

Teacher Efficacy: The Use of Cooperative Learning Techniques in Economics Education in Free State Secondary Schools

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ABSTRACT This study investigates Economics teachers' experiences with and the application of cooperative learning techniques in Free State secondary schools. A descriptive quantitative research design was selected for the purpose of conducting this study. A structured questionnaire was designed for collecting the data. The questionnaires were distributed to 200 Economics teachers in Free State secondary schools and 74% (N=148) completed questionnaires were returned. Results revealed that only 65.6% of Economics teachers were not exposed to cooperative learning techniques. Further, thirty percent of respondents indicated that they used cooperative learning techniques to a small extent in teaching Economics. Strategies were recommended to empower Economics teachers in the successful application of cooperative learning techniques in the classroom.

INTRODUCTION

Cooperative learning (CL) is one of the most widespread and fruitful areas of theory, research, and practice in education. Cooperative learning, according to Johnson and Johnson (1994), is where students work together in small groups to achieve a common goal. Cooperative learning is considered to be an effective method to improve teaching and learning processes in the classroom (Johnson and Johnson 1998). Emanating from the latter on the CL approach, the researcher therefore explores by investigating the current status of Economics teachers' use of the different CL techniques in a South African context. The introduction of a new national curriculum, the National Curriculum Statement (NCS) for South African schools has compelled teachers to a paradigm shift. This mind shift from a teacher-centred approach towards a dynamic and active learner-centred approach was stipulated in the new education policy framework (Department of Education (DoE) 2005). Within the NCS curriculum, but specifically in Economics, it is of critical importance that learners learn how to gather relevant information and to transform such information into marketable knowledge. In other words, the learner has to be enabled to identify problems and find solutions to these challenges by means of creative and innovative thinking in real-life situations (Closson 1993; Mackrory 1999; Spady 1994; Van der Horst and McDonald 1997; Van Wyk 2007). To ensure that the outcomes of Econom-

ics teaching are achieved, Economics teachers are compelled to consider different teaching strategies and methods. By pursuing these new strategies and methods, Economics teachers must now initiate teaching and learning environments effectively so that knowledge, skills and positive attitudes may be optimised among learners in their response to the socio-economic environment. A large variety of teaching strategies, methods and techniques are available, but this study focuses on different cooperative learning teaching techniques, which can be utilised to immense benefit in the teaching and learning situation (Anderson 1995; Borich 1996; De Bod 2000; Killen 1998; Steyn 1985). The researcher contends that Economics teachers should strive to present their subject in ways that are meaningful and learner-centred. If this can be achieved, learners are engaged effectively in the subject, and an interest in the learning content may be evoked. According to Van Wyk (2007) and Slavin (1994), the establishing of excellent modes of teaching, such as cooperative learning mentioned teaching techniques; the Economics teacher may create powerful and sustainable learning environments to accommodate and enable diverse learning styles in the subject. Although new trends in the teaching and learning process are available and known to teachers, the problem of translating these trends into practice in the Economics classrooms in Free State secondary schools remains (Van Wyk 2007). Participative teaching, an approach that emphasises maximum learners participa-

tion at all levels of the lessons, encourages teachers to explore trends that are more proactive. One of these ways in which participative teaching can be introduced in the Economics classroom is by using cooperative learning approach techniques and strategies which promotes participation (Van Wyk 2010; Slavin 1986).

This study investigates teachers' experiences with and the use of cooperative learning techniques in teaching Economics in Free State secondary schools. For the purpose of conducting this study, the following research question was formulated: What are Economics teachers' experiences with and to what extent do these teachers use cooperative learning techniques in the subject? The aim is to collect evidence from Economics teachers' views regarding their understanding, experiences and application of cooperative learning techniques in their respective classroom environments. Findings of this study highlighted that Economics teachers lack pedagogical content knowledge (PCK) pertaining to effective application of cooperative learning teaching techniques in teaching Economics. Emanating from this, strategies were formulated to empower and strengthening Economics teachers' capacity regarding the successful application of cooperative learning techniques in the classroom.

