© Kamla-Raj 2010 J Soc Sci, 24(2): 111-119 (2010) PRINT: ISSN 0971-8923 ONLINE: ISSN 2456-6756 DOI: 10.31901/24566756.2010/24.02.05 The Selection of Didactic Principles by Teachers in the Field of Economics: An Exploratory Factor Analysis

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KEYWORDS Exploratory Factor Analysis (EFA). Principal Component Analysis (PCA). Kaiser-Meyer-Olkin (KMO). Didactic Principles. Economics

ABSTRACT The overarching purpose of every lesson is the planning of a teaching-learning situation. These planned lesson outcomes can be achieved in the most purposeful manner possible if teachers are familiar with the didactic principles. To be able to make a responsible choice in respect of the teaching strategies, the teacher should have a sound knowledge of the didactic principles that apply to the teaching of a school subject. This study investigates the selection of didactic principles by teachers in the field of Economics in Free State secondary schools. Data were factor-analysed using a Kaiser-Meyer-Olkin (KMO) for sampling-adequacy and a Principal Component Analysis (PCA) for varimax rotation. Four factors emerged from the analyses, namely: learner *centredness, classroom management, problem solving* and *assessment*. These didactic principles were discussed by using exploratory factor analyses in the context of teaching and learning in Economics.

INTRODUCTION

Copley (1992: 56) mentions that constructivism requires a teacher to act as a facilitator "whose main function is to help learners become active participants in their learning and make meaningful connections between prior knowledge, new knowledge, and the processes involved in learning". To achieve the afore-mentioned objectives, the Economics teacher is required to create a teaching-learning situation in which learners will be able to master critical and developmental outcomes (i.e. high levels of knowledge, skills and positive attitudes in the domain). Within the National Curriculum Statements (NCS) curriculum for South African schools and specifically in Economics education, it is of vital importance that learners learn how to obtain relevant information and transform such information into knowledge, skills and values (NDE 2003). In other words, the learner has to be enabled to identify problems and find solutions to these problems by means of creative and innovative thinking in real-life situations. To ensure that the outcomes of Economics teaching are achieved. Economics teachers will be compelled to consider different teaching strategies and methods. Pursuing these new strategies and methods, Economics teachers will be enabled to initiate teaching and learning effectively so that knowledge, skills and positive attitudes may be optimised among learners in their response to the economic environment (Van Wyk 2007). Deng (2007) conducted a study on school subjects and academic disciplines in the discourse on teachers' specialised subject-matter knowledge. The study analyses and critiques the curricular positions embedded in five possible relationships between school subjects and academic disciplines. The author argues that the subject matter of a secondary school science subject instead of the subject matter of its parent academic discipline lies at the heart of secondary school science teachers' specialised subject-matter knowledge. Judging from the literature review which deals with universally valid didactic principles, it appears that several classifications of the most important didactic principles exist (Law et al. 2007; Butler 1996). Becker and Watts (1998), for instance, drew up a classification based on the foundations arising from the principles, namely the philosophical, psychological, sociological and educational foundations. However, the various principles are closely related and a discussion of any one of the principles therefore, also encompasses one or more of the others. According to Duminy et al. (1990) and Niemeijer et al. (2006), didactic principles are universal in nature in the sense that they can be found in all teaching-learning situations, in all subjects, and at all levels of teaching. Moreover, a study of teaching practices employed by Hong Kong academics with specific expertise in education supports the applicability of western concep-tualisations generated through multi-disciplinary studies. The study focused on academics' practices which are aligned with 'good teaching' and highlights factors not often noted in previous studies, namely the conscious application of educational theory and the role of professional commitment and passion in good teaching (Law et al. 2007). Consequently, the didactic principles are not studied in terms of a classifying framework, but rather, each principle that is important in the teaching of Economics is studied individually (Beautement et al. 2005).

