From Research to Praxis: Empowering Trinidadian Primary School Teachers via Action Research

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Abstract: An exponential body of extant research illustrates the symbiotic dyad action research, andragogy, reflective praxis, and transformative learning share. This paper contains a narrative review of 83 action research papers submitted to the researcher as part of the fulfilment of the Bachelor of Education degree from April 2011 to May 2013. Additionally, interviews via email and telephone with 42 of the 83 student-teachers on their perceptions of the importance of action research on their instructional practice are examined. The narrative review of student-teachers' archival action research proposals was thematically coded to reflect challenges confronting primary school, special needs, and early childhood educators in Trinidad. Interviews from 42 of the 83 participants yielded the following four themes: (a) andragogy/empowerment; (b) student satisfaction; (c) the promotion of a culture of reflective praxis; and (d) transformative learning.

Introduction

Action research is the sine qua non of Bachelor of Education programmes. Teachers' willingness to embrace action research and perpetuate a culture of inquiry-based research determines the type of instructional delivery evident in classrooms. Teachers are the producers and their motivation to practice action research regularly in their classrooms determines the products/outcomes-their students' success. Action research affords teachers the opportunity to enhance their knowledge of what works in the classroom and is an effective problem-solving tool (Segal, 2009). According to Manfra (2009) action research empowers teachers to "leverage their insider knowledge to change classroom practices" (p. 32). More productive classroom practitioners are those who continuously strive to improve praxis through reflection and trial and error to ensure that they are meeting the differing needs of their unique clientele.

With the increase in government funding for tertiary education, more and more teachers are taking up the offer and getting qualified. This has resulted in a high percentage of teachers at the primary level in Trinidad pursuing Bachelor's degree in education. Pickford-Gordon (2012) quoted the Minister of Education, Tim Gopeesingh, who said, "Persons occupying non-graduate positions who have not attained full graduate positions as yet and are in the system, are being given the opportunity to pursue bachelor and also diploma in education, at approved institutions" (p. 1). With such an influx, primary school teachers are required to complete an action research proposal toward the resolution of a problem they experienced in their classrooms. This has

allowed teachers the opportunity to examine their practice with a critical eye toward personal and professional improvement. Promoting a culture of research-based and evidence-based information is part of the aims of the higher education pioneers in Trinidad, as indicated by Patricia Worrell in her presentation to educators on April 30, 2013. However, albeit, the thrust is toward achieving more educated practitioners, scant literature exists on the strides teachers are making with this expanded knowledge. The purpose of this study was to determine whether or not the action research course offered at one of the tertiary teacher educational institutions promoted student/teachers' reflective practice and transformative learning.

Theoretical Framework
Action Research

Gusky (2000) underscored the use of inquiry-based research as a means of empowering both students and teachers. Gusky stated "The overwhelming majority of educators are thoughtful, inquiring individuals who are inclined to solve problems and search for answers to pressing questions. The inquiry/action research model of professional development provides them with opportunities to do just that" (p. 26). Moreover, Johnson (2011) described action research as "an effective tool school administrators can use to solve educational problems that do not have easy answers" (p. 78). Action research is therefore not limited to teachers but school leaders and a paradigm shift needs to occur on the part of educators in becoming more facilitative teachers and "learning leaders" (Schmoker, 2006) who embody a student-centred approach to teaching, learning, and leading. However, in order to perpetuate a culture of inquiry toward finding a panacea, educators and educational leaders must create a climate conducive to continuous self and institutional diagnosis, implementation, and resolution of problematic issues in the classroom.