Teacher Efficacy Perspective

The literature explaining the effects of teaching efficacy on teaching performance is established on the grounds of the social cognitive theory (Bandura 1977). Bandura (1997) concluded that the evidence across studies is consistent in showing that "perceived self-efficacy" contributes significantly to level of motivation and performance accomplishments. Bandura (2000) embraced an integrated perspective for human performance in which social influences operate through psychological mechanisms. Teachers' own beliefs and convictions about their own performance have much influence on the actual performance (Magno 2005; Jinks and Morgan 1999). It was explained by Gibson and Dembo (1984) that teachers who believe student learning can be influenced by effective teaching (outcomes expectancy beliefs) and who also have confidence in their own teaching abilities (self-efficacy beliefs) would persist longer, provide a greater academic focus in the class-

room, and exhibit different types of feedback than teachers who have lower expectations concerning their ability to influence student learning. Enochs et al. (2000) were among those who contextualized self-efficacy for teaching. They explained that personal teaching efficacy has been defined as a belief in one's ability to teach effectively and teaching outcome expectancy as the belief that effective teaching will have a positive effect on student learning. Research on efficacy of teachers suggests that behaviors such as persistence on a task, risk taking, and use of innovations are related to degrees of efficacy (Ashton 1985; Ashton and Webb 1986; Ellet and Teddle 2003).

Emanating from the above, the place of cooperative learning as a teaching approach in Economics is discussed.

Cooperative Learning as a Teaching Approach

Cooperative learning is based on the belief that education should be learner-centered and learner-directed, that learners can be teachers and that the teacher is a guide and facilitator rather than the source of all knowledge and direction. Cooperative learning has the potential to make a positive contribution to the academic performance, social skills and self-image of learners. Teachers' own beliefs and convictions about their own performance have much influence on the actual performance (Magno 2005; Jinks and Morgan 1999). Sapon-Shevin and Schniedewind (1992: 32) hold the view that cooperative learning is necessary in any teaching-learning situation, because this particular strategy "...can foster educational excellence for all children regardless of race, class, or gender, and can provide students and teachers with the experience and expectations of active participation in controlling and changing the spheres of their lives". Adams and Hamm (1996:34) state that cooperative learning as a teaching strategy is one of the success stories in the transformation of education over the past decade. Their research has focused on the application of cooperative learning activities in the classroom where students jointly and creatively identify problems and generate practicable solutions.

Copley (1992: 56) mentioned that constructivism requires a teacher to act as a facilitator whose main function is to help learners be-

come active participants in their learning and make meaningful connections between prior knowledge, new knowledge, and the processes involved in learning. Cooperative learning is a very structured way of teaching. Economics teachers should therefore fully understand what it entails. When introducing it to learners for the first time, teachers will have to be very patient because the learners will experience it as something new and may react slowly. Economics teachers must believe clearly in the value of cooperative learning as an effective teaching method. Their teaching style must be adapted and be flexible even if it does not produce the required or expected results. Economics teachers must also bear in mind that cooperation is empowerment (Van Wyk 2007). Cooperative learning has the potential to make a positive contribution to the academic performance, social skills and self-image of learners. In the opinion of the researcher, cooperative learning techniques have the potential to, on the one hand, stimulate the development of thinking skills, and on the other, enhance social interaction necessary for cognitive growth and effective learning. The cooperative learning approach entails different teaching techniques such as Team Assisted Individualization (TAI), Team-Games-Tournaments (TGT), Jigsaw III, Cooperation Integrated Reading and Compassion (CIRC), Learning Together (TL), Student Teams-Achievement Division (STAD), Team Assisted Individualization (TAI), Academic Controversy (CAC) and Group Investigation (GI). Although research has identified cooperative learning as a constructive and viable teaching strategy, there are, however, certain disadvantages associated with this strategy. The disadvantages referred to in the literature are particularly applicable to the gifted child. Robinson (1990) alleges that too little research has been done on the effect of cooperative learning on the gifted child, and is of the opinion that cooperative learning may hold possible disadvantages for the gifted child.

