TE students in their first semester at university. Through this examination of professional identity transition using a case study approach, the research sought to identify factors that promoted professional identity transition. To achieve this aim, the research questions guiding the Food Technology component of this study were:

1. What were the pre-service Food Technology students' professional identities at the commencement of the course?
2. How do pre-service Food Technology students' professional identities change during the semester-long foundation course?
3. What were the pre-service Food Technology students' professional identities at the conclusion of the course?
4. Which aspects of the Technology Education Foundation course impact on the professional identities of pre-service Food Technology students?

Supporting the transition of a pre-service FTE student's professional identity might reduce resistance to the implementation of new curriculum changes. These pre-service FTE students will play an essential role in FTE, that is currently fragmented by the internal conflict and tensions that arise when one's value system is disrupted by major change (Sharplin, Stahl, & Kehrwald, 2016). Teachers who can reconcile identity tensions when integrating a changing curriculum may establish stability and common purpose within the Food Technology teaching area.

The link between the research questions, the data sources and the data analysis are in Table 11.3. This table lists five data analysis strategies—demographic data, pattern matching, interpretive analysis, relational scoring and time series analysis, beside links to the data sources associated with each strategy and the use of the Logic Framework Model.

Results

The findings from this study indicate that professional identity is reformed by the interconnection and the layering of life-influencing factors, such as life histories, university study, activities and interactions within the cohort, working together within communities of practice and school contexts. Developing pre-service Food Technology Education (FTE) students' professional identity is a complex, challenging, relational and multifaceted process. Each of the study's participants successfully combined the influences from their past, their present Technology Education Foundation coursework, the initial Food Technology Education programme and authentic activities within school contexts to develop a powerful social psychology to inform their evolving professional identity.

The Logic Framework Model demonstrates the changing professional identity of each of the Food case study participants. The data for each of the participants was different. The attributes showed that their initial professional identity could be

Table 11.3 Linking data to analysis to the logic framework model

Research questions	Data source	Type of analysis	Cross comparison Logic framework model
RQ1. Initial professional identity	• Student entry portfolio • Interview • Initial concept map	• Demographic data • Pattern matching • Interpretive analysis • Relational scoring	ATTRIBUTES Characteristics of initial professional identity
RQ4. Factors affecting the professional identity	• Online journaling • Interview • Exit concept mapping	• Pattern matching • Time series analysis • Interpretive analysis • Relational scoring	INTERVENTION A list of the activities and resources that influenced the changing professional identity
RQ2. Changes in the professional identity	• Online reflective journaling • Interview • Observation	• Pattern matching • Time series analysis • Interpretive analysis • Interpretive analysis	CHANGES The reactions, assertions and initial changes after the interventions and the interactions
RQ3. Final professional identity	• Online journaling • Interview • Observation	• Pattern matching • Time series analysis • Interpretive analysis • Interpretive analysis	OUTCOMES The professional identity changes at the conclusion of the TE Foundation course

viewed through their individual life histories and their intellectual and social capabilities. Whilst each participant was in the same Food TE programme, the same cohort of students and the same TE Foundation course had similar experiences but different factors within these impacted on their initial identity. This provided a specific list of interventions for each participant. The interventions influenced each participant's initial attributes and causal changes. The Food Technology participants each exhibited individual changes in values and beliefs, understandings and pedagogy, skills, knowledge and attitudes, and in their shared cohort identity. These changes resulted in an outcome for each participant showing an evolving professional identity and adapted teaching practices.

