RELATIONSHIP BETWEEN AGRICULTURE TEACHER SUBSCALES AND COLLECTIVE TEACHER EFFICACY IN ESWATINI

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Abstract

Teacher efficacy is central to educational reforms and research has probed teacher efficacy at teacher and school community level (collective teacher efficacy). Both constructs were framed from the social cognitive theory. The study explored the nature of the relationship between components of agriculture teacher efficacy and collective teacher efficacy in the context of Eswatini senior secondary school. The study was descriptive-correlational using a census (N= 163) of senior secondary agriculture teachers with 5 years or less teaching experience. Agriculture teacher efficacy was measured using an adapted Teachers' Self-Efficacy Scale (TSES) and collective teacher efficacy (CTE) was measured using the short-version of CTE scale. TSES was adapted to the context of teaching agriculture at Eswatini senior secondary using 2 focus group discussion involving agricultural education experts. The instruments of the study were self-administered. Correlation analysis revealed a positive and low to moderate relationships between agriculture teacher efficacy components (classroom management, instructional strategies, student engagement and practical work management) and collective teacher efficacy. The conclusion from the study is that agriculture teacher efficacy and collective teacher efficacy share sources of efficacy information, hence moderately correlated. The study recommends that teacher training institutions and schools should closely collaborate to build both teacher and collective teacher efficacy.

Keywords: Agriculture teacher efficacy, collective teacher efficacy, correlational analysis

Introduction

Teachers are the ultimate key to educational change and school improvement. Interest in teacher efficacy and collective teacher efficacy has been renewed due to changes in teacher accountability. All educational reforms meant to improve learner progression in schools recognize the need for interventions to target the whole school while addressing the needs of individual teachers (Goddard & Skrla, 2006). It is important for school leaders and policymakers to understand the enormous influence of teacher efficacy and collective teacher efficacy on teacher behaviour, students, and the whole schools' academic outcomes. Teaching is an interpersonal activity taking place in a group context. Literature is in agreement that collective teacher efficacy and teacher efficacy are independent constructs yet related to each other. Klassen (2010) posited that more research must be conducted on the association between collective teacher efficacy and teacher efficacy to better understand the constructs and implications for practices in schools. Inconsistencies exist in the nature of the relationship that exists between teacher efficacy and collective teacher efficacy. This blurred relationship emanates from the call of teacher efficacy to be subject and context-specific (Bandura, 1998), yet most measures of collective teacher efficacy are on its dimensions. Therefore, it is difficult to generalize this pattern of relationship exists among beginning agriculture teachers in Eswatini.

Teaching Agriculture in Eswatini

The basic education system in Eswatini comprises three levels namely primary education, junior secondary and senior secondary with exit certificate examination at the end of each level. Agriculture subject is an elective in the curriculum in all the three levels of the schooling system. The Schools Agriculture Programme (SAP) was introduced in 1973 in Eswatini (Gooday, 1974). Amongst the several aims of agriculture is to demonstrate the value of agriculture to family and community, ultimately linking to the worldwide campaign for poverty alleviation and food security. Agriculture at junior and senior secondary school is mainly taught by agricultural education graduates from the University of Eswatini (UNESWA). Agriculture teachers function independently, but, schools are organisations prone to the sources, impediments and opportunities provided by the education system that determine their efficacy. The context of teaching varies from being individualist to collectivist (Berger, 2011). Given the unique nature of schools in Eswatini, enough reasoning suggests varying levels of collective teacher efficacy. More so, there is a dearth of evidence

relating to the nature of the relationship between agriculture teacher efficacy and collective teacher efficacy in the context of Eswatini.