In summation, from the literature review of the didactic principles applicable to the teaching of Economics, it would appear that the teaching of Economics must take place purposefully and in totality in an illustrative manner. The mutual differences of learners should be taken into consideration, as well as taking cognisance of the social nature of the learners when deciding on didactic principles. Learners should be guided to achieve the specified outcomes by means of selfactivity and motivation. Through assessment, mother-tongue teaching where possible, and the diagnosis and remediation of learning problems, optimal learning should take place in the classroom. Consequently, the didactic principles are not studied in terms of a classifying framework, but rather, each principle that is important in the teaching of Economics is studied individually. Simultaneously, the demands that each principle makes on the teaching of Economics is also discussed. These principles are important as a means to meet the demands and needs of the community. Economics teachers should provide clear guidelines for interaction with learners. They should therefore structure well-designed discussion assignments which facilitate meaningful cooperation among learners, thereby encouraging active participative teaching and learning. Economics teachers need to provide two types of feedback: information feedback and acknowledgment feedback. They should also facilitate effective communication in order to meet the high expectations of their learners, as well as acknowledging learners' diverse talents and ways of learning (Jacobs et al. 2007; Van Wyk 2007; Banks et al. 2005).

The Purpose of the Study

The purpose of this study is to investigate the application of an exploratory factor analysis (EFA) in order to determine the underlying and common factors of respondents' responses which influence the selection of didactic principles for teaching purposes in the Economics classroom.

Research Question

What are the underlying and common factors in respondents' responses that may influence their choice of didactic principles in the Economics classroom in Free State secondary schools?

METHODOLOGY

Sampling

Only Economics teachers were purposefully selected to participate in the research study in the Free State Department of Education (FSDoE), South Africa. Teachers from Motheo, Xhariep, Fezile Dabi, Lejweleputswa and Thabo Mofutsanyane education districts of the FSDoE participated in the study. One hundred and forty-eight (N=148) teachers participated in this research study. This represents 64.8% of the Economics teacher population (N=229 schools that offer Economics as a school subject) within the five districts of the FSDoE.

Research Instrument

The researcher undertook an empirical investigation by employing a quantitative method of research. A structured Economics teaching questionnaire, 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) of the completed questionnaires were returned. The questionnaire was based on a 4-point Likert scale aimed at determining the factor structure of the responses relating to the teaching principles of Economics teachers in Free State secondary schools (Starborn 2006). To ensure that the 200 Economics teachers were representative of the Free State, the researcher drew a random sample of respondents. According to the guidelines on sample size, as stipulated by Sekaran (see Alexander 2004), at least 132 (66%) of the 200 questionnaires would have had to be returned to meet the validity requirement for the investigation.

Rationale for Using the EFA Statistical Technique

This study meets the recommendations in the

literature for the number of variables and sample size, since it has an item: factor ratio of at least 1:5 and a sample size of 148. In addition, our analysis revealed the communalities to be at an average of 0.6, with at least three variables per factor. Although a larger sample size may have been optimal, the number of factors in this study should be sufficient to produce reliable results. Exploratory factor analysis (EFA) was selected because it does not impose a specific pattern on the data in an a priori manner. Instead, it provides an opportunity to identify a factor's inclusion substantially. EFA was warranted in this study as no previous research has examined the factor structure of didactic principles in teaching Economics at school level in the FSDoE in South Africa. The EFA was conducted to identify and interpret the underlying and common factors of respondents' reasons that influence the selection of didactic principles in the teaching of Economics. Gorsuch (1997) and Alder and Lindsay (2007) mention that EFA explains the variation in the observed variables in terms of the underlying latent factors. The first step required to perform a factor analysis is to determine whether it is actually necessary to perform a factor analysis on the data. This is done by testing the adequacy with which the data can be sampled. Firstly, the measuring of sampling adequacy, involving determining the suitability of individual variables for use in the factor analysis, was evaluated using the Kaiser-Meyer-Olkin (KMO) (Berghaus 2005). Secondly, a principle component analysis (PCA) was performed using SSPS statistical package analysis on 21 variables on the respondents' choices regarding the selection of didactic principles in teaching Economics (Ford and Kent 2010; Law et al. 2007; Niemeijer et al. 2006; Cohen et al. 2003; Leedy and Ormod 2001).