RESEARCH METHODOLOGY

Research Design

An exploratory, descriptive, contextual research design, implementing a quantitative research method, was selected for the purpose of this study.

Sampling

Only Economics teachers were purposefully selected to participate in the research study in the FSDoE. Teachers were from Motheo, Xhariep, Fezile Dabi, Lejweleputswa and Thabo Mofutsanyane education districts of FSDoE. One hundred and forty eight teachers participated in this research study. This represents 74% of the Economics teacher population within the five districts of the Free State Department of Education (FSDoE).

Ethical Considerations

Before the researcher could begin with the study, consent was obtained from the FSDoE, secondary school principals and economics teachers. An official FSDoE letter was attached to the questionnaire explaining the purpose of the study. Further, the letter also highlighted the purpose of confidentiality to the all participants.

Reliability of the Research Instrument

A four point Likert scale questionnaire was designed, devised on the basis of an extensive study of the relevant literature, was distributed to 200 Economics teachers in Free State secondary schools and 74% (N=148) completed questionnaires returned. The items in the questionnaire were designed to collect information, and to determine use of the cooperative learning techniques in Economics teaching. The reliability of an instrument indicates the accuracy with which the sample represents the accuracy of the broader universe of responses (Cohen et al. 2003; Gray 2004). This, according to De Vos et al. (2005), depends on the accuracy and precision with which the measuring instrument measures. A statistical analysis tool, the Cronbach's alpha coefficient ($p < 0.7$) was used to measure of internal consistency of the items in the questionnaire (Huysamen 1993). Furthermore, Starborn (2006) mentions that Cronbach's alpha is an appropriate test to use to assess the internal consistency of scales that are computed from Likert items. Cronbach's alpha coefficient was calculated for question 1 "Experiences of cooperative learning techniques ($0.87 > p$) and question 2 "Application of cooperative teaching techniques ($0.95 > p$).

and 0.7% in the 31+ years range. According to table 6.1 the Fezile Dabi district showed the greatest majority (9.5%) of subject teaching experience of 30 years and more compared to other educational districts. The Motheo educational district showed the highest level of subject teaching experience with a response rate of 86.4% within the range of 1-10 years compared to the other districts. The mean score of 3.002 and the median score of 2.0 are respectively greater than and equal to the average of 2.0.

Academic Qualifications

The results reflected in Table 1 clearly that the majority (47.3%) of Economics teachers were qualified in Economics III, while 26.4% had Economics II, followed by 6.15% with Economics I and 12.8% with Grade 12 Economics. Only 6.8% of respondents were qualified at Honours level and 0.7% at Master's level in Economics. Respondents were generally well qualified for teaching the subject Economics within the FSDoE.

Professional Qualifications

The results reflected in Table 1 clearly indicate that the majority (33.1%) of Economics teachers were professionally qualified with a University Diploma in Education (UED). Furthermore 25.0% were qualified with a Post-graduate Certificate in Education (PGCE) or a Higher Education Diploma (HED). Only 16.2% of respondents were qualified with a Baccalaureus Educationis at Honours level, while

0.7% was in possession of a Master of Education qualification. The majority of Economics teachers were well qualified to teach the subject.

Economics Teachers' Experience with Cooperative Learning Techniques

Results are presented to the extent to which Economic teachers' exposed and their experiences in cooperative learning as a teaching strategy. Table 2 indicates the teachers' responses in this regard.