According to Mills (2000), action research is a "systemic inquiry conducted by teacher researchers, principals, school counsellors, and other stakeholders in the teaching/learning environment, to gather information about the ways that their particular schools operate, how they teach, and how well their students learn" (p. 6). Action research, therefore, determines the success/failure of the teacher, student, and principal. Continuous inquiry-based research can pinpoint specific issues which recur and solutions already implemented can be reengineered and revamped depending on the dynamics of the teaching population, the student population, and the leadership philosophy. Teachers' reflections of their instructional delivery result in more informed practitioners (Schon, 1987; Kilbourne, 1988). Brown (2002) stated, "action research engages educators in the process of examining and reflecting on how to improve practice, studying the literature and research related to their inquiries, and then implementing a strategy intended to improve current practice" (p. 4). Action-research is therefore the lifeblood of the innovative teacher. According to Feldman (2002):

> Action research happens when people research their own practice in order to improve it and to come to a better understanding of their practice situations. It is action because they act within the systems that they are trying to improve and understand. It is research because it is systematic, critical inquiry made public. (p. 240)

Action research allows for teacher reflection, evaluation of practices and adoption of more workable solutions to issues encountered in the classroom (Segal, 2009).

Models of Action Research

The Sagor Model (1992), the Kemmis and Mc Taggert Model (1990) and Calhoun (1994) of action research involve a five-step process. Table 1 shows the differences.

5-Step Process	Sagor Model	Kemmis & Mc Taggert Model	Calhoun Model
Step 1	Problem Formulation	Planning	Selecting the Area of Focus
Step 2	Data Collection	Acting	Collecting Data
Step 3	Data Analysis	Observing	Organizing Data
Step 4	Reporting Results	Reflecting	Analyzing and Interpreting Data
Step 5	Action Planning	Re-Planning	Taking Action

Table 1. *Five Step Action Research Processes* **(Brown 2002)**

Based on the table above, the Sagor Model (1992) consisted of a collaborative 5 step-process. These sequential five steps were: (a) problem formulation; (b) data collection; (c) data analysis; (d) reporting results; and (e) action planning. Sagor viewed action research as a means of making the teacher feel less isolated from the students. He further suggested two guiding principles which should be used by teachers in the action research process: (a) the action research must concern the teaching/learning process; and (b) the issue must be within the scope of the researcher/teacher. He underscored the value of data collection in the action research process. Data allow researchers/teachers to determine the scope of the problem/phenomena and to observe such issues through various perceptions. Sagor elaborated, "If data collection is the heart of the research process then data analysis is its soul" (p. 11).

On the other hand, Kemmis and Mc Taggert Model (1990) suggested a spiralling self-reflective five-step cycle: (a) planning a change; (b) acting; (c) observing the process; (d) reflecting; and (e) re-planning. They believed that these cycles can overlap and should not be seen as inflexible. They indicated that these cycles should be seen as malleable and fluid. Calhoun (1994) saw action research as a progression from one stage to another. The three stages entailed: (a) choosing a focus area; (b) collecting and analysing data; (c) studying professional literature, best practices, and taking action.

Current Action Research

Current research in action research underscore its value at an individual, collaborative, and community level (Segal, 2009). It is touted as the most effective form of teacher professional development (Segal). Indicatively, Segal highlighted the use of action research as a professional development tool. Rock and Levin (2002) in their research on the importance of collaborative action research on pre-service teachers' professional development concluded that action research is invaluable in shedding light on teaching issues, curriculum, instructional delivery, and students. Calloun's (1994) model of action research can be appropriately used in this context and is a powerful evaluation process.

Feldman (1994) captured the essence of validity in action research when he investigated one of his subject's classroom dilemma. Erzberger recognised that she was trying something new in

the classroom but wanted to know whether it was more effective than what she had done before. She was driven by a need to know that what she was doing was meeting the needs of her students. She conducted an action research to validate her practice. Similarly, Benton and Wasko (2000) conducted a study of 87 teachers, in Florida State University, who found action research to be beneficial and that it validated and improved their teaching practice.