Teacher Efficacy

Teacher efficacy refers to the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context (Tschannen-Moran et al., 1998). Teacher efficacy was first defined by RAND researchers as "the extent to which the teacher believes he or she can affect student performance" (McLaughlin & Marsh, 1978). Teacher efficacy is easily confused with actual teaching effectiveness, teacher efficacy beliefs may underestimate, overestimate, or accurately reflect actual teaching effectiveness. Debates on what constitutes teacher efficacy are irreconcilable. Bandura (1998) cautioned researchers that self-efficacy is dimension-specific and context-specific. The assertion by Bandura ushered diversity in teacher efficacy scales which included the Science Teaching Efficacy Beliefs Instrument (Enoch & Riggs, 1990); Norwegian Teacher's Self-Efficacy Scale (Avanzi et al., 2013); and Preservice Special Educators Efficacy Scale (Lombardo-Graves, 2017). Tschannen-Moran et al. (1998) provided a nuanced understanding that teacher efficacy must be grounded on careful analysis of the teaching task and its context and the relative importance of factors that make teaching difficult or act as constraints are weighed against resources that facilitate learning.

A consensus exists among researchers that teacher efficacy is a multidimensional construct. Tschannen-Moran et al. (1998) established the Teachers' Self-Efficacy Scale (TSES) which has three factors (sub-scales): classroom management, instructional strategies and student engagement which correspond to teaching practices across countries. However, emerging research points to overlaps in the three factors of teacher efficacy (Vieluf et al., 2013) and differences across countries (Klaasen, 2010). Wolf (2011) study of agricultural education teachers in Ohio adapted teacher efficacy to account for three dimensions which included efficacy in Classroom management (CM), Future Farmers of America (FFA), and Supervised Agricultural Experiences (SAE). Mathenjwa (2018) extended teacher efficacy to agriculture teacher efficacy scale (ATES) suited for measuring agriculture teacher efficacy at senior secondary in Eswatini. The ATES has four factors (sub-scales) that correspond to the practical nature of the subject and the factors explained 67% variance in agriculture teacher efficacy of beginning agriculture teachers in Eswatini.

Teacher efficacy is proving to be an important psychological attribute of teachers which is vital in the fields of teacher education and effectiveness. Teacher efficacy is regarded as the paramount characteristic of the teacher which influences teacher behaviour in classroom settings. Teacher efficacy predicts behaviours of teachers such as enthusiasm for teaching, engaging more appropriate classroom management and instructional strategies (Reinke et al., 2013). Teachers with high efficacy beliefs tend to use more differentiated instruction and constructivism and develop challenging lessons. Bandura (1998) proposed that teacher self-efficacy is the mediator between teacher knowledge and the application of knowledge by the teacher. Teachers with high efficacy beliefs influence teachers' persistence when things do not go smoothly and their resilience when faced with setbacks.

Collective Teacher Efficacy

Collective teacher efficacy is an extension of individual teacher efficacy (Tschannen-Moran et al., 1998). Collective teacher efficacy (CTE) is defined as the perception of teachers in a school that the efforts of the educators as a whole will have a positive effect on students (Goddard, Hoy & Woolfolk, 2004). CTE is an emergent school level property resulting from the dynamic interaction among educators in proximal functioning and is more than the sum of the individual attributes. The construct is based on individual teachers' perceptions of the capabilities of the entire school teaching staff (Lim & Eo, 2014). Goddard et al. in their conceptualization of CTE described it as more than the sum of individuals' capabilities in a school. Bandura (1998) argued that collective teacher efficacy varies considerably among schools.

Several approaches are used in the measurement of collective teacher efficacy. Studies have reported that collective teacher efficacy comprises of two dimensions. Goddard, Hoy et al. 2004 proposed that collective teaching efficacy should be an assessment of the challenges of the teaching task and teaching competence in a particular school. Empirical studies (Fives & Looney, 2009; Goddard, Hoy et al., 2004) adopted the two dimensions of collective teacher efficacy. However, Barr (2002) developed a collective teacher efficacy scale that had two distinct dimensions which included student discipline and instructional strategies. Chiang and Chuang (2016) employed the Barr (2002) collective teacher efficacy scale. Lim and Eo (2014) cautioned researchers that collective teacher efficacy is not a monolithic attribute, but can vary among members belonging to the same group.

