PARTICIPATORY ACTION RESEARCH FOR INCLUSIVE EDUCATION IMPLEMENTATION AND PROFESSIONAL DEVELOPMENT IN BOTSWANA: TEACHERS' PERSPECTIVES

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Abstract

This paper specifically focuses on the analysis of Botswana teachers' perceptions of the effectiveness of Participatory Action Research (PAR) in promoting inclusion of learners with diverse educational needs, and its use as a strategy for professional development. This exploratory qualitative study is part of a large scale international collaborative initiative themed 'Learning for Democracy: North South Collaboration.' The authors of this article were part of this collaborative process and were engaged to train teachers on PAR. Teachers were recruited from nine administrative regions by the Division of Special Support Services of the Ministry of Basic Education. Thirty-two teachers participated in the training programme. The teachers were engaged in a three week long-training workshop on PAR; one before the teachers undertook PAR and the second after three months following training. The final one was at the end of the project where teachers were given a self-administered questionnaire to evaluate their perceptions about PAR on implementation of the inclusion of learners with diverse educational needs and using PAR for teacher-development. The questionnaire consisted of a Likert scale and open ended items which requested participants to reflect on their inclusive education experiences during implementation of PAR. Twenty six of the 32 participants responded to a questionnaire. The quantitative part was analysed using SPSS, whereas Atlas Ti7.5 was used for the open-ended part. The findings of this study indicate that teachers enjoyed using participatory action research to enhance their teaching, student learning and student behaviours. Based on the study, it is recommended that PAR be used as a strategy to promote inclusive education as well as professional development in Botswana.

Keywords: inclusive education, participatory action research, professional development, teacher perceptions

1.0 Introduction

In 2011, the Government of Botswana launched the Inclusive Education Policy to promote access and participation of all learners. The then Ministry of Education and Skills Development (MoESD) in particular was responsible for implementing this policy. However, the policy has not yet been fully implemented. With the implementation of the policy, it was/is expected that classrooms would become more diverse, despite the fact that most teachers are not prepared to handle such diverse learners. With the possibility of Government's aspiration for inclusive schooling not materialising, it is important to create a framework to support the professional development of teachers to prepare them for such education reforms. Participatory action research (PAR), also known as 'practitioner research' or 'teachers' research,' is one such framework that can empower teachers who are faced with challenges of implementing inclusive education and further help them to

identify 'contextual' problems and find 'local' solutions. This in turn might change service delivery and enhance the quality of education for all learners in inclusive spaces.

In the context of this study, participatory action research focuses on change and seeks to promote democracy and reduce inequalities. What gives it the participatory niche is the dominant collective decision making and collaboration between the researcher and the researched. PAR is described as a joint production of knowledge with others that yields critical interpretations and readings of the world, which are accessible and meaningful to all those involved as well as being amenable to change (Chatterton, Fuller & Routledge, 2007). Kindon, Pain, and Kesbey (2006) view it as a cyclic, repetitive progression of research, action and reflection.

2.0 Background of the study

In the Botswana context, inclusive education (IE) as explained in the Botswana Inclusive Education Policy as a process that requires reform in schools and in centres of learning to cater for all types of learners such as ethnic minorities, those affected with the HIV/AIDS scourge, rural populations and those who have learning disabilities/difficulties; and should further serve adults. Although the definition is all encompassing, Botswana has historically focused on learners with disabilities as the ones requiring inclusive education. This gave the teacher professional development programme a narrow focus as it overemphasised special education over inclusive education. With the IE policy and introduction of PAR, the impetus in teacher development is likely to shift towards embracing the two concepts and emphasise them as necessary for the improvement of teacher development. As noted by Waitoller and Artilles (2013), professional development for inclusive education can create a pathway for IE policy implementation.

The benefits of using participatory action research in classroom practice is widely supported (Aubusson, Ewing & Hoban, 2009; Aubusson, Steele, Dinham & Brady & 2007; McDonagh, Roche, Sullivan & Glenn, 2012; McNiff & Whitehead, 2005). In this paper, we report the experiences of teachers in Botswana with regard to participatory action research carried out in nine education administrative regions. The participatory action research was initiated in November 2012, and data were collected in June 2013. The paper does not attempt to theorize participatory action research, or offer a comprehensive method for conducting teacher inquiry. The aim is to report on teacher beliefs, experiences and their interpretation of participatory action research they carried out in their schools. The article further evaluates the usefulness of PAR as a strategy for professional development in Botswana. It is hoped that the findings of this research would provide an insider's view, and that the teachers' lived experiences might encourage other teachers and practitioners to carry out more participatory action research. Since this study is part of a large scale international collaborative research, it is important to provide background information on the collaboration.

The paper arises from the work of one of the international collaborative research networks initiated by Stockholm University (SU) and funded by the Swedish International Donor Agency (SIDA). The aim was to carry out research based on the theme 'Learning for democracy: Partner-driven North/South collaboration on inclusive education'. The project involved each country-team consisting of university researchers, ministry of education policy makers and representatives, non-governmental organisation (NGO) staff referred to as community representatives, as well as teachers from three countries: Botswana, Namibia and South Africa. The ministry of education representatives from the different countries were the liaison of the project with SIDA; the ministry personnel then identified the university staff and the NGO officers. The NGO was purposively selected on the basis of having an IE outreach programme that has been successful in mobilising

communities to embrace inclusive education. University lecturers were selected based on their professional practice as special educators and teacher-trainers.