Kosnick (2000) conducted a study of six graduate teachers in the Ontario teacher preparation programme and found that the action research process had greatly influenced teachers' practice. Segal (2009) discussed the importance of the benefit of action research. Liptok et al. (1998) conducted research on indigenous people using action research within the community. They found that the action research community project increased the community spirit and encouraged community interest. According to Segal (2009), teachers using action research will benefit in the following ways: (a) structure case reports so they can be of value to others; (b) are able to contribute to the knowledge base of teaching; (c) improve their practice by sharing information that is learned; (d) get opportunities to receive critical feedback; (e) fulfil the "need to know" with concrete examples and results; (f) see that even case research reports may be valuable to others in the field; and (g) have the opportunity to work with students, faculty, or a school towards a common goal (p. 42).

Apart from benefit another aspect noted in the literature was practicality. According to Keraghan (2006) professionals enhance their teaching repertoire through action research and they create a tool kit from which they can choose the appropriate solution to a given problem. Part of action research is this ability to reflect which distinguishes effective practitioners from marginal ones. Action research encompasses both reflection and doing and is based on more practice than theory (Townsend, 2010).

Reflective Praxis

Rumination and deeper understanding are the hallmarks of reflective praxis. Schon (1983) expanded Dewey's (1933) concept of reflection to include the reflective practitioner. Schon culled the terms reflection-on-action and reflection-in-action. Schon extended reflection-on-action to encompass the reflections and analysis teachers engage in after implementation of an instructional delivery with the purpose of improving their pedagogy/andragogy. Reflection-in-action is the introspection teachers engage in at the time when they are actually implementing the lesson or performing the task. The thinking that takes place while doing the action is represented by reflection-in-action. As a teacher gathers information on his/her instructional delivery and evaluates this information to become more effective, this teacher is engaging in both reflection on and in action. Schon's (1983, 1987) concept of reflective practice both in and on action helped teachers as a means of improving their teaching repertoire and instructional delivery (Kaywork, 2011).

Contemporary researchers developed Schon's (1983/1987) concept of reflective practice and viewed educators' critical analysis of their pedagogical/andragogical repertoire as congruent to more effective instructional delivery with a ripple effect on student learning outcomes (Kemmis & McTaggert, 1990; McNiff, 1997; Danielson & McGreal, 2000). Reflective praxis leads to a more meaningful understanding of individual teaching/learning styles. From the literature, reflective praxis can be seen as a discourse and can involve patterns of thinking (Zwozdiak-Myers, 2009). Laboskey (1993) viewed teachers' reflective thinking along a continuum from concrete thinkers to alert novices to pedagogical thinkers. Concrete thinkers

relates to individuals' use of personal experiences and external motivation to pose basic knowledge questions (Kayworth, 2011). Alert novices ask why questions and start investigating their teaching. Pedagogical thinkers make reflection part of their professional and personal development. In order to become proficient practitioners, teachers reflect in and on action.

Watts and Lawson (2009) conducted studies of 26 post-graduate students in the teacher certification class and implemented a rubric constructed by Ward and McCotter (2004) to foster increased reflection. What transpired was that teachers displayed higher levels of reflection when they implemented the rubric. Orland-Barack and Yinon (2007) conducted similar studies of 16 pre-service teachers and found that increased motivation to reflect resulted in more advanced reflections. Additionally, Hyams (2010) indicated that four conditions are needed to engender reflection among pre-service teachers. He indicated that teachers should:

1. be placed in situations that force them to get outside their comfort zones so that their reactions will trigger a need to reflect;
2. be willing to engage in reflection and be honest in their reflections;
3. be open to the process and an atmosphere of risk taking should ensue in order for students to be honest with their reflections; and
4. be willing to learn from their reflections and experiences.