Collective teacher efficacy influences students' learning achievement in the whole school (Bandura, 1998; Goddard & Goddard, 2001). Researchers (Barr, 2002; Goddard, LoGerfo et al., 2004) found positive low correlations between collective teacher efficacy and students' academic achievement. Furthermore, Hattie (2016) in a meta-analysis study found that collective teacher efficacy had an effect size of 1.57 on student achievement. Ramos et al. (2014) found that an elevated collective teacher efficacy substantially reduced the negative effects of socio-demographics on students' academic achievement. High collective teacher efficacy creates high expectations and standards in a school.

Theoretical Framework

CTE and teacher efficacy are based on the social cognitive theory (Bandura, 1998) which explains human behaviour in terms of a three-way, dynamic, reciprocal model in which personal factors, environmental influences, and behaviour continually interact. The social cognitive theory (SCT) is rooted in an agentic perspective. It further posits that teachers are self-organizing, proactive, self-reflecting, and self-regulating. Teachers are not just reactive organisms, shaped and shepherded by external factors and events. Bandura (2006) classified efficacy as an agentic capability that allows people to be more successful in reaching their goals. The agency could be an individual agency to perform independently in any given environment, as well as a collective agency when they rely on others to achieve. Based on the social cognitive theory, efficacy beliefs are future-oriented judgments. Goddard, Hoy et al. (2004) reported that teacher efficacy and collective teacher efficacy only differ in the unit of agency but operate through similar processes.

Following the principle of reciprocal causation, self-efficacy both influences and is influenced by behaviour, thought and the environment (Bandura, 1989). Bandura postulated four sources of self-efficacy, namely: enactive mastery experience, vicarious experience, social persuasion, and affective states. Mastery experiences refer to perceptions of performance accomplishments and are regarded as the most powerful sources of efficacy information. According to Bandura (1998) success either as an individual or organisation builds confidence and contributes to expectations that performance will be proficient in the future. Perceptions of failure lower capability beliefs ultimately fostering inept performance expectations. Teachers or schools that have a history of success on academic achievements develop further success expectations. Vicarious experiences involve norm-referencing and social comparisons which allows teachers or faculty members to perceive their capabilities

based on the success or failures of proximal others. Social persuasion entails encouragement, affirmation, or performance feedback from others teachers or immediate supervisors within the school. Bandura (1989) stressed that the potency of social persuasion depends on the credibility, trustworthiness and expertise of the persuader. Affective states relate to arousal which could either be anxiety or excitement that feeds to teacher's or school's perception of capability or incompetence.

Goddard, Hoy et al. (2004) pointed out that the influence of affective states may be less germane or less understood on how they form or change collective teacher efficacy. The value of each source of efficacy information and how the different sources of efficacy information are combined differ with individuals or organisations and context. Some studies delineated additional sources of teacher efficacy information which include principal leadership styles (Ross & Gray, 2006), university training (Cheung, 2008), teacher longevity (Cheung, 2008) and trust relationships (Verslandetal et al., 2014).

Figure 1 depict a model for the formation, influence and change of collective teacher efficacy. The model is anchored on the SCT (Bandura, 1998) which explains the reciprocal relationship between teacher efficacy and collective teacher efficacy. Both constructs are rooted on self-efficacy theory which is a tenet of SCT but differ at agency level either individual or group. The collective teacher efficacy model illustrates that teacher efficacy feeds into CTE into two ways. Firstly, teacher efficacy influences the cultural norms of individual teachers in terms of persistence, resilience and effort which ultimately shape CTE. Also, teacher efficacy influences tangible outcomes such as student achievement, learner's attendance, teacher commitment and teacher satisfaction which serve as information sources for collective efficacy beliefs.

