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Transformational Learners: Transformational Teachers

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Abstract: Transformational learning, according to Mezirow (1981), involves transforming taken-for-granted frames of reference into more discriminating, flexible 'habits of mind'. In teacher education, transformative learning impacts on the development of students' action theories, self-efficacy and professional attributes. Although considered imperative to reflective practice, not all students take a transformative, 'double-loop' approach to learning; reflexive and adaptive learning are also identifiable.

*This paper discusses the integration of the three learning approaches in the conceptualisation of **LEARnT Theory** (Jones, 2008), whereby **L**earning evolves as: **E**fficacy informs **A**ctions, and **R**eflectio**n** impacts **T**heory building. LEARnT integrates reflexive, adaptive and transformative approaches. In **Reflexive approaches**, learning is restricted, action theories remain covert, efficacy remains stable and actions are automated. In **Adaptive learning**, reflection is 'single-loop' in nature; it involves the modification of concepts whilst maintaining existing schema; theories of action, efficacy and behaviours may alter. LEARnT theory provides a challenging paradigm for a larger study into teacher education student learning approaches.*

Teacher education is primarily concerned with professional and intra-personal learning (Author, 2007). Professional learning and intra-personal learning involve a synchronicity of learning about teaching and learning, and learning about oneself as a teacher and learner. Current moves to a more stringent overseeing of teacher education accreditation, in New South Wales in particular, provide an impetus for clarifying this complex dynamic of undergraduate learning. In response to these imperatives, this paper presents a conceptualization of learning, namely, LEARnT theory (Author 2008) and a discussion of the proposed methodologies for researching the nature of Bachelor of Education student learning. In LEARnT theory, learning is "theory making" and the developing teacher is the "theory maker". It is proposed that a theory maker's proficiency is dependent upon the power of their generative, reflective thinking. Learning in teacher education

In teacher education, professional learning in terms of knowledge, practice and commitment to doing (i.e. "action theories"), are overtly recognised, understood and accredited. However, learning about one's self-belief as a learner and as a teacher (i.e. "efficacy theories"), although intrinsic to professional development, are covert, less well recognised and understood, and clearly overlooked in terms of teacher education pedagogy and accreditation.

In New South Wales, the NSW Institute of Teachers' *Professional Teaching Standards* (2005) mandate professional learning in terms of what graduate teachers will "know, do and commit to". Learning focuses on the nature of teachers' work and the

attributes of teacher graduates, in terms of: Professional Knowledge of subject content, pedagogical skills, students and learning styles (Elements 1 & 2); Practice in implementing an effective Learning Cycle, effective communication, and classroom management skills (Elements 3, 4 and 5); and, Commitment to the profession through ongoing professional development and engagement in the profession and wider community (Elements 6 and 7). Only one of the forty-six Aspects (6.1.1) hints at the means by which graduate teachers will approach their professional learning, namely, through a "capacity to reflect critically on and improve [their] teaching practice". This is a limited view of the role of reflection in teacher development, and perhaps an unrealistic view of the capacity of emerging teachers' reflection competencies. Developing teachers are not simply defined by their accumulating professional competencies, nor is their learning restricted to the professional domain, as the NSW IT (2005) would have us believe. Teacher professional learning is refined or confined by the **intra-personal competence** of "efficacy theory empowering action" and "reflective thinking informing theory making" (Jones, 2008).

The expectation that graduate teachers emerge from their teacher education experiences as "reflective practitioners" assumes that the most effective approaches to learning (i.e. the critically reflective (transformative) practices) are understood, taught and honed throughout the degree. This assumption about the nature of students' approaches to learning was explored initially within one cohort of the Bachelor of Education program in a NSW university (Jones, 2006 & 2007). This earlier research mounts a case for further research which: (1) makes overt the actual approaches to learning evident in under-graduate teachers; (2) explores the "fit" with the Institute's expectation of "critically reflective" graduate teachers; and, (3) identifies the key factors impacting on the development of transformative, "critically reflective" practice.