Reflective Practice in Action Research

Sagor (2000) indicated that action research fostered more reflective practitioners. When teachers engage in reflection while teaching as well as after teaching and finding new ways to deliver instruction this is both reflective practice and action research at work (Sagor). Proponents of action research and reflective practice viewed critical teacher introspection as a vital tool in continuous improvement of practice (Schon, 1983, 1987; Kemmis & McTaggert, 1990; McNiff, 1997; Danielson & McGreal, 2000). Action research gave vent to a more focused and disciplined method of introspection on teaching and learning. Danielson and McGreal (2000) stated, "Few activities are more powerful for professional learning than reflection on practice" (p. 24). Moreover, Calderhead, (1992) concluded that reflective teaching:

> Enables self-directed growth as a professional; facilitates the linking of both theory andpractice; it helps to explicate the expertise of teachers and subject it to critical evaluation.
> It enables teachers to take a more active role in their own professional development. (p. 9)
> Reflective practice and action research share a synergistic association where one promotes the other and vice versa.

Transformative Learning

Taylor (2007) viewed transformative learning as "a theory of learning that is uniquely adult, abstract and idealized, grounded in the nature of human communication" (p. 179). Transformative learning has been around for the past 25 years. Mezirow (1978) is credited for the transformative learning theory "by which we call into question our taken for granted frame of reference to make them more inclusive, discriminating, open, and reflective so that they may

generate beliefs and opinions that prove more true or justified to guide action" (p. 2). It is a partially developmental theory whereby learning is based on prior knowledge and interpretation of information. Mezirow (1978) posited 10 phases of transformative learning. Table 1 depicts the ten phases of transformative learning.

Phase 1	A disorienting dilemma
Phase 2	A self-examination with feelings of guilt or shame
Phase 3	A critical assessment of epistemic, sociocultural, or psychic assumptions
Phase 4	Recognition that one's discontent and the process of transformation are shared and that others have negotiated as similar change.
Phase 5	Exploration of options for new roles, relationships, and actions.
Phase 6	Planning of a course of action.
Phase 7	Acquisition of knowledge and skills for implementing one's plan.
Phase 8	Provisional trying of new roles.
Phase 9	Building of competence and self-confidence in new roles and relationships.
Phase 10	A reintegration into one's life on the basis of conditions dictated by one's perspective.

Table 1. *Mezirow's ten phases of transformative learning*

Additionally, Mezirow (2000) suggested that there are four types of learning reflecting the theory of transformative learning: (a) elaborating existing frames of reference; (b) learning new frames of reference; (c) transforming habits of mind; and (d) transforming points of view. It is these four types of learning reflecting theory according to Gravett (2004) that typify transformative learning. She espoused:

> Transformative learning involves individuals gaining an awareness of their current habits of mind, assumptions and premises. It also includes an assessment of alternative views and a decision to renounce an old view in favour of a new one, or to make a synthesis of old and new resulting in more dependable knowledge and justified beliefs to guide action. (p. 260)

Taylor (2007) in his review of the literature on transformative learning and the higher education classroom found 19 studies which promoted transformative learning among teachers to assist with their understanding of teaching. Taylor found that these studies underscored the value of providing active learning experiences and also fostering transformative learning. Taylor further indicated that one of the most potent methods of promoting transformative learning is "providing students with learning experiences that are direct, personally engaging, and stimulate reflection upon experience" (p. 182). Moreover, Gravett (2004) indicated that individuals' frames of references comprise "habits of minds" and resulting "points of view" ((Wiessner & Mezirow, 2000, p. 345). Transformational learning encompasses individual awareness of patterns and habits and thoughts and an evaluation of these underlying premises which result in a more evolved viewpoint (Gravett). Gravett (Taylor, 1998; Mezirow, 2000; Cranton, 2002) indicated that facets of transformative learning in the literature include:

• a triggering event (disorienting dilemma) that leads to an awareness of inconsistency amongst our thoughts, feelings and actions, or a realisation that previous views and approaches do not seem adequate any longer;

-       a feeling of disequilibrium;
-       a recognition and articulation of assumptions and presuppositions that are held largely unconsciously;
-       a questioning and examining of assumptions and viewpoints, including where they came from, the consequences of holding them, and why they are important;
-       an engagement in reflective and constructive discourse, which is a type of dialogue in which alternative viewpoints are discussed and assessed;
-       a revision of assumptions and perspectives to make them more discriminating and justifiable;
-       action arising from revision; and
-       a building of competence and self-confidence in new roles and relationships. (p. 5)

Transformative learning continues to be a crucial teacher development tool implemented within pre-service teacher certified courses as a means of engendering shifts in habits of mind and perspectives.