RESULTS

Firstly, the researcher aimed to investigate the application of an exploratory factor analysis (EFA) in order to determine the underlying and common factors of respondents' responses which influence the selection of didactic principles for teaching purposes in the Economics classroom.

The responses from the biographical data showed that the majority (58.8%) of Economics teachers were women, with the largest occurrence in the Motheo educational district (74.6%). Male respondents comprised 41.2% of Economics teachers in all five educational districts of the FSDoE. The average age of participants was 31 years (range: 22-56). The majority of the respondents (50.6%) had more than 10 years of professional teaching experience, with the Fezile Dabi district reflecting the highest percentage teaching experience of 61.9%. The majority of respondents (70%) fell within the group range of 1-10 years of subject teaching experience, implying that the majority of Economics teachers had 10 years of subject teaching experience. A second group of respondents (20.9%) fell into the 11-20 years range, followed by 3.4% in the 21-30 years range and 0.7% in the 31+ years' range. The average teaching experience in the subject Economics was 12 years (range: 9-32).

Internal Consistency of the Economics Teaching Questionnaire

Cronbach's alpha, computed to test for internal consistency, was á = .89, indicating a strong convergence of the 21 items. All of the items had an item-to-total correlation of r > 0.43, and all of the correlations were significant at the .001 level (see Table 1). Items were also shown to correlate moderately with one another, with every item having a correlation of r >.40 with the other items. The suitability of the KMO for individual variables for use in the factor analysis is aimed at measuring the sampling adequacy of 21 items in the questionnaire. A KMO-value which is greater than 0.5, indicates that the variable is significant at that level. The KMO-values relating to the importance of didactic principles for teaching Economics that were included in the factor analysis, are presented in table 1 (this KMO value scale was used: 0.90 to 1.00 = marvellous or 0.80to 0.89 = meritorious or 0.70 to 0.79 = middling or 0.60 to 0.69 = mediocre or 0.50 to 0.59 = miserable and 0.000 to .0.49 = do not factor).

Based on the data obtained in table 1, it is clear that nine of the variables scored a KMOvalue that is well over 0.5 with the lowest being 0.73 = middling, the principle of activity. The KMO-value scores of variables, principle of totality ($0.98^{**} =$ marvellous); principle of creditability ($0.94^{**} =$ marvellous); principle of learner centredness ($0.93^{**} =$ marvellous); principle of critical thinking and creativity ($0.91^{**} =$ marvellous) and principle of progression (0.90^{**} marvellous) were well over the 0.5 level and this indicates that the data qualify as *marvellous and highly significant* when measuring the

Table 1: Results of Kaiser-Meyer-Olkin measure of sampling adequacy

| Variable | Kaiser-Meyer-Olkin-values | | |
|--------------------------------|---------------------------|--|--|
| Principle of suitability | 0.37 | | |
| Principle of totality | 0.98** | | |
| Principle of motivation | 0.41 | | |
| Principle of assessment | 0.89** | | |
| Principle of socialisation | 0.36 | | |
| Principle of activity | 0.73** | | |
| Principle of individuality | 0.27 | | |
| Principle of clarity | 0.17 | | |
| Principle of equity | 0.14 | | |
| Principle of creditability | 0.94** | | |
| Principle of adaptability | 0.40 | | |
| Principle of learner centredr | ness 0.93** | | |
| Principle of remedial | 0.43 | | |
| Principle of planning | 0.42 | | |
| Principle of mother-tongue | instruction 0.37 | | |
| Principle of relevance | 0.36 | | |
| Principle of differentiation | 0.87** | | |
| Principle of human-resource | e development 0.14 | | |
| Principle of clear focus | 0.41 | | |
| Principle of integration | 0.89** | | |
| Principle of progression | 0.90** | | |
| Principle of nation building | and 0.44 | | |
| non-discrimination | | | |
| Principle of critical thinking | g and creativity 0.91** | | |

**KMO > 0.5 of a factor analysis is significant

importance of didactic principles for Economics. In conclusion, the KMO sampling adequacy measurement of the nine variables is *marvellous* to *meritorious* (ranging from 0.90 to 0.98) and the factor analysis is thus appropriate for this study.