The project provided capacity building workshops on various issues of inclusive education and research including action research. In this way, the members of the country collaborative teams also had the opportunity to develop a theoretical understanding of inclusion and action research. Thus, this international network further strived to develop and use inclusive education models in Southern Africa and Sweden in a comparative and complementary manner with regard to research, policy and practice.

The collaborative project specifically aimed to a) compare practice and policy issues on inclusive education in the three Southern Africa countries, b) share pedagogical and organizational ideas, c) use action research to promote learning for democracy and professional development, d) learn about the potential for community, education ministries, and university partnerships, e) support the crafting of the inclusive education policy for some countries and strengthen the implementation of the existing policies. The focus of inclusion practices and the removal of barriers to learning as essential for the development of a democratic school and community systems was emphasised. The 3-year collaboration period started in October 2010 and ended in December 2013. During this time, teacher-participants of each country took part in at least one international workshop and two local ones to hone-in their skills in participatory action research.

3.0 Theoretical framework

Action research as a cyclical activity that allows the players to act and reflect on how they experienced an activity is supported by Dewey's Experience and Reflexive Theory. Dewey argues that prior to receiving formal teaching, people learn about the world, themselves and others. What is key is the very natural type of experiential learning which is based on action or activity followed by opportunities to reflect on what took place (Miettinen, 2000). Such action or activity is explained as there is interaction between the individual and their environment. Dewey's contention is that it is only when something is a concern that human beings engage in reflective thinking and that they start to question relationships between individuals and seek possible solutions to the issue (Dewey, 1928; Papadimos, 2009). For the participatory action research training in this investigation, teachers identified problems for which they would seek local solutions.

Participatory action research supports democratic practices, beliefs and values. Since PAR is based on identifying a problem and finding a solution in a school situation, it removes barriers to learning, teaching and enhances harmonious co-existence of all the stakeholders. Dewey believes a democratic society to be one in which all types of obstacles including class, race, religion, politics, etc. are eliminated and in which society shares common goals, values and interests. For the school, Dewey emphasised that it should strive to empower individuals to ensure that they endeavour to free themselves of bonds with their ethnic groups and to align themselves with the larger society while gaining economic independence. Furthermore, schools should instil a sense of solidarity among the learners so that they all work towards achieving a common good (Dewey, 1928).

4.0 Participatory action research and school practice

For this study, teacher research does not mean classroom research by an outsider. It does not mean a teacher who has done or read about research; neither does it mean a researcher who knows about teaching (Cochran-Smith & Lytle, 1993). Instead, the term suggests a more focused and systematic form of reflective practice where the research is carried out by insiders in schools. As the name participatory action research suggests, teachers embed research and reflection into their own actions to improve their own practice. This is a distinct departure from traditional educational research where an expert conducts 'research on' learners, teachers, school systems and other stakeholders. Practitioner-research in education involves teachers and other professionals, along with their students, as participants in the inquiry/research process that addresses their own problems to better their situation.

We would like to reiterate that PAR as the name implies is a participatory process of collecting and analysing data about human interactions for the purpose of improving individual and/or organizational effectiveness (Reason & Bradbury, 2001). At its core, PAR has the potential to change service delivery and bring reform to institutions. It has the prospect to undergird professional development for classroom teachers to improve instructional practices (Darling-Hammond & Richardson, 2009). These descriptions about PAR resonate with Dewey's Experience and Reflexive Theory which emphasises principles of embracing the life of a community and how it strives to improve by eliminating any obstacle that impede progress. Such practices lead to whole reforms in society and to harmonious co-existence (Dewey, 1928).

The usefulness and relevance of participatory action research to improve service delivery for school and classroom practice could be new for Botswana but it has been recognized in some countries over the past decade (Brydon-Miller, Greenwood, Miller, 2003; Dymond et al., 2006; Kasl, & Yorks, 2002; Lomofsky & Lazarus, 2001). More recently, the role of PAR has been included as a strategy to implement inclusive education initiatives to address the needs of learners with diverse educational needs (Argyropoulos & Nikolaraizi, 2009; Dymond et al., 2006). More widely, the use of PAR has become an integral part of the Universal Design of Learning (UDL)—a strategy used to promote access to the curriculum as well as democratic and inclusive practices (Dymond, et al., 2006). Notably, access, equity, democracy and participation are the foundation principles that Botswana has adopted for advancing equitable education for its citizens. The link between PAR and inclusive education (IE) is one that needs further explanation for this study.

5.0 PAR and the implementation of inclusive education (IE)

Participatory action research (PAR) is a methodology that focuses on collaboration between the researcher and the community within which they live so as to bring change and improvement in social programmes. PAR is renowned for improvement of professional practice and promotion of the inclusion of students with disabilities, even those with significant challenges in regular education classrooms (Dymond et al., 2006; Warger & Burnette, 2003). PAR has high social validity as it provides a platform where school personnel, parents and the community collaboratively identify and investigate an existing barrier to inclusive education such as inaccessible school curriculum, and subsequently find a solution (Dymond et al., 2006).