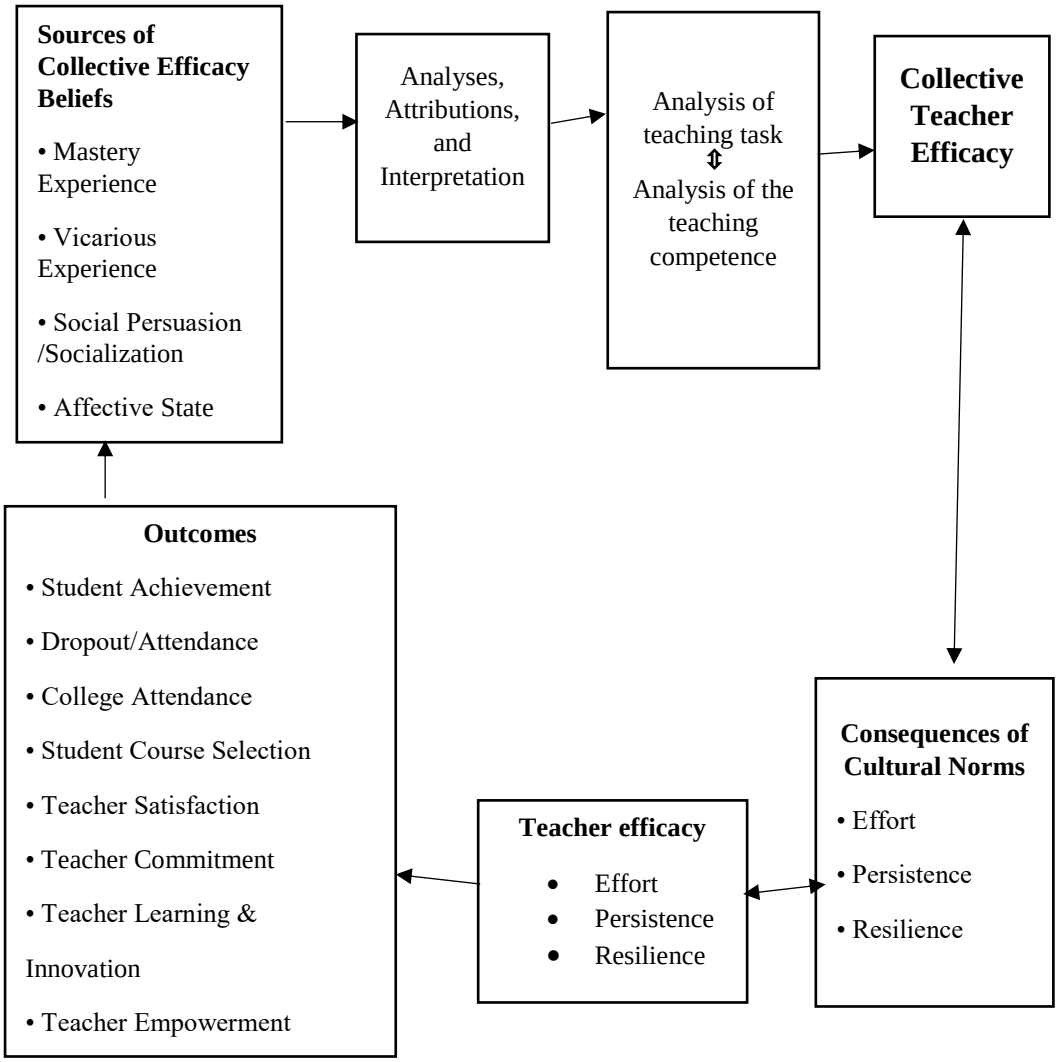

Figure 1: *Proposed model of formation, influence and change of collective teacher efficacy* (Goddard, Hoy et al., 2004)