Principal Component Analysis (PCA)

As a statistical technique, a PCA was conducted to determine the number of factors that should be included in the factor analysis (Cohen et al. 2003). Research showed that PCA is used abundantly in all forms of analysis - from neuroscience to computer graphics - because it is a simple, non-parametric method of extracting relevant information from confusing data sets. With minimal additional effort, PCA provides a roadmap for the reduction of a complex data set to a lower dimension to reveal the sometimes hidden, simplified structure that often underlies it (Shlens 2005). The Eigen-value criteria were used to determine the number of factors that have to be specified in the factor analysis. Using the Eigen-value criteria, an Eigen-value of 1 was used as the cut-off value. Based on the data obtained, five principle components had Eigen-values greater than 1 and explained 62.36 percent of the variance in all the respondents' choices regarding didactic principles in teaching Economics. These principle components were: the principle of learner centeredness (4.026); the principle of critical thinking and creativity (3.086); the principle of assessment (2.530); the principle of creditability (2.440) and the principle of progression (2.261).

Based on data obtained in table 2, four factors met the KMO retention of Eigen-values greater than 1.00. The first factor is identified as Learner centredness which accounted for 68.5% of the variance. This first factor included six variables (Learner centredness; Clear focus, Critical thinking and creativity, Remedial, Progression, Equity, Nation building and non-discrimination, Assessment and Socialisation), accounting for 49% of the variance in the model (Eigen-value = 7.44). This factor was clustered as Classroom management practice. This second factor included five variables (Planning, Suitability, Totality, Adaptability, Human resource development) in the area of important didactic principles for Economics, accounting for 13% of the variance in the model (Eigen-value = 2.41). The third factor also included four items (Critical thinking and creativity, Differentiation, Individuality, Activity), accounting for 5% of the variance (Eigen-value = 1.45) and was clustered as Problem solving. The final factor consisted of six variables (Progression, Integration, Relevance, Creditability, Assessment, Motivation), counting as 62% of the variance (Eigen-value = 6.35) and was clustered as Assessment. The item critical thinking and creativity appeared to be factorially complex as it loaded on both factors, Learner centeredness (r = (0.61) and Problem solving (r = 0.72). However, it was maintained on the Problem solving factor because of a similar retention of the variable (critical thinking and creativity > p). Another two items, assessment and progression appeared also to be factorially complex as they loaded on both Learner centredness (r = 0.61) and Assessment (r= 0.69). However, the items were maintained on the Assessment factor. The alpha coefficients for all four factors, Learner centredness (0.98**), Assessment (0.95**), Problem solving (.087**) and Classroom management practice (0.82**) were found to be acceptable respectively.

DISCUSSION

The sampling is limited to only one hundred and forty-eight Economics teachers. These