Conceptual Framework

Perspectives from literature and recent studies by Jones (2007) inform a theory which articulates the integration of the professional and the intra-personal in developing teachers' learning. **LEARnT** Theory (Jones, 2008) proposes that **L**earning is the synthesis of: **E**fficacy empowering **A**ction, **R**eflectio**n** informing **T**heory-making; learning involves cognitive, cognitive-affective and behavioural dimensions (Jones, 2008). By analysing reflective thinking practices, an individual's approach to learning is revealed. Within LEARnT Theory, these approaches are understood to be **reflexive**, **adaptive** or **transformative**. It is hypothesised that in learning how to "reflect and theory build" effectively, one is learning how to learn more effectively (see Figure 1).
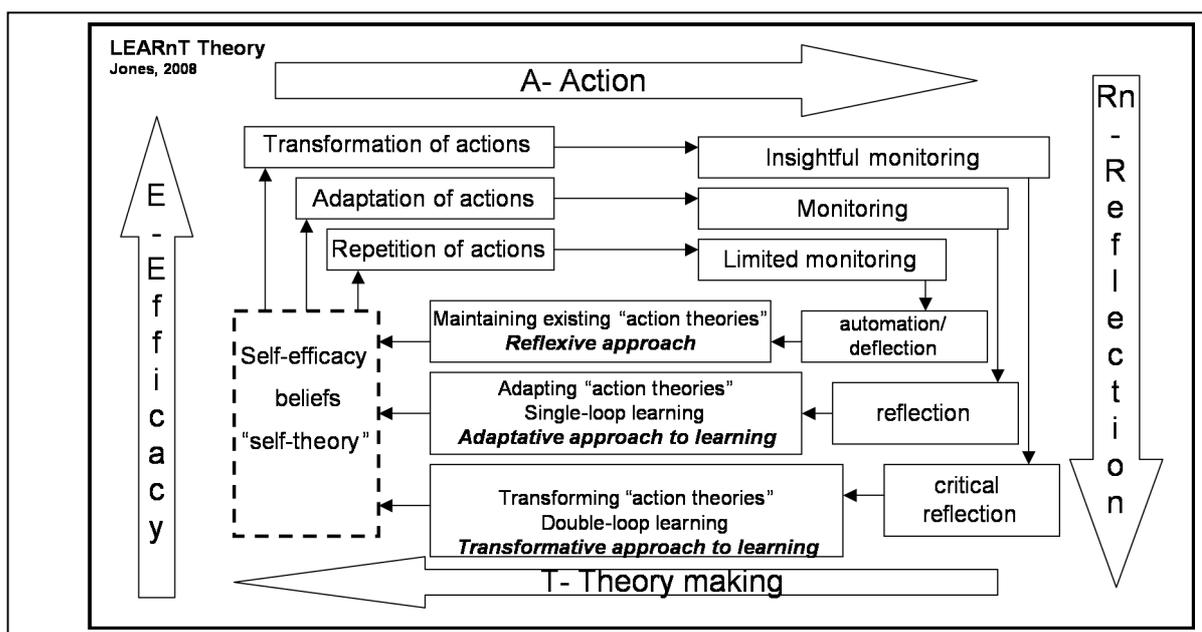
Figure 1: LEARnT Model

A discussion of Learning and its' contributing dimensions of Efficacy and Action, Reflection and Theory making, follows.

Learning

Learning emerges from the synthesising of theories and experience. By "constructing and reconstructing their inquiry" (Beattie, 1997:5), teacher education learners meld:

i. their pre-existent, **internal** theories of teaching and learning, evolved in response to their experiences as a learner (student) and initial experiences in teaching another (e.g. a peer in a seminar, a child in AustSwim training), with

ii. external, established theories, gathered from the rich stores of teacher education research and introduced incrementally throughout teacher education.