Relationship between Teacher Efficacy and Collective Teacher Efficacy

Based on the SCT, the school provides the context (social environment) for the interaction of teacher efficacy and collective teacher efficacy (Bandura, 1998). The two constructs affect each other bidirectionally, in a reciprocal causality manner. Goddard (2002) concluded that collective teacher efficacy is the main predictor of teacher efficacy. This was confirmed by a meta-analysis conducted by Ramos et al. (2014) who found moderate to strong correlations in eight studies. Several studies have indicated that collective teacher efficacy positively affects teacher efficacy (Skaalvik & Skaalvik, 2007) and teaching behaviour (Chiang, 2014). Collective teacher efficacy is positively correlated to teacher

efficacy, the strength of relationships ranging from low to medium (Chiang & Chuang, 2016). Skaalvik and Skaalvik (2007) explained that individual teacher efficacy is based on how effective the educators function in a school.

According to Bandura (1998), both constructs are rooted in self-efficacy. Gist and Mitchell (1992) asserted that teacher efficacy and collective teacher efficacy require a cognitive assessment of personal and situational resources. During the assessment of these resources, the two constructs interact and the reciprocal relationship is established. Findings reported by Zakeri, Rahmany and Labone (2016) indicate that collective teacher efficacy explained 30% variance in teacher efficacy whereas teacher efficacy explained 18% variance in collective teacher efficacy among novice English teachers in Iran. Bandura (1998) explained that individual capabilities are largely dependent on the capabilities of the organizational group. Hence, Tschannen-Moran, Salloum and Goddard (2014) described collective teacher efficacy as an organizational attribute that can either energize or debilitate school personnel capability beliefs.

Berebitsky and Salloum (2017) found a strong relationship between high collective teacher efficacy and teachers' instructional practices. The strong relationship was explained by the ability of individual teachers to turn to colleagues for advice on appropriate instructional practices. Teachers in a school do not work in isolation, vicarious experiences are a vital source of efficacy information for teacher efficacy in instructional strategies. Observing colleagues in a school provide normative information that helps gauge what is achievable among learners and teachers' role expectations. Zakeri et al. (2016) uncovered a strong relationship between collective teacher efficacy and student engagement. The plausible explanation of the nature of the relationship was that items measuring student engagement were most dependent on school-level factors.

Limited research abounds on the relationship between agriculture teachers' sense of efficacy and the collective teacher efficacy in schools of Eswatini. Goddard and Goddard (2001) posited that the learning environment in middle schools is complex, hence the relationship between these variables is unclear. Most studies tend to focus on the relationship of collective teacher efficacy or teacher efficacy with students' achievement. Although teacher efficacy and collective teacher efficacy are conceptually distinctive, they are interdependent. The interdependence in the two constructs is largely due to their social situatedness and vulnerability to group dynamics (Bandura, 2006). Therefore, the study of

correlations between agriculture teacher efficacy and collective teacher efficacy adds valuable effort towards educational reforms meant to improve students' academic achievement in senior secondary school agriculture.

The Purpose and Research Questions of The Study

The purpose of the study was to investigate the nature of the relationship between agriculture teacher efficacy and collective teacher efficacy. The study sought to answer the following research questions:

1. Is there a relationship between the efficacy of beginning agriculture teachers in classroom management and collective teacher efficacy?
2. Is there a relationship between the efficacy of beginning agriculture teachers to choose instructional strategies and collective teacher efficacy?
3. Is there a relationship between the efficacy of beginning agriculture teachers to engage students and collective teacher efficacy?
4. Is there a relationship between the efficacy of beginning agriculture teachers in practical work management and collective teacher efficacy?
5. Is there a relationship between beginning agriculture teachers' efficacy and collective teacher efficacy?

Methods

The study was designed as descriptive-correlational. The purpose of associational research is to examine the amount and direction of relationships between two or more variables without influencing them (Karasar, 2009). The study was reviewed and approved by the Department of Agricultural Education and Extension at the University of Eswatini. Consent was obtained from the Directorate of Education from the Ministry of Education and Training Eswatini to collect data from beginning agriculture teachers in schools. Informed consent was sought before collecting data from the sampled participants.