| Variables | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|---|----------|----------|----------|----------|
| Principle of suitability | 0.21 | 0.67** | 0.21 | 0.34 |
| Principle of totality | 0.39 | 0.88** | 0.32 | 0.47 |
| Principle of motivation | 0.21 | 0.31 | 0.45 | 0.75** |
| Principle of assessment | 0.83** | 0.28 | 0.38 | 0.95** |
| Principle of socialisation | 0.84** | 0.30 | 0.23 | 0.23 |
| Principle of activity | 0.34 | 0.38 | 0.82** | 0.48 |
| Principle of individuality | 0.30 | 0.32 | 0.72** | 0.27 |
| Principle of clarity | 0.43 | 0.32 | 0.15 | 0.41 |
| Principle of equity | 0.54** | 0.33 | 0.21 | 0.21 |
| Principle of creditability | 0.32 | 0.43 | 0.32 | 0.78** |
| Principle of adaptability | 0.48 | 0.76** | 0.23 | 0.23 |
| Principle of learner centredness | 0.98** | 0.26 | 0.30 | 0.38 |
| Principle of remedial | 0.52** | 0.19 | 0.18 | 0.34 |
| Principle of planning | 0.39 | 0.83** | 0.42 | 0.32 |
| Principle of mother-tongue instruction | 0.30 | 0.22 | 0.23 | 0.23 |
| Principle of relevance | 0.34 | 0.32 | 0.32 | 0.67** |
| Principle of differentiation | 0.42 | 0.34 | 0.54** | 0.42 |
| Principle of human-resource development | 0.21 | 0.87** | 0.33 | 0.23 |
| Principle of clear focus | 0.73** | 0.23 | 0.34 | 0.34 |
| Principle of integration | 0.34 | 0.23 | 0.34 | 0.81** |
| Principle of progression | 0.83** | 0.47 | 0.32 | 0.87** |
| Principle of nation building and non-discrimination | n 0.84** | 0.19 | 0.32 | 0.26 |
| Principle of critical thinking and creativity | 0.75** | 0.21 | 0.81** | 0.39 |

Table 2: Principal-Component Analysis using Varimax rotation with KMO.

**KMO > 0.5 of a factor analysis is significant

teachers were purposefully selected to participate in the research study and were teaching in public secondary schools in the Free State Department of Education (FSDoE), South Africa. Thus, any generalisations drawn from this study should be considered with caution. The results of this study are encouraging and add to the body of information of other research studies in this regard (Ford and Kent 2010; Mayes 2008; Costello and Osborne 2005; Holfve-Sabel and Gustafsson 2005; Chan 2004). Furthermore, the findings here were rather similar to those of Mitry (2008), McWilliam and Dawson (2008) and Niemeijer et al. (2006). Mitry (2008) performed experiments to test the impact of a teaching approach that explicitly includes cultural-diversity measurements in classroom discussions and statistically tested student-learning outcomes using this approach. The findings support the contention that a valuable opportunity exists to enhance traditional teaching approaches by introducing measures of cultural diversity. The author concludes with analytical comments and suggestions for further research. Moreover, McWilliam and Dawson's (2008) study reveal the principles for sustaining a replicable pedagogical environment for creative learning outcomes. In summary, they underline the importance of learning environments in which apparently contrary imperatives exist for evoking optimal creative outcomes, imperatives that coexist despite their apparent incommensurability. This pedagogical imperative has resonances with what Richard Greene (2001) identifies as a "paradox balancing model" of creativity, in that it is characterised by the "combining of opposites" (p. 12) that is typical of an ironic or paradoxical view of the world (Rorty 1989). Similarly, research studies on pedagogical principles in the classroom were conducted by Laborde and Perrin-Glorian (2005). The authors compiled thirty-four empirical studies on the role, responsibilities and teaching practice of the teacher and gathered contributions that share the same sentiments as the previous authors. Emanating from the above, it is clear that pedagogical principles employed by teachers in the classroom are important to enhance and promote good teaching.