It is important to underscore that inclusive education is dynamic, multifaceted and complex as it calls for extraordinary commitment from all stakeholders (Molosiwa & Mpofu, 2017;

Mukhopadhyay, Nenty & Abosi, 2012). Teachers as the fore players in PAR are major change agents. Nevertheless, in Botswana this is yet to be accomplished as they lack skills to conduct PAR studies and assume key roles in bringing about the desired. A significant body of literature recommends continuous professional development for teachers. PAR has therefore been identified as a key component to facilitate such professional development (Dymond et al., 2006; Warger & Burnette, 2003). The introduction of PAR therefore empowers teachers to identify their problem in a classroom with diverse learning needs and find local solutions. This implies the need for the teacher to reflect on their practice and based on what they find as they engage in the cyclic process, they can change service provision to respond to learner educational needs, while collectively impacting the service delivery of the whole school.

6.0 Purpose of the research and research questions

The purpose of this research was to establish teachers' perceptions about their involvement in participatory action research that sought to promote inclusive education, their experiences about being an insider researching on their own practice. The study further sought to evaluate PAR training as well as the whole process with regard to teacher-development for IE. The following research questions guided the study.

a) What are the teachers' perceptions towards the effectiveness of participatory action research in providing services to learners with diverse educational needs in regular schools?

b) How were the teachers engaged in the collaborative participatory action research process to support professional development?

7.0 Methods

This study sought to respond to the research questions through the use of mixed-methods data collection techniques and analysis. The specific research design used was the concurrent triangulation design (Creswell & Clark, 2007). This design allowed the researcher to capture both quantitative and qualitative data at the same time. This design was chosen to integrate the two forms of data to better understand teachers' perceptions and experiences of action research (Creswell & Clark, 2007). Furthermore, triangulation enhanced the ability to contain the biases and to guard against author cognitive predispositions, as well as social processes such as power (as trainers) that could affect the reports given of the world (Gergen & Gergen, 1991).

7.1 *Participants*
Thirty-two teacher-researcher teams consisted of 3-4 local members from nine different schools. The schools were selected by the Principal Education Officer (PEOs) of each region and the research team from each school was selected by the School Head using the following inclusion criteria: The research team a) should be teaching/have been teaching in the school for at least 1 year; and should be c) willing to initiate an action research in their class. This selection process provided a wide range of teacher-participants. Four Primary Schools and five Secondary Schools consisting of one Senior and four Junior ones participated in the PAR. Among the participants were special education teachers, regular education teachers, and school counsellors. Having Primary and Secondary Schools as well as teachers from these different levels provided a wide range of divergent views. These teams identified a research problem or research area that they wanted to investigate in

order to improve (see Table 1). They discussed the research problem with the project team facilitators.

Table 1: Action research topics from educational regions			
Region	**Teams**	**Research Topic**	**Research Question(S)**
Kgalagadi Primary School	1. Dorothy 2. Lady 3. Maggie 4. Anna	Reading and writing problems in lower standard	1. What makes learners in Boiketlo Primary School experience reading and writing problems? 2. How can these writing problems be addressed?
Chobe Primary	1. James 2. Sidwell 3. Batho 4. Bill	Students' perceptions towards homework in Kasane.	1. What are the perceptions about homework at Babirwa Primary School? 2. How can the learners in this school be encouraged to do homework?
Southern Primary	1. Molomo 2. Neo 3. Beth	How parental involvement can improve learner performance	1. Do parents play a role in influencing learner-performance? 2. How can parents be involved in improving learner performance?
North-East Junior Secondary School (JSS)	1.Peter 2. Leon 3. Masa	Modifying and adapting typographic for learners with visual impairments	1. Does the use of modified and adapted typographic teaching and learning materials assist visually impaired learners? 2. How can adjustments and changes in typographic materials enhance performance for visually impaired learners?
North-West JSS	1. Happy 2. Nath 3. Ngaka	Experiences of students with difficulties in reading and writing in Botalaote JSS	1. What are the experiences of students with reading and writing difficulties in Botalaote Junior Secondary School? 2. What strategy could be used to help learners who cannot read and/or write improve their performance?
Central District Council JSS	1. Gracious 2. Gertrude 3. Bob 4. Siphiwe	Investigating factors leading to irregular attendance of learners in Garona Junior Secondary School	1. What are the factors leading to irregular attendance of learners in Garona Junior Secondary School? 2. What are the possible solutions to these challenges?