Based on the results obtained in Table 2, Economics teachers' experience with cooperative learning techniques showed that "*participated in an after-school in-service workshop on cooperative learning*", "*took a credit course at a higher learning institute*" and "*read an article on cooperative learning*" were statistically significant. This indicated that these teachers' experiences in cooperative learning techniques will enhance their teaching in Economics and will contribute to the achievement of the learning outcomes in the subject. Respondents also indicated that they had participated in an *after-school in-service workshop on cooperative learning*, and attending an *educational district teachers' seminar day*, while attended a *non-governmental organization (NGO) workshops on the application cooperative learning*. Further, respondents (44.6%) indicated that they had never *discussed any cooperative learning techniques with other teachers* or tried some of *their ideas of cooperative learning in the Economics classroom*. Lastly, respondents

Table 2: Economics teachers' experience with cooperative learning techniques

(N=148)	χ^2 value	p-value	Not at all		Small extent		Large extent		Very large extent	
			f	%	f	%	f	%	f	%
			Discussed cooperative learning with other teachers and tried some of their ideas in the classroom	6.457	.374	66	44.6	40	27.0	34
Participated in an after-school in-service workshop on cooperative learning	12.809	.012*	25	16.3	28	18.9	56	37.8	39	26.4
Participated in a district teachers' seminar day	3.416	.878	21	14.2	30	20.3	58	39.2	39	26.4
Took a credit course at a higher learning institute	5.373	.017*	40	27.0	32	21.6	37	25.0	39	26.4
Attended an NGO workshop on cooperative learning	5.489	.704	42	28.4	45	30.4	31	20.9	30	20.4
Read an article on cooperative learning	4.111	.002*	63	40.8	37	25.0	34	23.0	14	10.2

*The difference is statistically significant if $P < 0.05$

Table 3: Application of cooperative learning techniques in teaching economics

(N=148)	χ^2 value	p-value	Not at all		Small extent		Large extent		Very large extent	
			f	%	f	%	f	%	f	%
			Small-group work	7.336	.591	71	48.7	47	31.1	28
Jigsaw III	8.755	.031*	111	75.7	32	21.6	6	4.1	1	.7
Group investigation	2.339	.886	80	54.1	32	21.4	22	14.9	14	9.5
Economic quiz bowl	75.270	.000*	72	49.1	50	21.4	25	16.3	1	.7
Research project	4.187	.651	87	58.8	28	18.9	17	11.5	16	10.8
Teams Games Tournaments (TGT)	8.531	.021	91	61.5	32	21.6	17	11.5	8	5.4
Simulation	5.430	.490	78	52.7	38	25.7	38	25.7	32	21.6
Role-playing	4.101	.667	88	59.5	35	23.6	20	13.5	5	3.5

δ The difference is statistically significant if P < 0.05

(40.8%) indicated that they had *never read an article on cooperative learning*.

Economics Teachers’ Application of Cooperative Learning Techniques

The reason for asking question 2 was to determine the extent to which the Economics teachers were using cooperative learning techniques to achieve the learning outcomes for the subject. Table 3 and Figure 1 reflect the teachers’ responses in this regard.

Based on the results in Table 3, CL techniques such as Teams Games Tournament, Role play, Jigsaw III and Economic quiz bowls were statistically significant because it impacts on Eco-

nomics teachers’ application to achieve the learning outcomes for the subject.

According to Figure 1 the majority of respondents (89%) indicated that they were not at all applying any of Jigsaw III (76%), Teams-Games-Tournaments (62%), Role-playing (60%), Research project (59%), Group investigations (54%), Simulation (53%), Small-group work (49%) or Economic quiz bowl (49%). Further respondents indicated that only Economics quiz bowls (34%) and Small-group work (31%) were being used in teaching Economics.