When these "action theories" are enacted, they are limited or delimited by the individual's

iii. "Efficacy theories" (**self-efficacy** beliefs) (Jones, 2008).

"Efficacy" and "Action" theories emerge through a "hypothetico-deductive process [as] behavioural hypotheses are formed, tested and modified" (Kelley in Argyris & Schon, 1974: 18). This process of melding pre-existing and introduced theories to create one's own theory is known variously as: "theories of action" (Argyrus & Schon, 1974:18), "intentions to act" (Gibbs, 2003: 6), "mental models or schema" (Rumelhart, 1980), Yuen & Cheng, 2000 ("action learning cycle", 2000: 199), "frames of mind" or "schema". For the purposes of this study, they are referred to as "action theories".

A helpful way of overcoming the apparent divide between theory and practice in teacher education is to empower students to see their learning as "theory making" and themselves as: i. "theory-makers and shakers", piloting their own plane; ii. capable of landing the plane of theoretical intentions on the runway of pedagogical planning; iii. disembarking into the terminal of classroom practice; and, iv. emboldened by their efficacy beliefs which determine the accuracy and potency of 'touch down' and engagement. By empowering

teacher education students to understand that theory finds its meaning and purpose when it disembarks and engages in the context to which it refers, students, thus empowered, are more likely to embrace Lewin's view that "there is nothing so practical as a good theory" (1951: 169) and to bridge for themselves the precarious divide between theory and practice.

Efficacy empowering Action

Professional learning (i.e. creating action theories), when translated into professional action, is tempered by the teacher education student's self-efficacy beliefs. Self-efficacy forms the very foundation of human agency and determines the outcomes of all endeavours (Pajares, 2004: 1). Every "context and task" is specifically judged in terms of the individual's belief in their "capability to succeed". No matter how robust the professional or even personal competency, self-efficacy is the single most important determinant of the translation of professional knowledge and skills into self-regulated professional behaviours, described here as teacher practice (Bandura, 1997:11).

Teacher education students' learner self-efficacy and teacher self-efficacy beliefs are "powerful predictors" of whether students will act, and how they will act, as learners and as teachers (Gibbs, 2002: 2). The self-regulation theorists, Zimmerman (1989) and Schunk (1990) endorse Bandura's (1997) views that self-efficacy beliefs and self-regulation are: i. intrinsically inter-related; ii. mediated by the goals individuals set for themselves; and, iii. factors that shape thinking and behaviour. Especially pertinent in teacher education is the development of well-informed "efficacy theories" in prospective teachers. Awareness of "the complexity of teaching", "the developmental nature of teaching proficiency" and the emerging understanding of "how their behaviour affects student behaviour and achievement" (Lemlech & Hertzog, 1998: 12) informs professional competence.

Attaining high **learner self-efficacy beliefs** is fundamental to the professional development of teacher education students. They determine: high levels of academic motivation, self-regulation and outcome expectations (Bandura, 1976:191); accomplished academic performance (Gordon, 2001:64); the evolution of an internalised "locus of control" (Weiner, 1972:203); a heightened sense of personal and reflective responsibility, positive feelings, expectations and goal setting (Ashton, 1984:29); and, positive academic efficacy and achievement (Schunk and Zimmerman, 1997: 205). Highly efficacious learners are transformational learners. As both "products and producers of their own environments and social systems' (Brouwers, 2001: 4), they take personal control of their behaviour, thinking and emotions (Gibbs 2002: 3), and the proficiency with which they acquire and utilise the professional knowledge and skills they secure (Bandura, 1997; Brouwers, 2001: 445). Learner self-efficacy is foundational to teacher self-efficacy; it limits or delimits the development of "action theories" and professional behaviours.