Kgatleng Senior Secondary School	1. Andy 2. Fanuel 3. Ernest 4. Jade	Challenges of providing classroom support to learners with visual impairment in a Biology class at Mma Dikolo Senior Secondary School	1. What classroom support is currently offered to learners with visual impairment in the general education classroom at Mma Dikolo Secondary School? 2. What are learner-related challenges that interfere with classroom support provided to learners with visual impairment in a general education classroom at Mma Dikolo Senior Secondary School? 3. What are the teacher- related challenges that interfere with classroom support that is provided to learners with visual impairment in a general education classroom at Mma Dikolo Secondary School?
South East JSS	1.Bula 2. Dimpho 3. Selina	How to improve instruction in Science lessons: A case for a Junior Secondary School	
Gantsi Primary	1. Hope 2. Taolo 3. Zibane 4. Lesego	Factors contributing to learners inability to read: A case of Standard -2s' in Dimakatso Primary School	1. What are the causes of poor reading performance of Std. 2 learners in Dimakatso Primary school? 2. How can the school overcome poor reading performance of leaners?

7.2 *Instrument*

A two part self-report instrument specifically designed by PAR facilitators of Botswana was used to collect data. The instrument consisted of two parts. Part-one had nine items and focused on obtaining personal and professional information about the participants. Part-two consisted of five open ended questions designed to get personal feelings and experiences about PAR.

7.3 *Procedure*

Two members of staff from the faculty of Education at the University of Botswana provided background training in participatory action research methods to team members including the teachers. The university lecturers facilitated in the PAR and in the inclusive education workshops, with the support of the other project team members. Participants attended a four-day workshop at the beginning of the action research project. The type of research that teacher participants and team-mentors received training on was through a workshop which had the theme 'The collaborative, school-wide participatory action research.' They received training in what participatory action research entails, particularly comparing it to conventional research.

Following the workshops on participatory action research, participants were allocated project team leaders. Since the 9 participating schools were far apart and mostly outside the city of Gaborone where all country meetings and two workshops on PAR took place, mobile phone

numbers for PAR teams were used. Only the first PAR workshop took place in Palapye, which is more towards the northern part of the country. The reason for having this particular workshop outside Gaborone was to reduce travel cost for participants travelling from some of the regions. Table 1 shows the PAR teams, their topics and research questions. Thereafter, the teachers initiated participatory action research in their respective schools. They were supported by university staff with the help of other country project team members including the Department of Special Support Services (DSSS) from the Ministry of Education and Skills Development (MoESD), and those from the NGO. PAR research team members were invited to attend an international seminar on inclusive education where the participants presented their initial findings to all the four country project teams and other local stakeholders. The purpose was to give them direction and address any challenges that they had.

The nine regional PAR teams went back to their schools to refine their participatory action research (PAR). This provided them with the opportunity to reflect on the processes and initial outcomes of their research. Even if the identified problem or issue was about a single class, the teachers would work together and involve other relevant stakeholder. In this regard, PAR was found laudable as it allowed the researchers to bring about social change that was embraced by many if not all. It also allows the qualitative components of an individual's feelings, perceptions and patterns to emerge without interference from the researcher (MacDonald, 2012). Participants were then invited to attend the final workshop to present their findings, and they later came back for the final local presentation of their PAR projects' findings where the evaluation questionnaire was administered.

8.0 Data analysis

Data were captured on a MS Excel worksheet and later transferred to the Hermeneutic of Unit of ATLAS ti 7.5. Content analysis strategy was utilized to analyse data in a step-by-step fashion. In Step 1, the data from each participant were read line-by-line by employing open coding and in-vivo coding strategy. In Step 2, each code was revisited to identify code family.

The identified code families were then compared across data for coherence in Step 3. Overall, themes were then developed in Step 4 which enabled the researcher to confirm them so as to organize the results. The final coding themes were (a) impact of participatory action research, (b) practice of inclusive education and (c) professional development.

9.0 Findings

The findings are presented according to the following themes: impact of participatory action research, pedagogical skills, student engagement, teaching-learning management, practice of inclusive education and professional development.

9.1 *Impact of participatory action research*
Overall, the 26participants who responded to the questionnaire showed support towards PAR in promoting inclusive education. This was evident in teachers' reports about their shift from teacher-centred practices to more democratic approaches towards teaching and learning—that is being reflective practitioners and not just assuming that the status quo is okay; and their improved level of interaction with the diverse learners, particularly the marginalised and those with special educational needs. Participants were asked to reflect on the impact of participatory action research and one of them said:

We learnt a lot from this research in a short time. We would certainly invite other teachers to do likewise.

Echoing the same sentiment another teacher added:

It was an interesting project. I would definitely want to continue with it. This project really opened my eyes and I really enjoyed it.

Furthermore, the impact of PAR was evident from the following identified themes: pedagogical skill, student engagement and classroom management, which are all important components of professional development (see Table 2).