Action Research and Transformative Learning

Action research is viewed as bringing to life theories and concepts (Whitehead, 2008). Wood (2012; Zuber-Skerrit, 2011) stated that action research promotes "transformation of the circumstances but, in the process, the participant researchers are also transformed. Increase in self-confidence and self-awareness, improvement in problem solving ability and development of a desire and capacity for lifelong learning" (p. 2). Moreover, action research is intent on changing the lives of individuals and merging research and practice into an inquiry and problem solving approach (Reason & Bradbury, 2008). When this occurs the process is transformative or as Whitehead indicates is improving practice with living theory.

Method
Participants

Convenience sampling was used to include the student-teachers who were accessible to the researcher (Patton, 2002). Participants gave informed consent to participate in this study. In order to determine whether the action research course and teacher development are linked, the researcher thematically grouped students' action research problems. The 83 student-teachers who participated in this study were taught by the researcher from 2011 to 2013 and were pursuing Bachelor of Education degrees in general education, leadership, and special education. The intent of the study after consideration of 83 action research proposals, telephone and email interviews with 42 of the 83 participants was to determine whether teacher development occurred through: (a) andragogy/empowerment; (b) student satisfaction; (c) the promotion of a culture of reflective praxis; and (d) transformative learning. The sample population consisted of five males and 78 females from ages 20 to 60 years. Participants taught at primary, early childhood centres and special needs schools in north west, north east, central, south east, and south west Trinidad.

Procedure

All participants were expected to attend 12 weeks of instruction and application of individual action research with each session lasting three hours. On week 1, students were introduced to action research and qualitative and quantitative methodologies. They were expected to start thinking about a problem they would like to resolve and one that was within their scope. From weeks 2 to 4 students worked on the problem, the purpose, the methodology, the background, sample population and the definition of terms. From weeks 5 to 8 students completed the literature review and the data collection. From weeks 9 to 12 students discussed the findings, made recommendations for future research and submitted their final paper two weeks later.

Interviews

All participants were emailed a list of 6 interview questions pertaining to the importance of the action research component of the B. Ed. Programme in promoting increased teacher development. Out of that email, four participants responded, the additional 38 participants were interviewed via telephone from July 5th to 17th, 2013. The researcher transcribed the interviews. Interviews provide in-depth information from participants and allow them to give details of their experiences while providing factual information (Kvale, 1996; Mc Namara, 1999; Esterberg 2002; Turner, 2010).

Data Analysis

Forty-two of the 83 teacher-students responded to the six questions posed. Two males and 40 females responded. The interview questions were validated using Merriam's (2002) reflexivity and engagement guidelines. Disconfirming evidence was used to indicate recurring themes and categories (Creswell & Miller, 2000). Empowerment/andragogy, student satisfaction, and promotion of a culture of reflective praxis, and transformative learning were the emerging themes when a content analysis of the responses was performed as well as analytical and topical coding.

Findings

Challenges Confronting Student-Teachers

The first step of action research, according to Glanz (2003), is the step where the student-teacher questions what he/she is concerned about in the classroom. Johnson (2011) suggested that issues can be very broad. Table 2 shows the issues Johnson suggested in column 1 and the issues primary school student-teachers in Trinidad wanted to solve.