DISCUSSION

The findings of this study revealed that only 34.4% of Economics teachers were exposed to

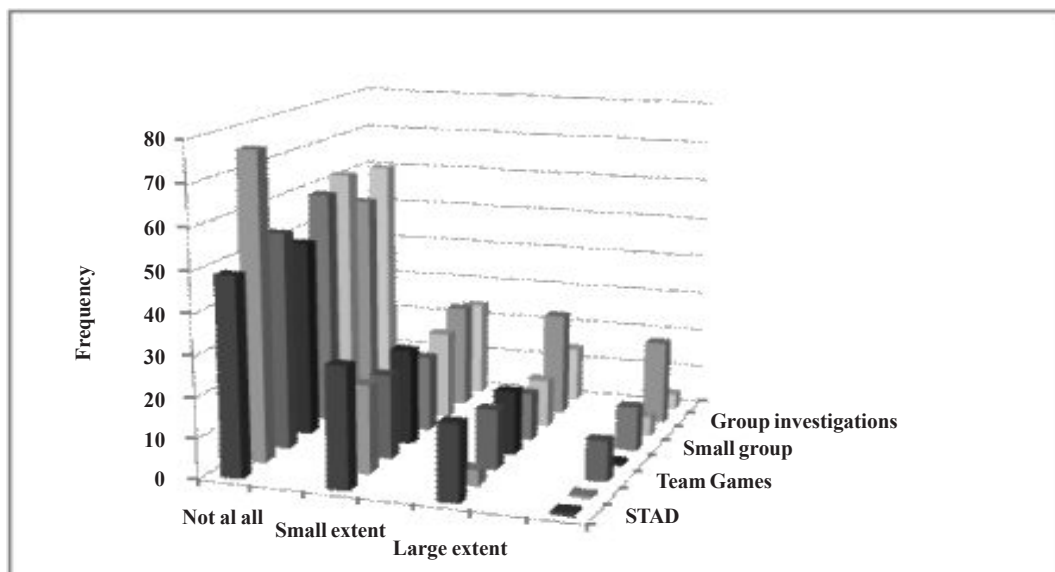


Fig. 1. Application of cooperative learning technique, Mean: 2.67 Median: 2.00

cooperative learning techniques and 30.4% respondents indicated that they have been using cooperative learning techniques to a small extent in teaching Economics. The researcher contends that an investigation into the experiences and application of cooperative learning techniques was necessary and relevant especially in Economics education in Free State high schools in South Africa. Research studies in Economics education showed that limited exposure regarding the use of cooperative learning techniques exists. The results also offer support for previous findings of similar research studies that investigated by Bossert (1989) and Van Wyk (2010) regarding cooperative activities in the classroom. The researchers of these particular studies reported that cooperative learning techniques such as TGT, STAD and Jigsaw II promotes positive interpersonal relations, motivation to learn and enhancing self-esteem among learners. Emerging from Van Wyk's (2007) and Motsitsi (2001) research studies conducted on cooperative learning techniques, substantiate the importance that Economics teachers in the Free State must be re-skilled and trained in cooperative learning strategies to be effective learning mediators to achieve the learning outcomes for NCS Economics. Moreover, Millis (2001), as well as Motsitsi (2001) and Johnson et al. (1998) conducted similar research studies by investigating teachers used and thought of cooperative learning and compared their use with prevalence and the relation between research and practice. The results of this investigation showed that there was significant differences in the experiences of Economic teachers and their used of cooperative learning techniques in Free State secondary schools as to latter report. The results of this study imply that, Economics teachers must be exposed through in-service training seminars in the application of cooperative learning techniques. Results with regard to question one showed that respondents indicated that they had never discussed cooperative learning (62.7%) with other teachers or tried some of their ideas in the classroom. Only twenty-two percent of teachers used simulations and research projects (34.7%) in their respective classrooms. White (1993) reported on the implementation of a simulated market strategy in an Agricultural Economics course. The findings of this particular study revealed that through simulations several problems can be overcome by in-

roducing simulated markets to students because of the consequences of real-world decision making. Furthermore, respondents were extremely positive that STAD (88%), Jigsaw III (80.5%), Teams-Games-Tournaments (72.6%), and Team-support groups (67.3%) would definitely enhance the achievement of learning outcomes in Economics (Sharan 1994; Shash 2004).