The researcher contends that an EFA was an appropriate statistical technique utilised in exploring a set of data for this particular study. The results also corroborate previous findings of similar research studies that applied an EFA research design. Similarly, Castello and Osborne (2005) mention and underscore best practices in EFA in their research study and make recommendations for getting the most from one's data analysis, which is aligned through the pertinence of this specific analysis pertaining to the

selection of didactic principles in teaching Economics in secondary schools in the Free State province. Another study done by Holfve-Sabel and Gustafsson (2005) pertaining to learners' responses in a Grade 6 class to school, teachers, and classmates analysed the structures of students' attitudes towards different aspects of school and schooling. Furthermore, a recent study was conducted by Alder and Lindsay (2007) on the prevalence and consequences of anger and aggression in people with intellectual disability (ID). Their study evaluates the Dundee Provocation Inventory (DPI), a 20-item assessment measure for anger provocation. A sampling of 114 participants were administered the DPI and 62 of these were also administered the Novaco Anger Scale (NAS) and the NAS Provocation Inventory (NAS-PI), two well-validated measures. Results revealed that the DPI correlated significantly with the NAS (r = .57) and NAS-PI (r=.77). The DPI had a high internal consistency (á = .91) and moderate to high inter-item and itemto-total score correlations. Factor analysis revealed a 5-factor solution which accounted for 63% of the variance and was most easily interpreted.

Similarly, Hudson (2007) conducted a confirmatory factor analysis on five identified factors on mentoring: personal attributes, system requirements, pedagogical knowledge, modelling and feedback. An original, literature-based survey instrument which gathered 446 pre-service teachers' perceptions of their mentoring for primary teaching was employed in the study. Data were analysed within the above-mentioned five factors with 331 final-year pre-service teachers from nine Australian universities responding to their mentoring for science teaching and 115 finalyear pre-service teachers from an urban university responding to their mentoring for mathematics teaching. The results indicated similar Cronbach alpha scores on each of the five factors for primary science and mathematics teaching; however, percentages and mean scores on attributes and practices aligned with each factor were considerably higher for mentoring mathematics teaching compared with science teaching.

Emanating from the above empirical studies, the findings of this study showed that four important factors emerged from the exploratory factor analysis regarding the underlying and common factors of respondents' responses that influence their choice of didactic principles in the Economics classroom in Free State secondary schools. Learner centredness was the most important factor to emerge from the data. This factor, according to Economics teachers, is an important component in their teaching and learning practices because learners are important in the didactical situation. Further research studies on EFA were used in a variety of applications, which included the development of an instrument for school evaluation (Lovett et al. 2002). Another study assessed the motivation of Puerto Rican high school principals (Morris 2001) which supports the conclusions emanating from this particular study. In 2005 a survey was conducted which yielded over 1700 studies that used some form of EFA (Costello and Osborne 2005; Majors and Sedlack 2001). Considering the application of EFA in the above-mentioned research studies, it is clear that for the purposes of this study, the focus on teachers' choices regarding the selection of didactic principles in teaching Economics in Free State secondary schools was substantiated and applicable to the performance of factor analysis. Assessment was the second most important factor that emerged from the data. Respondents reported that, by and large they believed that in their experience, the Assessment factor remains an important tool for learner progression, motivation, integration, relevance and creditability of their teaching in the field of Economics. This factor comprised six variables, namely progression, integration, relevance, creditability, and motivation and counted as 62% of the variance (Eigen-value = 6.35). The effectiveness and success of learning can only be determined through valid, transparent, reliable and applicable assessment tools. The Economics teacher should have a clear image of what he/she wishes to determine by means of assessment. Secondly, the Economics teacher should realise that the specified outcomes will eventually determine the assessment instrument. Thirdly, assessment is not an isolated part of teaching and learning, but rather functions as an integrated and integral component of teaching and learning so that optimal learning can take place. Fourthly, assessment is more than mere proof that the learner can repeat memorised facts. Lastly, the learner should demonstrate that he/ she has mastered the Economics subject matter and can use it with the necessary skill in new situations. In a doctoral study undertaken by Kurian (2005) on the management strategies