Johnson's (2011) Issues	Trinidadian Student-Teachers' Issues
Instructional practices	Reading Comprehension/Literacy
Parent involvement	Parental Involvement
Transportation concerns	Bullying
Student/Teacher health and wellness	Healthy Eating
Curriculum	Learning Styles/Differentiated instruction
Behavioural issues	Behaviour Modification/Classroom Management

Community/Business partnerships	Spelling
Professional Learning Communities	Music in promoting cognitive development
Evaluation/Performance issues	Drama/Creative Arts/Total Physical Response
Building Morale/Relationships	Motivation/Staff Morale
Professional Development	Home-Work
School Planning	Hygiene
Assessment	Forms of Assessment
Technology	Technology/Assistive Technology
School nutrition	Hygiene
School schedules	Social/Emotional Skills
Mentoring	Life Skills
School programs such as Bilingual, ESL, Gifted/Talented, Title One, Advanced Placement, and Running Start	Strategies to improve pre-writing skills/numeracy

Table 2. *Action research issues Johnson (2011) and Trinidadian student-teachers.*

The 83 action research problems were thematically grouped into frequency counts of each topic. Table 3 shows the issues primary school student-teachers in Trinidad indicated that they wanted to resolve and the frequency count. The most significant issues according to the participants were: (a) reading comprehension/literacy; (b) parental involvement; (c) behavioural challenges; (d) motivation; and (e) instructional issues. Such issues as using music to develop cognition, the promotion of life skills for special needs students and spelling were unique to that particular participant.

Issues	Number of participants
Reading Comprehension/Literacy	16
Parental Involvement	13
Bullying	3
Healthy Eating	2
Learning Styles/Differentiated instruction	6
Behaviour Modification/Classroom Management	12
Spelling	1
Music in promoting cognitive development	1
Drama/Creative Arts/Total Physical Response	4
Motivation/Staff Morale	6
Home-Work	6
Hygiene	2
Forms of Assessment	2
Technology/Assistive Technology	2
Hygiene	1
Social/Emotional Skills	2
Life Skills	1
Strategies to improve pre-writing skills/numeracy	7

Table 3. *Frequency count of issues confronting Trinidadian student-teachers.*

Creswell (2005) suggested six steps for the data analysis process, which were followed and include: (a) organise and prepare the date for analysis; (b) read the data; (c) start the coding process; (d) generate codes; (e) determine how the themes will be used; and (f) interpret the meaning of the data. Initial coding based on content analysis indicated the prevalence of similar themes of empowerment, student satisfaction through catering to their various learning styles/multiple intelligences, the promotion of a culture of reflection and learning for both teacher and students, and the underlying theme of transformative learning. As ideas were repeated, four large themes emerged based on the questions asked. They exemplified the importance of action research in engendering a strong culture of student and teacher empowerment. Such themes were: (a) andragogy/empowerment; (b) student satisfaction; (c) the promotion of a culture of reflective praxis; and (d) transformative learning. Based on the information garnered the following three themes emerged when data were cross-referenced and coded. From the data, there was the repetition of key descriptive words and phrases such as: "more research," "catering to students' preferred learning styles," "multiple intelligences," "multi-sensory," "reflection," "more interaction," "more engagement," "props", "real life," "motivation/encouragement," and "match theory with practice" which when analysed quantitatively proved to be 80% of words participants used during the interviews. When adhering to these six steps, the researcher found adequate content to validate the emerging themes of andragogy/empowerment, student satisfaction, promotion of a culture of reflective praxis, and transformative learning. Themes were deemed important based on the percentage of recurrence throughout the content. The frequency of themes was recorded based on the data collected. From a qualitative analysis of the content the following themes evolved.

Andragogy/Empowerment

Gender Affairs Division of Trinidad and Tobago (2009) defined empowerment as "achieving control over one's life through expanded choices. Empowerment encompasses self-sufficiency and self-confidence and is inherently linked to knowledge and voice. Empowerment is a function of individual initiative which is facilitated by institutional change" (p. 9). Empowerment is a subscale of andragogy and allows for self-directed learning, learning experientially, and teacher-students are cognizant as to why they need to learn and the value of what they are learning and doing. Part of action research is finding a problem that can be resolved by the researcher. All of this entails aspects of the five principles of andragogy promulgated by Knowles' (1984). They are: (a) the adult learner is self-directed; (b) adults need to know why they have to learn something; (c) adults need to learn experientially; (d) adults learn best when they see the immediate value of what they are learning; and (e) adults approach learning as problem solving.