High **teacher self-efficacy beliefs** mediate the proficient translation of professional knowledge (action theories) into professional practice (behaviours). In teacher education, the development of highly efficacious teachers ensures high levels of: student achievement (Ashton & Webb, 1986); efficacy beliefs in the students they teach (Anderson, Greene & Lowen, 1988, Hosung, Sharpe, Klockow & Martin, 2001); student motivation (Midgely, Feldlaufer & Eccles, 1989); pedagogical risk-taking to meet students' needs (Guskey, 1988); diversity in instructional pedagogical choices (Pajares, 1992); planning (Allinder, 1994); persistence with struggling students (Gibson & Dembo, 1984); acceptance of student errors (Ashton & Webb, 1986); job satisfaction (Trentham, Silver & Brogden, 1985); commitment and lower absenteeism (McDonald & Siegall, 1993), and proactive classroom management

strategies, sense of control, and democratic decision-making (Ashton, 1984). Since highly efficacious teachers transform their "action theories" into transformational classroom practices, "teachers' sense of efficacy is an idea that neither researcher nor practitioners can afford to ignore." (Tschannen-Moran & Woolfolk Hoy's, 2000: 20)

Reflection informing Theory-making

In the same way that "Efficacy and Action" are inherently intertwined, so too are "Reflection and Theory-making". Actions are determined by Efficacy, and Theories (learning) are generated by the veracity of Reflection. Bandura (1997: 80) makes the link between efficacy and action, and reflection and theory-building clearly wherein building a "sense of … efficacy is not [just] a matter of programming ready-made behaviour, it involves acquiring the cognitive, behavioural and self-regulatory tools for creating and executing effective courses of action." Astute reflective practice provides those "tools", for it ensures the "active, persistent and careful consideration of beliefs in the light of established theories and experiences" (Dewey, 1933:9). Such a deliberate "thinking about doing" (Raines & Shadow, 1995:271) encourages "intelligent practice/ action" (Russell & Johnson, 1998: 1).

In teacher education, reflection is the generative powerhouse of professional and intra-personal knowledge building. If, as Mezirow suggests, "the outcome of reflection is learning" (1981:3), then the approach to reflection, that teacher education students take will determine the nature of their learning. The learning is identified by changes in teacher education students' "taken-for-granted" frames of reference ("action theories") and the emergence of more inclusive, discriminating and flexible "habits of mind" ("efficacy theory").

The cognitive process of reflection is innately personal and complex:

> When a person engages in reflection, he or she takes an experience
> from the outside world, brings it inside the mind, turns it over, makes
> connections to other experiences, and filters it through personal
> beliefs. *If this process results in learning*, the individual then
> develops inferences to approach the external world in a way that is
> different from the approach that would have been used, had reflection
> not occurred (Daudelin, 2000: 39).

Thus, the role of the teacher educator is to explicitly teach and scaffold students to develop a reflective approach in which their students realise accurate perceptions of how their behaviours support or impede their learning and future performance (Kovalich, Milman & Elizabeth, 1998: 239). To succeed with effective reflective thinking, students need assistance to develop the cognitive capacities of exercising control of thinking ("theory building"), behaviour ("actions") and emotions ("efficacy theories") (Gibbs, 2002: 8). Developing increasingly proficient reflection involves the individual in: i. attributing their successes and failures to factors within their control; and, ii. acknowledging their abilities, the effort required, the difficulty of a task and the place of luck so that students develop a greater sense of control over future situations (Weiner, 1972: 2030). Dweck (2000: 1040) supports Weiner's view in stating that when students believe their failures result from their own lack of effort, they try harder and persist in the face of difficulty. However, when they instead attribute failure to lack of innate ability, they give up easily and cannot even perform tasks they have previously accomplished. In teacher education, astute reflective practice ("intelligent action") and the capacity to approach dilemmas and incongruities between their

"action theories" and "enacted theories" (practice) more flexibly and objectively, ensures the developing teacher "emerges as their own teacher educator" (Korthagen, 1993: 136).