	Table 2: Participants' perceptions towards participatory action research							
	Statements	**SD**	**D**	**A**	**SA**	**Resp %**	**Mean**	**SD**
1	Action research helped me to include learners with SENs and other marginalised group.	0 (0%)	2 (7.69%)	10 (38.46%)	11 (42.31%)	88.46%	3.38	0.64
2	Action research helped me to respond to the needs of learners with SENs and other marginalised group.	0 (0%)	2 (7.69%)	14 (53.85%)	8 (30.77%)	92.31%	3.23	0.59
3	Action research helped me to implement democratic practice (inclusive education) in the classroom?	1 (3.85%)	1 (3.85%)	9 (34.62%)	13 (50%)	92.31%	3.38	0.75
4	Action research helped me to pursue the challenges that were relevant to my teaching.	0 (0%)	1 (3.85%)	12 (46.15%)	10 (38.46%)	88.46%	3.38	0.57
5	Action research made me more attentive to the strengths and weakness of my teaching.	0 (0%)	0 (0%)	14 (53.85%)	9 (34.62%)	88.46%	3.38	0.50
6	Action research helped me to gain a better understanding of my teaching practice.	0 (0%)	0 (0%)	11 (42.31%)	12 (46.15%)	88.46%	3.50	0.51
7	Action research helped me to pursue pedagogical practices that interest me.	0 (0%)	2 (7.69%)	17 (65.38%)	5 (19.23%)	92.31%	3.12	0.59
8	Action research is worth the time and energy it takes.	2 (7.69%)	1 (3.85%)	9 (34.62%)	12 (46.15%)	92.31%	3.27	0.87
9	Action research helped me to pursue the challenges that were relevant to my teaching	0 (0%)	0 (0%)	14 (53.85%)	9 (34.62%)	88.46%	3.38	0.50
10	Action research improves	1	0	8	15	92.31%	3.54	0.71

	classroom teaching.	(3.85%)	(0%)	(30.77%)	(57.69%)			
11	Action research gave me valuable knowledge about my students	1 (3.85%)	0 (0%)	12 (46.15%)	11 (42.31%)	92.31%	3.35	0.69
12	Action research helped me interact with learners with Special Educational Needs (SENs) and other marginalised group more effectively.	1 (3.85%)	0 (0%)	10 (38.46%)	13 (50%)	92.31%	3.42	0.70
13	Action research helped to identify learners with SENs and other marginalised group more effectively	1 (3.85%)	0 (0%)	12 (46.15%)	11 (42.31%)	92.31%	3.35	0.69
14	Action research helped me to pursue the challenges that were relevant to my teaching	0 (0%)	0 (0%)	19 (73.08%)	5 (19.23%)	92.31%	3.19	0.40
15	Action research helped to identify the strengths and weaknesses of learners with SENs and other marginalised group more effectively	0 (0%)	0 (0%)	16 (61.5%)	7 (26.92%)	88.46%	3.35	0.49
16	Action research helped me to collaborate with other teachers	1 (3.85%)	2 (7.69%)	12 (46.15%)	8 (30.77%)	88.46%	3.19	0.75
17	Action research helped me make informed decisions that lead to positive practice changes in my teaching.	1 (3.85%)	0 (0%)	13 (13%)	9 (34.62%)	88.46%	3.31	0.68
18	Action research helped me develop new ways to assess student learning	0 (0%)	0 (0%)	16 (61.54%)	8 (30.77%)	92.31%	3.35	0.49
19	Action research helped me to make my teaching more research based.	0 (0%)	0 (0%)	16 (61.54%)	7 (26.92%)	88.46	3.31	0.47
20	Action research helped my teaching more learner-centred.	1 (3.85%)	0 (0%)	14 (53.85%)	9 (34.62%)	92.31	3.27	0.67
21	Action research helped me self-reflect on my teaching.	1 (3.85%)	0 (0%)	11 (42.31%)	12 (46.15%)	92.31	3.38	0.70
22	Action research increased student achievement in my classroom.	1 (3.85%)	0 (0%)	15 (57.69%)	8 (30.77%)	92.31	3.23	0.65
23	Action research helped me understand my students' preferences.	0 (0%)	0 (0%)	15 (57.69%)	9 (34.62%)	92.31	3.38	0.50
24	Action research prompted me to think	1 (3.85%)	1 (3.85%)	14 (53.85%)	9 (34.62%)	96.15	3.31	0.68

	about my teaching and come up with ways to improve it.							
25	In-service training workshops on action research were effective in understanding and conducting action research.	1 (3.85%)	1 (3.85%)	15 (57.69%)	8 (30.77%)	96.15	3.23	0.71
26	Conference on action research was effective in understanding and conducting action research.	0 (0%)	0 (0%)	18 (69.23%)	5 (19.23%)	88.46	3.15	0.54
27	Conference presentation feedback helped me in understanding and conducting action research.	0 (0%)	0 (0%)	18 (69.23%)	6 (23.08%)	92.31	3.27	0.45
28	I learned a lot from others' presentations.	2 (7.69%)	0 (0%)	9 (34.62%)	13 (50%)	92.31	3.38	0.85
29	The conference was an eye opener.	1 (3.85%)	0 (0%)	14 (53.85%)	9 (34.62%)	92.31	3.35	0.69
30	Professional development workshops often help teachers to develop new teaching techniques	1 (3.85%)	0 (0%)	14 (53.85%)	9 (34.62%)	92.31	3.27	0.67
31	If I did not have to attend in-service workshops, I would not have learned about action research	2 (7.69%)	2 (7.69%)	9 (34.62%)	11 (42.31%)	92.31	3.19	1.02
32	Professional development events are worth the time they take.	1 (3.85%)	0 (0)	13 (50%)	10 (38.46%)	92.31	3.35	0.69
33	Staff development initiatives have not had much impact on my teaching.	5 (19.23%)	7 (26.92%)	9 (34.62%)	3 (11.54%)	92.31	2.46	0.95
34	I enriched service delivery from the teacher training events I have attended.	1 (3.85%)	3 (11.54%)	15 (57.69%)	5 (19.23%)	92.31	3.00	0.69
35	I am willing to collaborate with other teachers	0 (0%)	0 (0%)	9 (34.62%)	14 (53.85%)	88.46	3.62	0.50
36	I am interested in action research and applying this research to my classroom practice	0 (0%)	0 (0%)	9 (34.62%)	15 (57.69%)	92.31	3.62	0.50
37	I would be willing to conduct action research in my classroom	0 (0%)	0 (0%)	9 (34.62%)	15 (57.69%)	92.31	3.54	0.58