All participants indicated that they were empowered and felt inspired because of the research and understanding of the theories and linking the theories to practice. A 42 year-old female primary school teacher stated, "I am now wanting to go further and find out what is the underlying issue for their behaviour and learning disabilities." Another 55 year-old participant stated, "Being in control of delivery of instruction by being more prepared gives me more control of the affective mode of students as well as their motivation and behaviour. I am also more patient, empathetic and adaptive." Another 50 year-old participants stated, "I have become more organized and better able to measure and record information through the sessions. I finally was able to bring games into the class that teach a multiple of skills in a fun way." A 30 year-old

shared, "it has allowed me to be aware of the different challenges one might face, and look at situations from different perspectives. Try to see things from another's point rather than jump to conclusions." Another teacher-student who conducted an action research on students' eating habits stated, "I took for granted students' behaviours but now I have found alternative ways of dealing with their disruptions. I now do more research." A retired teacher-student opined, "my teaching philosophy has changed, I feel revitalized and must do research before delivering any instruction."

Student Satisfaction

All respondents indicated that when changes were implemented in the lesson, higher levels of student satisfaction and motivation were achieved. One 34 year-old participant stated, "I learned to use and incorporate real life situations or materials in lessons, to be more effective." Another 36 year-old stated, "I am often thinking of new or different ways to do over any lesson that was not well-grasped by the majority of the pupils." Another 58 year-old participant shared, "I am excited about the strategies I have implemented and want to see the students' succeed." Another 30 year-old added, "I keep trying to meet the students at their learning styles and incorporate all the styles in my teaching." Another 56 year-old stated, "I am constantly reflecting and go back and go over what I have done and try to deliver it in a different way so that students understand the work." One 46 year-old student who conducted her action research on extrinsic and intrinsic motivation opined, "because of action research I am no longer giving tangible rewards but try to engage students and use a more hands-on approach so that they are intrinsically motivated. So far, this approach has worked well because I work with academically gifted students." One 30 year-old teacher student confided, "Of course, I have been guilty of not implementing enough technology in my lessons but now I realise that I can engage students and let them come up with the ideas and concepts I want them to learn using technology." Other respondents stated that they were now using deductive reasoning to engage their students.

Promotion of a Culture of Reflective Praxis

All the responses exemplify both reflection on and in action as defined by Shon (1983/1987). The responses in each theme illustrate that action research promotes critical evaluation and the desire to change. Reflection is an integral part of this. One 55 year-old stated, "I am constantly researching as I am in the habit of researching now. In between researching, I am reflecting on my practice with what I have done and thinking how much more I can improve. Before I felt I knew it all." One 36 year-old stated, "Yes, I research and reflect all the time. I teach special education so I need to know how to reach these kids." Another 42 year-old female primary school teacher stated, "I have become more sensitive and understanding to those pupils who tend to be the most disruptive and lower performing in the class." Another 24 year-old who teaches at an all boys' school indicated, "It geared me to do research as to how boys learn-movements and hands-on approach. They are very receptive to it and they want to learn." One participant stated, "I implement real-life ideas into my pedagogy and I interact and observe more than I did before and try to think of students' individual needs and their development and how I can make my instructional delivery more effective." One 58 year-old in administration stated, "I am always reflecting and doing a lot of reflecting the new curriculum Continuous Component

Assessment entails constant reflection, this entire B. Ed programme involved reflecting on a continuous basis."