Diverse views of the nature and purpose of reflection are held. Van Manen (1977) describes the cognitive levels of reflection as: i. technical; ii. Reasoning; and, iii. critiquing. Zeichner and Liston (1985) take a similar view that reflection is cognitive and: i. factual; ii. Prudential; iii. justificatory; and, iv. critical. Gore and Zeichner (1991) focus upon the latter, namely, reflection as a means of challenging socio-political contexts and aimed at righting inequities. LEARnT theory integrates these diverse yet overlapping views of reflection into the three approaches to learning that an individual's reflective practice reveals. Reflexive, adaptive and transformative approaches provide windows into automated, technical, reasoning and critical thinking, from pragmatic "problem solving" to justificatory to critical appraisal at "socio-political" levels.

Reflexive Approaches to Learning

A certain degree of automated thinking and behaviours is essential to dealing with the immediate routines and multi-tasking roles of teachers in schools and classrooms. This automation is generally built upon the values and previous experiences of what works and is expedient. The place of automaticity within the professional lives of teachers and school environments is recognised. However, there is good reason for concern if emerging teachers take a purely reflexive approach, be it simply emulating the beliefs and behaviours of their supervising teachers on practicum or unquestioningly mirroring teachers whom they have experienced. Such reflexive approaches demonstrate limitations in emerging teachers' potential to identify and analyse the technical, factual and prudential issues of the enacted "action theories" of themselves and others. The ability to hold beliefs and actions to the light of evidenced-based research is fundamental to the on-going professional development of teacher education students and graduates. Reflexive approaches are evident in the shallowness of second year teacher education students' reflective writing (Jones, 2007). Unable to examine and think beyond their past experiences, expectations, values and beliefs, students fail to adopt alternative, more constructive perspectives. An example of a "reflexive approach to learning" can be seen in this student's written reflection on their teacher self-efficacy beliefs, after practicum:

> *I believe, as a result of practicum, that you cannot change families*
> *and you can only slightly influence the student. The students are with*
> *their families for eighteen hours of the day compared to our six*
> *hours. How much influence can we have … the children get*
> *preconceived thoughts and theories about certain topics told to them.*
> *They are more likely to believe their families over a teacher.*

The difficulties this education student encountered with managing the behaviour and motivation of the primary students in the practicum class are explained by factors outside the control of the developing teacher. The inability of the developing teacher to identify the issue, take responsibility and draw on motivation theories, such as Csikszentmihlyi's Flow theory (1990), is problematic for all concerned. Risko (2002:137) points the way: "More direction is needed if [teacher educators] are to develop optimal forms of instruction that can both acknowledge prospective teachers' previous experiences and move them beyond their egocentric views of teaching and learning". This purely reflexive approach is illustrated in Figure 2.
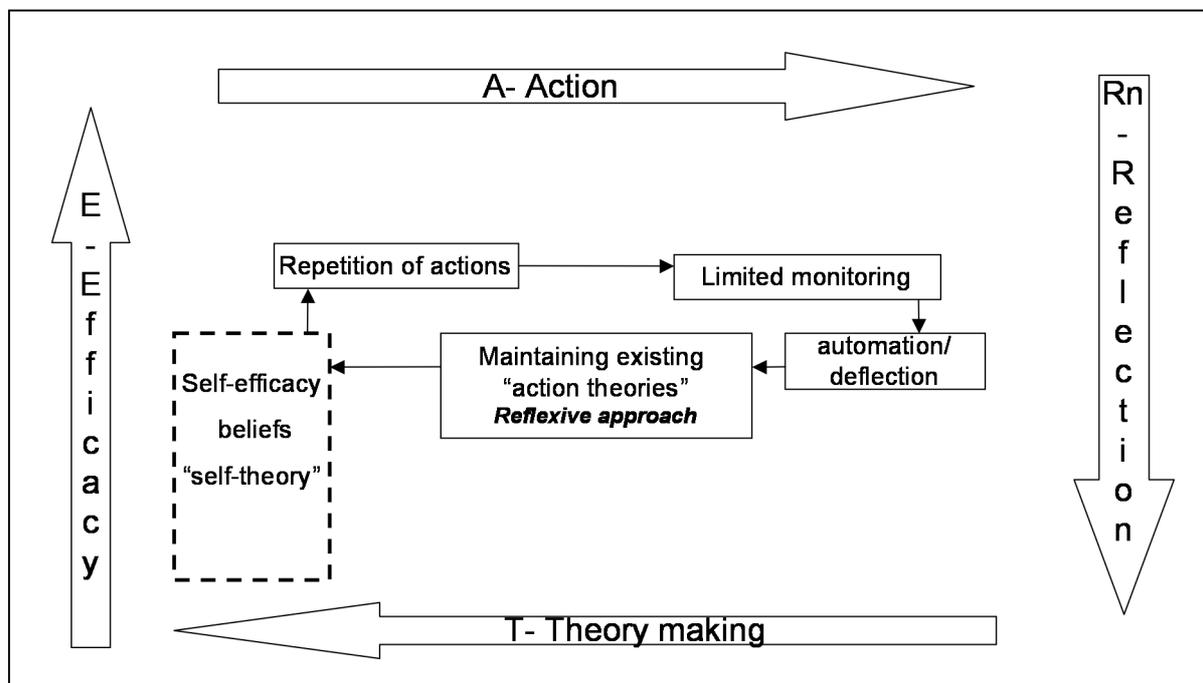
Figure 2: Reflexive Approach