The Logic Framework Model demonstrates that pre-service Technology Education students enter the initial Technology Education programme with predetermined ideas and attributes demonstrating their future identity as a Technology Education teacher. The attributes shown in the initial identities were affected by interventions. These included aspects of the initial Food Technology Education programme, including the Technology Education Foundation course that provides intellectual, academic and social activities and experiences. These interventions resulted in changes in thinking, understandings and teaching that demonstrated an evolved professional identity embracing a contemporary approach to Technology Education. The demonstrated professional identity change moved from one that focused on a traditional, didactic, master-and-apprentice approach to a contemporary professional identity that focuses on a holistic approach to Food Technology Education where instead of students following the same recipes, they

are presented with problems, such as those based on meal planning for specific dietary needs, which they research and solve by creating a range of food-based solutions. This contemporary identity aligns with the holistic approach promoted in the NSW Education Standards Authority's (NESA) 2019 Technology Mandatory and 2020 Stage 5 Food Technology and possibly the 2021 Stage 6 Food Technology Syllabus.

The four research questions guiding this study inform each section of the Logic Framework Model. Research Question 1 informs us of the participants' initial professional identity attributes. The intervention section of the Logic Framework Model is informed by the responses to Research Question 4, asking how the foundation course affected on the transition of the professional identity of pre-service Technology Education students. The changes in the Logic Framework Model are informed by research question two and the outcomes in the Logic Framework Model are informed by research question 3, which examines pre-service Technology Education students' professional identities at the conclusion of the course.

The cross-case comparison of the evidence from the six food case study participants revealed that the Logic Framework Model goal, to evolve the pre-service TE student's professional identity, has been achieved in every case. The data in the Logic Framework Model showed that each pre-service FTE student entered the FTE programme from a different background with different life experiences, as well as different values, beliefs and goals in life. Whilst different aspects of the intervention affected different students, there were common factors, including: the rapport built by the tutor; the close cohesive cohort; and the authentic experiences held in schools, including school observation visits, problem solving with students in schools and The Technology Day. These shared interventions resulted in changes in the participants' thinking, attitudes and values and their teaching and pedagogy, which in turn resulted in a changed identity.

Conclusion

In the world where change is a constant, TE curriculum reform is the norm. Many Food Technology Education teachers continue to resist syllabus changes and approaches (Williams, 2012). Here, pre-service Food Technology Education students and new graduates find it difficult to clearly define what Food Technology Education entails, to locate their situational professional identity (Hamilton & Pinnegar, 2015) and to implement the expected curriculum changes (O'Connor & Scanlon, 2005) and graduate standards that the Australian Institute for Teaching & School Leadership (AITSL, 2016) have produced. To prevent this from occurring, pre-service Food Technology Education teachers need to embrace change and reconcile internal conflicts in order to evolve their professional identity. The findings from this study provide a pathway for tertiary technology educators to begin this important process.

The study showed that in order to promote a change in preservice Food Technology teachers' professional identity and in order to improve their willingness to accept and promote curriculum change, university coursework must include the:

1. Support of student values and beliefs
2. Building mutual respect
3. Valuing life history and experiences
4. Development of a unified identity within the group
5. Mentoring in group situations
6. Participation in authentic experiences in a community of practice
7. No fear of retribution for opposing views
8. Ongoing, shared opportunities to reflect and evaluate

One can also view the pathway that pre-service Food Technology Education students follow when facing change that confronts their existing values and beliefs. The ontology and support of initial values and beliefs are essential as those who are facing conflicting values and ideals are experiencing identity challenges. These challenges occur because the preservice teacher may relate to the traditional FTE curriculum and hold onto it whilst resisting the different ideas promoted in the new curriculum. To help promote this professional identity change and an acceptance/ promotion of new curriculum ideas it has been found that the strategies that support the evolving of the pre service teachers' professional identity involve the pre service students in revised university coursework andragogy. The university coursework should include the valuing the Food Technology Education student's life history, building a rapport between students and tutors and between students that contribute to a unified identity theory. Within the university coursework, the pre-service Food Technology Education students need to experience mentoring, authentic activities in a community of practice. The students must be given opportunities to reflect and evaluate, without being told what to think. They each need to reflect upon and evaluate their learning as they contemplate their changing professional identity. This will result in Food Technology teachers who have developed skills that allow them to adapt to the various changes and challenges that they will experience throughout their teaching careers.