| 38 | I would be interested in gaining more knowledge about action research | 0 (0%) | 0 (0%) | 7 (26.92%) | 17 (65.38%) | 92.31 | 3.73 | 0.45 |
| 39 | I would like to make a change in my teaching practices | 0 (0%) | 0 (0%) | 6 (23.08%) | 17 (65.38%) | 88.46 | 3.73 | 0.45 |

9.2 *Pedagogical skills*
Participants consistently made comments regarding participatory action research such as:

> *I am excited to participate in this research project*
> *Because of my participation, with action research I feel I have developed confidence in teaching and improved my teaching skills*
> *Earlier I used to use Lecture Method; as I have learnt to reflect, I tend to engage my students in 'peer-tutoring' and 'group-work'.*

9.3 *Student engagement*
With regard to student engagement, one of the participants noted that students were adequately engaged in the lessons and responded positively, have worked hard and have been engaged in the problems they were asked to do.

9.4 *Classroom management*
Participants confirmed that action research enhanced their classroom management. One of the teachers noted:

> *My classroom management strategies have been sharpened due to the excessive planning and preparation. Before I would have been highly apprehensive to try new strategy; now, I am more confidence in the possible outcome that could be achieved with trying new strategies.*

This confidence was also reflected by other participants. Echoing similar sentiments another participant noted:

> *Participating in action research gave me confidence. I feel more empowered to step out and try what I feel needs to be done for the specific kids I am working with.*

9.5 *Practice of inclusive education*
In the teachers' views, PAR led to overall improved performance, relationships and reconfiguring of classroom practices to promote inclusive education. The comments from open-ended questions and responses of the questionnaire highlighted participants' opinions about the impact of PAR in their practice of inclusion of learners with diverse educational needs. Interestingly, one of the participants reported:

> *I strongly believe that our project was successful as 'slow learners' also participated in the classroom activities.*

More than 80% of participants believed that the PAR project helped them to identify learners' diverse educational needs, understand these needs and interact with the learners positively while

collaborating with other teachers. Although the collaborative experiences in the research projects were viewed by participants as successful, it was not without challenges.

Three factors emerged from the data analysis as negatively affecting the action research. They are a) time to engage and collaborate, b) workload, and c) support. In the next section, we describe how these three factors influenced participants' engagement in each of the collaborative action research approaches identified above.

9.6 *Professional development*

With regards to action research as a method of professional development, one female respondent from the South East region stated in her eighth journal entry:

> *I thoroughly enjoy professional development that is applicable or adaptable to my classroom. I am selfish with my time and am disappointed when it is wasted (which in this case it was not).*

The value of participatory action research as a tool for sharing and collaboration was also demonstrated during this particular teacher's discussion of her project during the debriefing session. The majority of participating teachers were very interested in the logistics of the South East region project and one of them even went so far as asking if one of their teachers could observe her classroom to get a clearer idea of the impact of this project.

Starting with the PAR training itself, teacher participants' collaborative involvement in its process as a form of professional development was gratifying as it helped them acquire knowledge and skills that impacted on their appreciation of PAR as a versatile approach to resolving local issues through relevant and meaningful ways. The majority of the participants indicated that they would like to use participatory action research in their classroom as it has the potential for professional growth. Among the participants from the eight regions who were fascinated by the South-East region project, one explained:

> *I heard about action research or teacher research but never had the opportunity to use it. Initially I was sceptical; I failed to distinguish it from traditional research. As time went on and as I continued attending workshops and group discussions and getting feedback from the facilitators, I learnt how to zoom in on one factor at a time and to check if it (has) works/-ed instead of many. I also learnt to solve problems with the means at my disposal. Initially, [I] used so many ways to solve a problem. I am sure it will improve my teaching and professional growth.*

A teacher-participant in one of the schools where she felt that there was some improvement following the use of PAR noted:

> *Definitely, I would continue with AR because it has a very positive impact on the lives of learners and [it] improved my attitude and skills.*

However, the majority of the participants felt that "*without adequate support from [the] School Head and other teachers it would be difficult*". Another participant who had positive experience with PAR succinctly said: "*I have grown professionally.*" Nevertheless some participants also had doubts about their skills and felt that more training was needed as one commented. "*Although, I have learnt a lot, I am not sure, if I would be able to conduct action research*

independently or train other colleagues, in my opinion, more workshops should be organised to improve our skill."