Adaptive Approaches to Learning

Adaptive approaches engender "single-loop" learning (Ashby, 1952; Argyris & Schon, 1974: 19) through increasingly skilful technical, factual, reasoning and prudential thinking. In LEARnT theory, adaptive approaches to learning occur when developing teachers review specific learning and teaching practices and modify existing concepts to address the incongruities and dilemmas they face, whilst maintaining existing schema of "frames-of-reference" ("theories of action" and "efficacy theory"). Although not consistently aimed at achieving higher levels of thinking, the adaptive learning, single-loop process demonstrates a degree of analysis and synthesis thinking. An example of adaptive learning is found in the following teacher education student's comments when asked to reflect upon their teacher self-efficacy beliefs after practicum (Jones, 2007):

> *I thought I was certain of a variety of assessment strategies and how I could use them, but I realised that it didn't go into my long-term memory, so my choices were quite limited. In future, I would be a lot more confident in assessing my students with the variety of assessment tasks my supervising teacher was using. I must also keep in mind that assessing my students can tell me something about my teaching strategies and their effectiveness.*

Although limited, there is evidence of single-loop learning i.e "How teachers assess?", "When teachers assess?" and "Why teachers assess?". The education student demonstrates:

i. clarification of their assessment "action theory"; and, ii. a reasonable degree of efficacy for doing things differently next time (see Figure 3).
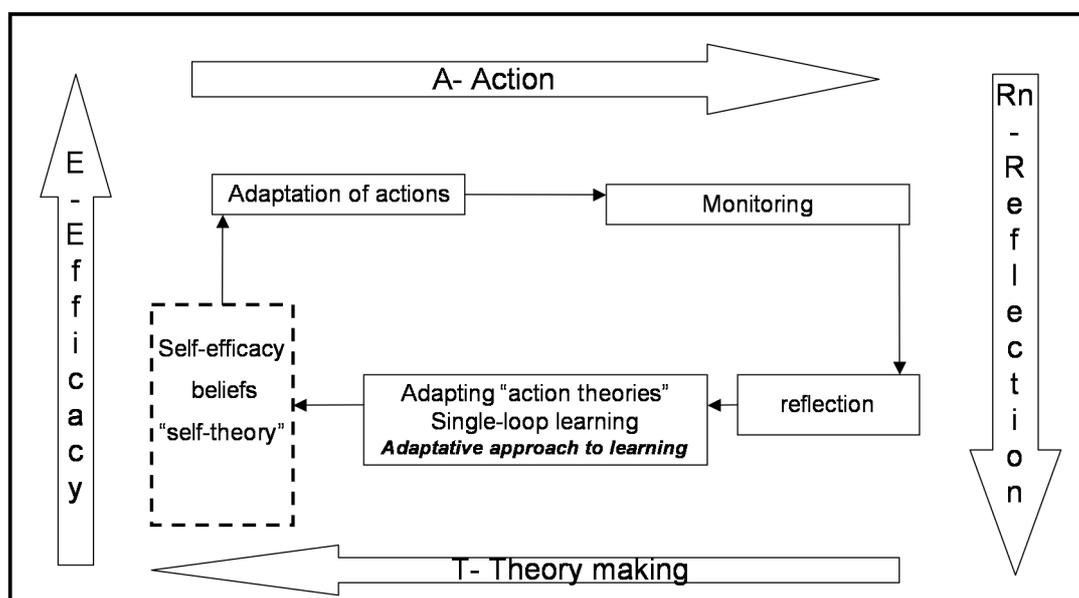