Population

The target population of the study was beginning agriculture teachers at senior secondary schools in Eswatini. The sampling frame was obtained from the Schools Agriculture department under the Ministry of Education and Training. Ethical clearance to

conduct the study on teachers in Eswatini was obtained from the Director of Education. The study was a census, collected data from all (N=161) beginning agriculture teachers. The agriculture teachers were guaranteed confidentiality and anonymity. The targeted teachers indicated willingness to participate in the study by signing informed consent form before completing the survey questionnaire. The criteria for selecting beginning agriculture teachers were agriculture teaching experience of 5 years or less and having an agricultural education academic qualification. Fifty-one of the participants were female and 110 were male. The age range of the participants was 21 to 38 years.

Instruments

Bandura (1998) posited that self-efficacy for instruction is unlikely to be consistent across subjects, hence called for teacher efficacy scales specific to subjects. The study used agriculture teacher efficacy scores measured using an agriculture teacher efficacy scale (ATES). The ATES was developed from the teacher self-efficacy scale (TSES) which had 24 items and three factors. TSES was adapted following two focus group discussions comprising of agriculture experts in Eswatini, validation procedures and pilot testing. The ATES had four factors measuring efficacy in classroom management, instructional strategies, student engagement and practical work management. The ATES used nine-point anchor labels: 1 = no capability, 3 = very little capability, 5 = little capability, 7 = moderate capability, and 9 = a great deal of capability. The nine-point capability scale allowed greater differentiation among responses. The ATES was considered reliable since it had a reliability coefficient of .92.

Collective teacher efficacy was measured quantitatively using a six-point Likert-type scale comprising 12-items. The scale had anchor labels from 1 (strongly disagree) to 6 (strongly agree). Goddard (2000) described the Collective Teacher Efficacy Instrument—Short Form (CTEI-SF) as more theoretically pure than the original dimension CTEI (21 items). Most researchers conclude that the collective teacher efficacy scale developed by Goddard has greater practical utility. In the study, collective teacher efficacy was assessed as dimension-general efficacy. Beginning agriculture teachers in the study self-reported their capabilities. The CTEI-SF had a Cronbach alpha coefficient of .87 indicating acceptable reliability.

Data Analysis

Agriculture teacher efficacy and collective teacher efficacy were measured using capability level and Likert-type scales, respectively. Pearson-product Moment correlations were used to analyse the relationships between score of each of the four agriculture teacher efficacy subscales and collective teacher efficacy. Cohen (1988) scale was used to interpret the magnitude of the relationship based on the correlation coefficient. McGrath and Meyer (2006) opined that correlation coefficients must be interpretation by magnitude when the goal of the analysis is prediction (practical utility).

Results

Linearity in the shape of the values of the two variables were assessed by a scatterplot and a more straight-line was formed between agriculture teacher efficacy and collective teacher efficacy indicating some relationship among the variables. No significant outliers between the correlation scores of agriculture teacher efficacy and collective teacher efficacy, hence both variables were fit for analysis using Pearson Product-Moment Correlation.

Descriptive Statistics of ATES and CTEI-SF

Preliminary findings indicate that beginning agriculture teachers in Eswatini had moderate capability (M = 6.76) to produce the intended learning outcomes among students. Moderate capability was reported in all the four subscales or dimensions of agriculture teacher efficacy, with agriculture teachers rating themselves highly (M = 6.92) on managing practical work. The standard deviation indicates modest variability (SD =1.09) in the teacher efficacy of beginning agriculture teachers. Beginning agriculture teachers rated the school educators to have moderate collective efficacy with modest variability (M = 4.32; SD = .83).