required to improve the academic performance of previously disadvantaged secondary schools in the grade 12 examination, he also used an empirical investigation statistical tool, a factor analysis technique. The research focuses however, on the roles and responsibilities of school management teams (SMTs) pertaining to the support given to teachers in grade 12. Problem solving was the third factor to emerge from the data. This factor had four items: critical thinking and creativity, differentiation, individuality and activity and accounted for 5% of the variance (Eigen-value = 1.45). Pertaining to the Economics teacher, this means that the subject matter should be viewed and presented in such a way that the greater portion thereof and the implications of the subsections for the greater whole can be realised. The analytical skills of learners should be developed by means of problem setting, where learners should think of creative solutions to relieve aspects such as scarcity of natural resources. Classroom management practice was the fourth and final factor to emerge from the data, in which five items viz. planning, suitability, totality, adaptability and human resource development were loaded. This factor was indicated as one of the most important didactic principles for teaching Economics and accounted for 13% of the variance (Eigen-value = 2.41). Classroom management practice is also very important for the purposes of effective teaching. This demands careful planning, organising and monitoring of the teacher's teaching activities. At the start of the academic year, the objectives (and the eventual learning outcomes) pursued within the NCS policy for Economics teaching (i.e. the course outcomes, e.g. for grade 12) should be made available to the learner. Furthermore, learners should be provided with the NCS Economics subject framework, including learning outcomes (LOs) and assessment standards (ASs) and a full timetable. Factors which influence teachers' choice of didactic principles in teaching Economics emerged from the factor analysis. These four factors are critical and of vital importance to the Economics teacher. They should create a teaching-learning situation in which learners will be able to master critical and developmental outcomes (i.e. high levels of knowledge, skills and positive attitudes in the domain). Within the National Curriculum Statements (NCS) curriculum and specifically in the context of Economics education, it is of critical importance that learners learn how to obtain

relevant information and transform such information into knowledge, skills and values (Ford and Kent 2010; NDE 2003). The four factors that emerged from the data obtained, indicated by teachers' selection of didactic principles in teaching Economics, may contribute to the following objectives:

- To help teachers form a clear image of the learning they want their learners to be able to demonstrate;
- To remind teachers that the success of learning is the most important priority of planning, teaching and assessment;
- To create a clear image of the desired outcome, the starting point of the curriculum, as well as teaching and assessment; and
- To enable teachers to clearly communicate the desired outcome to learners by presenting and explaining the desired outcome to learners as soon as a lesson unit commences and to do so continually (Van Wyk 2007).

In summation, the exploratory factor analysis for this study revealed a 4-factor solution: *learner centredness, classroom management, problem solving* and *assessment*, which accounted for 69% of the variance and was most easily interpreted.

Future investigations intend to pursue reporting involving exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) in order to examine the relationships between teaching styles and learning style variables and specific outcomes for Economics teaching.

CONCLUSION

The results of this study are encouraging and suggest that the EFA is a valid and reliable measure of teachers' choices regarding the importance of didactic principles for the effective teaching of Economics in Free State secondary schools. The actual data survey items and results were useful as meaningful forms of data analysis for this study. The application of an exploratory factor analysis reported a 4-factor solution, namely learner centredness, classroom management, problem solving and assessment, which accounted for 69% of the variance and was most easily interpreted. The findings of the study revealed the application of an EFA of the underlying and common factors of respondents' responses that may influence their choice of didactic principles in the Economics classroom. In conclusion, the application of KMO sampling-adequacy measurement of the nine variables range from 'meritorious to marvellous' and the exploratory factor analysis is appropriate for this study.

In summation, the common factors that emerged from this research were learner centredness, classroom management, problem solving and assessment which respondents indicated as important and critical in achieving the learning outcomes for Economics teaching. It is important to note a limitation of this study. In the light of the above, I believe that it is important to conduct a study for a longer period of time in order to be able to determine the influence teachers' choice of didactic principles in the Economics classroom regarding academic performance, retention and attitudes of learners pertaining to the 3 factors identified in this study. In addition, the same questions might be used for confirmatory factor analysis in order to achieve a better comparison between different grades in the FSDoE. Additionally, such a study may be conducted using larger sample groups and schools in the other eight provinces in South Africa with different socio-economical levels.

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