Figure 3: Adaptive Approach

Transformative Approaches to Learning

In transformative approaches to learning, teacher education students examine their own frames of reference, and those of others, by critically reflecting on underlying assumptions and taken-for-granted beliefs. As teacher education students are scaffolded to develop transformative approaches to learning, they will be better placed to critically reflect ("double-loop learning") (Ashby, 1952; Argyris & Schon, 1974: 19) upon the inequities and discriminatory assumptions that underlie the pedagogical approaches they witness and emulate. Emerging from this depth of learning is the transformation of emerging teachers' habits of mind (Mezirow, 2000: 19). Although highly valued by teacher educators and accrediting bodies such as the NSW IT, "this kind of reflection seems difficult for prospective teachers to attain"(Sparkes-Langer, Simmons, Pasch, Cotton & Starko, 1990; Gore & Zeichner, 1991; Leland, Harste & Youssef, 1997 et al Risko, 2002: 136).

Dewey (1933) states that critically reflective thinking emerges from the intra-personal qualities of open-mindedness, responsibility and wholeheartedness. For the teacher education student, this demands a certain level of maturity, and a depth of theoretical knowledge, experiential knowledge and self-knowledge. For students to become critically reflective, and so question the tacit knowledge (Shulman, 1988; Yost, 2000: 40) of their own experiences in schools and the established values and behaviours of experienced supervisors and practicum schools, students need transformative learning approaches (see Figure 4).
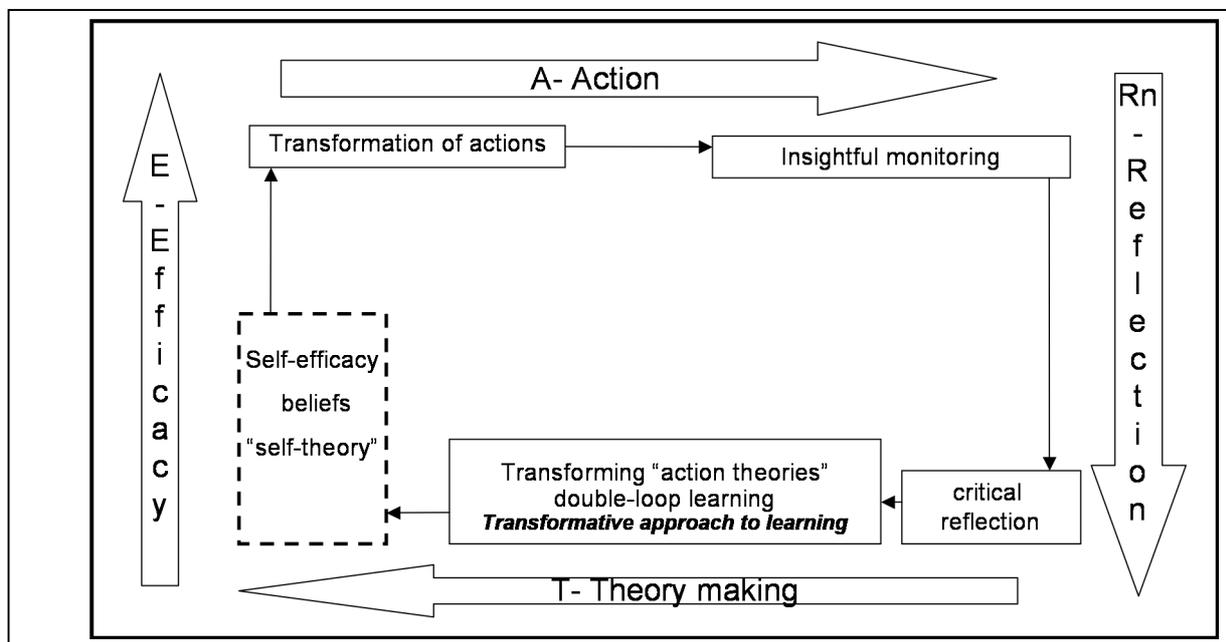
Figure 4: Transformative Approaches