Table1: Mean and Standard Deviation of ATE and CTE

Dimension	No. of Items	M	SD
Agriculture teacher efficacy	27	6.76	1.09
Efficacy in practical work management	4	6.92	1.41
Efficacy in instructional strategies	10	6.80	1.22
Efficacy in student engagement	6	6.70	1.44
Efficacy in classroom management	7	6.67	1.20
Collective teacher efficacy	12	4.32	.83

Relationship between ATE and CTE

Table 2: Pearson-product Moment Correlations between ATE and CTE

Dimension	Collective teacher efficacy	Cohen descriptor of the magnitude of correlation
Efficacy in student engagement	.432	Moderate
Agriculture teacher efficacy	.387	Moderate
Efficacy in practical work management	.341	Moderate
Efficacy in instructional strategies	.321	Moderate
Efficacy in classroom management	.217	Low

Research question one

A low and positive relationship (r = .217) existed between classroom management efficacy of beginning agriculture teachers and collective teacher efficacy as indicated in Table 2.

Research question two

Table 2 shows that a moderate positive relationship (r = .321) existed between the efficacy of beginning agriculture to choose appropriate instructional strategies and collective teacher efficacy

Research question three

As shown in Table 2, the efficacy of beginning agriculture to engage students was positive moderately (r = .432) related to collective teacher efficacy. Among all the four subscales of agriculture teacher efficacy, efficacy to engage students had the positive and highest association with collective teacher efficacy.

Research question four

The efficacy of beginning agriculture teachers to manage the practical work of students was positive moderately (r = .341) correlated with collective teacher efficacy.

Research question five

A positive moderate (r = .387) relationship existed between agriculture teacher efficacy of beginning agriculture teachers and collective teacher efficacy as indicated in Table 2.

Discussion

The study investigated the nature of the relationship between agriculture teacher efficacy and collective teacher efficacy as well as the relationship between each of the four subscales of agriculture teacher efficacy and collective teacher efficacy. As predicted, a positive low to moderate relationship existed between each of the agriculture teacher efficacy subscales and collective teacher efficacy.

Agriculture teachers' efficacy in classroom management was observed to have a positive low relationship with collective teacher efficacy. The nature of items informing classroom management reflect non-instructional personal interactions between teacher and learners, hence less association with capabilities of the teaching staff to produce desired learning outcomes. Gibbs and Powell (2012) analyzed items of collective teacher efficacy scale, found that it constituted of three factors namely teacher skills, motivating pupils and addressing external influence which were not related to classroom management. This finding supports Goddard and Goddard (2001) that collective teacher efficacy is important for school culture which points to collaborative actions, yet classroom management involves fewer collaborations among teachers. The findings of the study are consistent with Abdollahzadeh and Rezaeian (2011) of positive low association between collective teacher efficacy and classroom management efficacy among Iranian English teachers.

Instructional strategies efficacy of beginning agriculture teachers had a positive moderate relationship with collective teacher efficacy. As the level of efficacy in instructional strategies of agriculture teachers increases so does the level of collective teacher efficacy and vice versa. Collective teacher efficacy promotes teachers' ability to implement effective teaching strategies. Abedini, Bagheri, Sadighi and Yarmohammadi (2018) in their qualitative study explained that effective instructional strategies are significant factors that characterize teachers with high collective efficacy. Also, the moderate association is anchored on the similarities of items addressing instructional content on both dimensions. The findings aligned with Shi (2016) that Chinese teachers' pedagogical content knowledge positive and moderately associate with collective teacher efficacy.

Collective teacher efficacy had a positive moderate association with agriculture teachers' efficacy to engage students. An increase in the level of collective teacher efficacy has a corresponding increase in the level of agriculture teachers' efficacy to engage students and the reverse is true. Blatti, Clinton and Graham (2019) reported that high collective teacher efficacy creates a dense network in a school that enables teachers to engage students. Similarly, Donohoo (2017) states that high collective teacher efficacy allows teachers to set high expectations for students, hence engage them thoroughly in the instructional content, holding them accountable to progress and value student-centred learning. The findings of positive moderate relationship between collective teacher efficacy and efficacy on student engagement supports the study by Zakeri et al. (2016).