Although there were some feelings of uncertainty from the participants, they were empowered by PAR as they attested to changes in attitude, practice, professional development and refined PAR skills. In that regard, PAR served as a research-based innovation that supported continuous professional development and teacher emancipation (Eilks & Markic, 2011).

10.0 Challenges of action research

Participants in this study expressed their frustration at the limited resources, time and support provided by the school and the MoESD management team. Participants lamented shortage of transport and limited support from the MoESD team were identified as the main challenges. Complaints like "*We used our own resources such as a dongle for internet because we were buying airtime with our money*;" and "*The time was not on our side as we have to be doing the core business-teaching*." Such complaints made it clear that teachers supported the use of participatory action research to bring about change in education service delivery and promote inclusive education in spite of the administrative and systemic challenges that they faced. Echoing the same sentiment, another teacher succinctly reported:

> *When it started, it seemed to be something very complicated, more especially that my supervisors and school head were not supportive. It requires a lot of time. The team that supported the Action Research trainees visited only once in a while or they never come at all.*

Participants generally complained about methodological challenges. One of the participants recalled:

> *I took time to understand the difference between ordinary research and PAR. It was challenging due to lack of understanding and necessary support. In the beginning I did not understand what action research entails.*

Teachers also raised concern about collaborative and participatory action research. One of the participants commented, "*Collaborate planning can be a challenge*…." These statements clearly indicate that initiating action research and moving away from conventional research to PAR was not easy for the participants. Moreover, lack of collaboration between themselves as teachers and support from assigned facilitators complicated the practice of PAR. Participants identified three major concerns related to the use of action research. These were: school based support, time and workload. However, some participants reported that they were not competent in using PAR and needed more training. Another participant was clear about her position in using PAR and this is what she had to say:

> *I am a torch bearer; I am an agent of change; so, we need to change our mind-set as professionals and know that everything is possible. The entire staff is not ready to embrace it. The parents of the learners involved seem to be reluctant when they are called at school. Time was not on our side, it has proven to me to be yielding good results and [provided opportunities to be] able [to] reflect [on] my teaching and [I] learned from my mistakes.*

11.0 Discussion

In this study, teachers' perceptions towards participatory action research were explored. Throughout the one year of investigation, teachers developed a research problem, planned and executed their plan on how to facilitate inclusive education in their school. At the end of the project, a survey was administered for the participants to state their opinions towards participatory action research for professional development on inclusive education.

Participatory action research is a dynamic process that requires teachers to gradually learn from their practice (O'hanlon, 2003) by constantly reflecting on it. Because the teachers were locals Botswana nationals, they were better placed as reflective practitioners since PAR demonstrates that the reflective process is directly linked to action, which in turn is influenced by familiarity with the history, culture and local context (Baum, MacDougall & Smith, 2006). In a sense, teachers' integration of participatory and collaborative action research into their teaching affirms what Baum et al. identify as principles of PAR. These included collectiveness and reflective inquiry which led to improved service delivery. Above all, teachers identified problems relevant to the school or classroom teaching which eventually led to finding a solution that enhanced outcomes for all.

Nevertheless, the value of a supportive environment and relevant resources cannot be ignored in carrying out PAR (Garet, Porter, Desimone, Birman & Yoon, 2001). For this study, the administrative staff support was singled out as having made it difficult for some researchers to complete their PAR project as planned. In spite of lack of administrative support, collectively, teachers, learners and members of the community were involved in the participatory action research that positively impacted the school performance (Baum, et al., 2006). Action research is becoming popular as it offers personnel and professional development that enable practitioners to systematically investigate and evaluate their work to improve their practice (McNiff, 2013; O'hanlon, 2003).

The focus of this particular investigation was on teachers' perception of PAR as a driving force for the implementation of inclusive education in Botswana. Majority of the participants were positive about the effectiveness of PAR as over 80% of participants believed that PAR helped them include learners with SENs by addressing their needs and implementing democratic practices in their classrooms. The findings of this study indicate that teachers' concerns for students increased as they conducted the participatory action research project. This resulted in the teachers developing the willingness to take more risks to improve students' learning. Inclusive education therefore became the vehicle that provided experiences that were missing from students' lives while improving academic achievement and school attendance of students with SENs (Waitoller & Artilles, 2013).Wu, Tu, Wu, Le and Reynolds (2012) conducted a study at Hobert, Australia and also found that teachers were positive about PAR and that it helped in including learners with diverse educational needs and also improved service delivery. For example, participants placed more value on assessments that focused on student learning as attested by Waitoller and Artilles (2013), which is proof that teachers paid attention to individual learners. Although, this is highly encouraging, participants were equally concerned about limited support and resources as well as large class-size. These findings resonate with those of Polat (2011) who revealed that employing PAR as a methodology and a 'social justice framework' identified several barriers to implementing inclusive education in Tanzania. Such barriers were infrastructure, classroom-learning environment, health, water and sanitation as well as negative community/cultural practice. It is important to underscore

the need for further investigation and interpretation of the concerns raised by teachers within the context of each school in this study.