CONCLUSION

Research studies in Economics education showed that limited exposure regarding the use of cooperative learning techniques exists. The current interest in cooperative learning arises particularly from the acknowledgement and acceptance that the traditional learning environments that focus on competition are unable to achieve the outcomes set by cooperative learning as a teaching strategy. This exploratory study investigates Economics teachers' experiences with and the application of cooperative learning techniques in Free State secondary schools. It can be concluded that 65.6% of Economics teachers were not exposed to cooperative learning techniques while only 30.4% respondents indicated that they have been using cooperative learning techniques in teaching Economics in their respective classrooms. These findings have serious pedagogical implications regarding the quality of teaching and learning in Economics education which may negatively impact on learner performance in the Free State province. The researcher contends that the cooperative learning techniques have the potential to stimulate the development of learners thinking skills and on the other, enhance social interaction necessary for cognitive growth and enhance self regulated learning.

RECOMMENDATIONS

The results of the study indicated "strengths and challenges" regarding the use of CL techniques by Economics teachers. Strategies were recommended to empower Economics teachers in the successful application of cooperative learning techniques in the classroom.

• Accreditation for Professional Development Points (PDP's)

Findings revealed that the teachers who did not have sufficient in-service training and were

exposed to the application of cooperative learning techniques in Economics education in Free State secondary schools will definitely have a negative impact on the teaching and learning of the subject. This had certain implications and possibilities for specific recommendations for the current and future teacher training programs in provincial departments of education. The duration and notional hours spent on particular in-service training workshops for teacher competency. If these in-service training workshops exceed eighty hours of training, which is an equivalent to an eight (8) credit module for first year university level 6 course. The researcher therefore recommended that full accreditation for the teachers in-service training program in cooperative learning techniques be endorsed by the Department of Education as part of professional development points (PDP's) for career pathing.

• In-service Training Workshops on Cooperative Learning Techniques

It is recommended that CEE alumni and FSDoE learning area facilitators in respective educational districts must plan and organise training workshops. At these different workshops, Economics teachers must be empowered in the use of cooperative learning techniques in a practical way. Practical lessons demonstrations on how to plan and implement the cooperative learning techniques in teaching Economics at classroom level being structured. Emanating from these district meetings, a practical cooperative learning techniques guide being designed to beginner and inexperienced Economics teachers. It is further recommended that in-service training workshops being planned, organised and executed on Teams-Games-Tournaments; Student Teams Achievement Divisions and Jigsaw III in educational districts.

• Practical Demonstrations and Monitoring of Best Practices

It is recommended that learning facilitators must monitor and report on the progress of the use of cooperative learning techniques by Economics teachers in their respective districts. Teachers must be trained in their respective districts on setting of cooperative learning out-

comes before implementation of lesson plans. Teachers must also be supported in the planning and demonstrations of best practices in their respective classrooms on these techniques. Beginner teachers should be invited to these cluster meetings on how to promote and accommodate different learners' learning styles to increase academic achievement in the subject.

• Mentoring, Coaching and Support Teams to Empower Beginner Economics Teachers

It is recommended that champion teachers in respective education districts started mentoring, coaching and support teams for inexperienced teachers. The purpose of these teams are to establish district or cluster networks between experienced teachers and beginner teachers in the use of teaching methods and cooperative learning techniques. Cluster school networks being established on effective classroom management practices and strategies for beginner teachers. It further proposed to establish social networks for mentoring, coaching and supporting per district for inexperienced and beginner teachers. Furthermore, specific discussion groups being formed and implemented for Economics teachers who struggle with challenging learners. These discussion groups must coach and support inexperienced teachers on how to empower learners in developing effective communication skills and enhancing positive race relations in their respective schools.

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