The study found a positive moderate association between the efficacy of agriculture teachers in practical work management and collective teacher efficacy. Agricultural practical work management is equivalent to supervised agricultural experiences (SAE), the nature of items measuring the factor had high resemblance with items on controlling external influence and motivating student factors in collective teacher efficacy. Agricultural practical work management involves practices and procedures employed by teachers which require more collaborations in the school, hence closely associated with collective teacher efficacy which influences school climate (Donohoo, 2017).

The observed positive moderate relationship between agriculture teacher efficacy and collective teacher efficacy is explicated by Bandura (1998) assertion that an organization is distinguished by interdependencies among employees in performing the tasks and achievement of organizational goals. Since teaching is an interpersonal activity within a group context, both teacher efficacy and collective teacher efficacy can be energizing or debilitating to each other. Bandura postulated that individual beliefs are infused in the processes of operating with the group just as group beliefs are infused in the thoughts of individual beliefs within a group. Correlation coefficients do not indicate casual effect, the moderate positive relationship between agriculture teacher efficacy and collective efficacy further illuminate the Goddard, LoGerfo et al. (2004) model depicting reciprocal interaction among the two constructs. The findings of the study support Chiang, Hsu and Chuang (2016) and Zakeri et al. (2016), who also found a moderate positive association between teacher efficacy and collective teacher efficacy. The positive moderate association further illustrated Bandura (1998) preposition that both constructs are rooted in self-efficacy but are shaped by different factors in a school.

Limitations of the Findings

Several limitations arose in the study. Firstly, the study employed a self-report instrument to measure the efficacy beliefs. Self-reported outcomes have a disparity between subjective and objective measures of a phenomenon, though the study employed valid and reliable instruments. The findings should be interpreted with caution considering the complex nature of teaching agriculture at senior secondary in Eswatini. In addition, the study did not decompose collective teacher efficacy into the various dimensions since the short form CTE was used which could not enable factorial analysis though CTE-SF was reliable.

Conclusion

This descriptive correlational study sought to describe the nature of the relationship between agriculture teacher efficacy and collective teacher efficacy. The findings of the study indicate a low positive correlation between the efficacy of agriculture teachers in classroom management and collective teacher efficacy. The positive moderate association also existed between collective teacher efficacy and agriculture teacher efficacy including efficacy in instructional strategies, student engagement and practical work management.

It can be concluded that classroom management is a task that is individualistic whereby the agriculture teacher controls the disruptive behaviour of learners without any collaboration effort from other educators. Collective teacher efficacy merely mediated student behaviour in the school.

Agriculture teacher efficacy with its components namely efficacy in instructional strategies, student engagement and practical work management share sources of efficacy information with collective teacher efficacy. Mastery experiences and vicarious experiences provide vital efficacy building information for the reciprocal causality between collective teacher efficacy and agriculture teacher efficacy including efficacy in choice of instructional strategies, engagement of student and practical work management.

Recommendations

Based on the findings and conclusions drawn from this study, the following recommendations are made:

Agriculture teacher training programmes must also provide prospective teachers with vicarious experiences, whereby they observe exemplary teachers in their specific teaching contexts. Such an authentic classroom context can enable prospective teachers to assess group settings where members of the teaching staff interact enhancing the efficacy level of an individual teacher or school. The school-teacher training institution collaboration can enhance the quality of pre-service training of teachers while improving the ability of schools to learn best practices.

The findings of the study imply that schools' principal and those involved in school or subject supervision should pay attention to sources of efficacy information that jointly build teacher efficacy and collective teacher efficacy. School principals should deliberately set the tone and structures that fosters efficacy building interactions and collaborations among teachers in schools. Efforts by school superintends on enhancing the two constructs holding more promise to improved functioning of schools.

The findings of the study expand research on teacher efficacy, further provides a nuanced understanding of the nature of the relationship between agriculture teacher efficacy and collective teacher efficacy.

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