On another positive note, the participants indicated an increase in knowledge and skills in managing learners with diverse educational needs after conducting the PAR project. Ainscow, Booth, and Dyson, (2004) emphasized the importance of collaboration which teaching learners with diverse education needs requires. They also highlighted the potential of PAR during collaboration activities. Participants also reported that PAR helped them collaborate with other teachers and community members. While participants were positive about PAR, some participants were concerned about their own research skills. It is quite evident from the findings of this research along with other PAR research (Dick, 2004; O'hanlon, 2003) that PAR could be used as an effective strategy for professional development to enhance teachers' conceptualization of 'inclusive education-learning for democracy,'and enhancing teachers' knowledge and skills to improve instructional delivery. Cammarota and Fine (2010), reported that participants in their study were able to identify the strengths and weakness of their own teaching, which not only made them reflective practitioners but also better practitioners. Participants in the current study also found that PAR did not only improve their skills in conducting such research but it also improved their students' performance. They would therefore like to incorporate PAR in their teaching and to collaborate with other teachers to improve service delivery. The findings of this research are consistent with those for Ainscow, Booth and Dyson (2004).

Interestingly, the majority of the participants reported that they were not aware of PAR before the project and never used it in their practice; this clearly indicates that teacher education programmes in Botswana did not prepare teachers for PAR. Findings of this research tend to suggest that PAR should be incorporated within the teacher training programme and that teachers' confidence could be raised by providing them with training that adequately addresses their specific needs and concerns. The training programme may focus on inclusive education and teachers should be encouraged to conduct PAR to comprehend the process and practice of inclusive education which might facilitate its successful implementation with the available resources. This is equally suggested by O'hanlon, (2003)—that PAR is ideal in identifying the diverse learning needs by discussing with the students and parents, and jointly planning for an intervention strategy that will subsequently be evaluated for effectiveness. By co-opting the different stakeholders, the teachers were practicing 'democracy' which is the fundamental pillar of Botswana's constitution. At the same time it allowed the teachers to reflect on their own practice, get hands on training in networking and collaborating with stakeholders, and improve service provision to the learners in particular.

It is worth noting that PAR is not individualistic, but it is a democratic practice that should involve all the stakeholders including teachers, school administrators, the school chefs, ancillary staff, learners, parents, chiefs, church-leaders, etc. Because of its nature, it poses challenges to the researcher who as a teacher/administrator of the school should contribute to the democratization of knowledge and its production, but who at the same time needs to 'go beyond conventional roles and procedures to interact with community co-researchers', (Smith, Bratini, Chambers, Jensen & Romero, 2010, p. 407). Teachers in this study did not cite this difficulty as a concern, but rather lamented the lack of support from the school administrators and from the research–team leaders. In instances where the PAR teachers felt that there was no cooperation from other staff members, the staff failed to work as a unit that shared the same concerns and needed to unanimously overcome those to achieve a conducive learning environment characterised by solidarity among its community members. Furthermore, the research problem was only identified by the participating teachers and

not by other stakeholders such as parents, learners and the community at large. Such a practice works against what is suggested by Baum, MacDougall and Smith (2006) and by Dewey (1928). Dewey's theoretical framework of Experience and Reflexivity supports shared values, challenges, and resolution to challenges. Additionally, it emphasises collective and democratic approaches which frees the individual of any cultural ties or identities and empowers them economically. This study fell short of some of Dewey's principles as ethnicity was still an issues with which some schools had difficulties, even though the PAR attempted to address concerns that seemed to be common in certain ethnic groups and not in the mainstream society.

12.0 Conclusions and Recommendations

Overall the study found out that participants were enthusiastic and they positively valued the PAR and the influence of the training that they received on their practice of implementation of inclusive education. As a result of the PAR, participants applied new knowledge and concepts to the practice of inclusion of learners with diverse educational needs. This was evident from some teachers' confirmation that learners who had challenges learning or who were truant improved and were actively learning. Participants of this study also indicated that PAR has the potential to improve service delivery and students' performance. The study also indicated that teachers who participated were going to incorporate PAR in their practice. However, they raised concerns about the inadequate support at both the local and regional level. This mind set was perpetuated by engrained practice from the conventional research where there is likely to be the need for a lot of support. Action research by its nature does not of necessity require extra resources. Teachers identified issues including resources in their current contexts that needed to be resolved; thus, the need for additional resources is not essential (Bell, 2014).

This study also revealed that teacher-education programmes did not train participants to use PAR in teaching. This collaborative research was the only opportunity for them to know about PAR and use it in their teaching where they found its benefits.

Recommendations emanating from this PAR project affect both practice and future research. For practice, it is evident that teachers need to develop adequate knowledge and skills in the area of managing learners with diverse educational needs. Such practice needs a radical change in instructional delivery, and one way of addressing this is through conducting PAR projects. Moreover, this study also indicates that both pre- and in-service training for teachers in action research is almost non-existent and should therefore be considered in current teacher education programmes across the different institutions. In terms of promoting more action research by teachers in the future, it is recommended that the teacher education programme should re-configure its curriculum and include action research as a compulsory component. This might help the teachers to make a connection between theory and practice during training which might lead to improved service delivery once they are deployed. Some important theoretical elements were missing in this study and it would be more informative to ensure that future PAR studies are well grounded in theoretical perspectives.

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