There will be changes to the Food Technology curriculum and syllabus, changes to pedagogies and student-centred teaching strategies, changes to the way they will use technological resources in their teaching and learning programs and in the classroom. They will be using e-technologies, m-technologies, virtual reality and iOS and Android applications in order to provide exciting lessons to stimulate their children. The content that they teach will include new emerging technologies, the problems that arise as the world population grows, as sustainable food becomes desirable and the production of healthy, sustainable, fast food becomes a must. This can be seen in the rise of vegan foods in restaurants and supermarkets. The preservice Food Technology Education students must understand that they are responsible for teaching far more than cooking, they will need to use their skills to adapt their thinking, their professional identities as Food Technology Teachers to help their own student cope with change. They will need to change their professional identity to accept the change that occurs around them. By learning to take on board

change rather than resist or fear it, these pre-service teachers will be better prepared to evolve their professional identity.

At the beginning of a foundation course, taking the time to get to know and understand each of the students is essential to their success. To find out about their background, life experiences and their existing values, the tutor must understand where the students are coming from, by listening closely to their personal contributions. The tutor must respond by providing positive reinforcement and an explanation of how the TE pre-service life history contributed to learning in the classroom. A rapport must exist between the students within the class and between the tutor and the students in order to build an environment that is conducive to a social constructivism situation. Students who share common characteristics, beliefs and values are encouraged to work together and share their existing and evolving values. When working together using cooperative and collaborative learning, the pre-service TE students will work together to help build a unified group identity where students respect each other and share developing opinions as they evolve throughout the semester.

In the planned coursework, mentoring evolves professional identity. The respect built with the tutor, and between students allows shared, considered and discussed ideas and challenges to evolve their professional identity. When planning the coursework, in order to evolve the professional identity, authentic activity needs to be included because authentic activity allows the students to relate learning to the classrooms in which they will be working. Authentic activity within these programs needs to be taught within a community of practice. This allows the pre-service Technology Education students to observe and evaluate new concepts, comparing them with traditional approaches that are used. This challenges their thinking as they link the outcomes of the observed activities to their thinking.

If identities are to evolve, the students need to use the concepts in a classroom without fear of retribution and with no marks allocated. The pre-service Technology Education students must be encouraged to risk using new processes and trial them before evaluating their teaching practices. To consider possible identity changes and changes in teaching activity, all pre-service Technology Education students must reflect upon their authentic learning activities in their community of practice. These reflections when shared with their respective mentors and group members evaluate and synthesise change to their professional identity.

In conclusion, when designing a foundation course that is aimed at introducing a new concept, or evolving the pre-service teacher identity, it is essential to share and respect student values and understandings. A strong professional rapport between students and tutor promotes these changes. Strategies that promote change involve students participating in observations and reflections on traditional and contemporary approaches used in communities of practices. They will observe, reflect, discuss and compare authentic learning opportunities in classrooms using traditional teaching techniques with classrooms where students have the opportunity to experiment and trial new concepts. They will evaluate the impact of with change paradigm being implemented before evaluating the success of the lesson. This reflective and evaluative thinking will evolve the pre-service teachers professional identity.

Food Technology teachers will each have a different life history, a different background and life experiences. Some will have backgrounds in cooking, catering, home science, home economics, and fast food businesses but this approach to teaching the Foundation course shows that everyone, no matter their background, is capable of making changes to their professional identity. The Food Curriculum covers a wide spectrum of food topics; it is far more than food technology, including industries, product development, cultural impacts, environmental and economic decisions and changes in products through new research and emerging technologies. These are global issues that affect Food Technology teachers around the world.

With important changes to Food Technology curriculums being assured, resistance is not going to move you forward. It is for this reason that I recommend this approach to the higher education Technology Education Foundation course. This way the pre-service Technology Education students will learn to evaluate change and evolve their professional identity and make appropriate and necessary adaptions.

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