Transformative Learning Opportunities

Participants indicated that they experienced changes in habits of mind and viewpoints (Gravett, 2004). One 34 year-old student stated, "I changed my tactics in dealing with students who have disabilities for the past two terms, I was able to work one-on-one with a particular student using a step-by-step approach and I got her to come out of her shell. I also used recall activities and she has improved." One 38 year-old student indicated, "I have used past students' work, journaling activities, demonstrations, peer-tutoring, collaboration and it has been a learning experience for both teacher and students." Another 36 year-old participant stated, "I implemented critical thinking strategies and this helped tremendously." Another 50 year-old stated, "I gained added knowledge that I did not have before on special needs children and how they could be mainstreamed into the inclusive classroom." Another 38 year-old stated, "In the composition area especially, I have moved away from just talking and discussing with pupils a topic before giving them to write on a particular topic. It was always a concern to me as to how after a discussion and pupils are given words to assist that they could not still write a complete paragraph. After reflections on lessons and research, I have found that poor writing was mainly attributed to pupils' lacking experience and could not relate to real life situations. I am now trying to bring props into the classroom, or using pictures and Power Point to aid the pupils."

Discussion

The aim of this study was to determine whether or not the action research course offered at one of the tertiary teacher educational institutions promoted student/teachers' reflective practice and transformative learning. All participants were willing to share diverse incidents and events which they have changed, these included: (a) use of realia; (b) more implementation of technology; (c) more hands-on approach; (d) enhanced knowledge of inclusive classroom setting; (e) catering to boys; and (f) catering to left-handed students.

Based on Labosky's (1993) definitions these student/teachers could be seen as alert and pedagogical thinkers who were willing to question what they were doing in the classroom and alter their practice to suit the needs of their student clientele. They also made reflection part of their daily professional and personal skills bank. Findings from this study corroborate studies by Labosky and the value of reflective practice to teachers and also in action research. Conclusions drawn from this research also indicate the value of action research as a transformative learning tool for student/teachers. From their responses, student/teachers indicated that they felt more in control and more empowered in their classroom as they understood the theory behind some of the issues they encountered in the classroom. This paper presents evidence that reflection and change can occur through the action research process. These summations are in agreement with Reason and Bradbury's (2008) view of transformative learning and action research.

Interviewees in this study stated that they had grown as a result of the action research and in some cases the actual process of the practicum and the Bachelor's degree. Interviewees were pleased with their progress and the fact that the programme entailed reflection at the end of each course. This encouraged a natural reflection of their progress and transformation. Inquiry-based

learning that is self-directed and autonomous in nature ensures that teacher-students are forced to chart their progress and take ownership for their advancement. Gravett (2004) stated, "action research has the potential to explore transformative learning in educational settings" (p. 270). In fact, Taylor (2000) advocated:

> Encouraging practitioners to explore how they can improve their teaching through implementing strategies essential to transformative learning such as promoting critical reflection and establishing trust and authentic relationships with students has the potential to not only improve their teaching but to offer tremendous insight into everyday practicalities of fostering transformative learning. (p. 321)

From the data generated, the need for more evidence-based research on the value of action research and the practicum at the Bachelor's level is needed. Additionally, more data are required on the link between action research, reflective praxis and transformational learning. This research paper expanded the body of information available on action research among primary school teachers and more specifically Trinidadian primary school teachers. The information garnered in this study is fodder for future research in more depth on the long-term benefits of action research in engendering a culture of introspection and transformation.

Conclusion

The findings from this study are of particular relevance to teacher/students in Trinidad where there is a dearth of publications on teachers and their role as transforming and transformative learners. Action-research of a more collaborative nature would expand the body of extant literature and afford teachers a more community spirit approach to solving problems. As teachers adopt and adapt to new habits of mind and point-of-view it is necessary to understand the dynamic interplay of this on their students. More research is needed on the influence of increased access to tertiary education on students and teachers in Trinidad. Action-research is a powerful tool for engendering reflection on and in action as well as fostering transformative learning.

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