In second year teacher education students, Jones (2007) found no evidence, in their reflective writing, of students demonstrating a transformative approach to their learning. This dilemma gives rise to the following research question: "What is the nature of Bachelor of Education students' learning?" in terms of **LEARnT** theory.

Methodology

A constructivist paradigm underpins this study, primarily concerned with understanding the nature of teacher education students' learning. The mixed method approach enables a "responsive mode of focusing" (Guba & Lincoln, 1989: 39).thus addressing the confirmatory and exploratory research questions emerging from, and informing, LEARnT theory. Leech & Onwuegbuzie's typology (2006: 6) inform this choice of a "partially mixed, sequential, [qualitatively] dominant design", in light of the nature of the *data gathering*, timing and structure of the study.

In the first phase of the research, the quantitative instruments, the Teacher Sense of Efficacy Scale (Tschannen-Moran & WoolfolkHoy,) and the Learner Self-Efficacy Beliefs Survey (Jones, 2006) were administered, and accompanied by a qualitative set of open-ended questions, as well as a demographic survey. The second stage, undertaken in October and November 2008, involved in-depth, semi-structured telephone interviews with twenty-five: interns, identified in stage 1 as either high, medium or low efficacy learners and teachers. The dialectic process between interviewer and interviewee enabled the interviewee to construct their reality through articulating their thoughts, feelings and problem solving approaches,

when reflecting upon the most challenging experience/s of their internship. The aim of the interviews was to ascertain the nature of individual student's learning, evidenced in their dialogic reflection.

Conclusions

If Risko, Vukelich & Rosko (2002:134) and others highlight limitations in teacher education preparation of under-graduate teachers as a lack of critically reflective, transformative learners, then ascertaining: i. the nature of Bachelor of Education students' learning revealed in their reflective practices: ii. the relationship between students' self-efficacy beliefs and depth of learning; iii. the ways in which self-efficacy beliefs and depth of learning vary between 4th year students; and, iv. the ways in which individual students' self-efficacy and depth of learning vary over time, will assist teacher educators to create a pedagogy that further facilitates the development of "transformative learners" in charge of their own education and therefore better equipped as "transformative teachers" capable of transforming the learners they teach.

Addressing the incongruity that exists between the NSW IT Professional Teaching Standard (2005) edict of graduates possessing "a capacity to reflect critically on and improve [their] teaching practice" and the reality of the limitations of under-graduates' approaches to learning, needs careful and informed consideration. LEARnT theory and its associated research is designed to inform an increasingly integrated paradigm of learning in teacher education, and to challenge current frameworks that exist to define graduate attributions that inherently limit the pedagogy that is meant to develop in the professional teacher.

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