

Evaluation of the effectiveness of the competences of the NPDE programme

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In this study the effectiveness of the NPDE programme with regard to its competences was investigated. To this end, the National Professional Diploma in Education Effectiveness Scale (NPDEES) and Evaluation Form (EF) were used. The findings indicated that educators differ significantly in the extent to which they regard the NPDE programme to be helping them to achieve the expected competences. The findings also indicated that components 2 and 1 of the exit level outcomes are significant predictors of the effectiveness of the NPDE programme. The findings further indicated that educators differ significantly in the extent to which they performed during the classroom-based evaluation. The findings are discussed and suggestions are made with regard to measures to improve educators' performance in the classroom.

Introduction

In recent years there have been fundamental changes to teacher education in South Africa. One of the major changes has been, according to the Norms and Standards for Educators (2000), the phasing out of old teacher education certificates, diplomas, higher diplomas and further diplomas and the introduction of new ones. The newly introduced certificates and diplomas include *inter alia*: a National Professional Diploma in Education (NPDE), which caters for under-qualified educators who want to upgrade themselves from Relative Education Qualification Value (REQV) 11 (M+1) and 12 (M+2) to REQV 13 (M+3); an Advanced Certificate in Education (ACE), which is a specialist professional qualification for fully qualified educators; a Post Graduate Certificate in Education (PGCE), which is meant for people with academic qualification and who want to obtain teaching profession qualification.

Considering that there is a large number of currently serving educators who are still in possession of such old diplomas and certificates, provision has been made for these educators to improve their existing qualifications via the new framework for professional qualifications for educators in schools, as outlined in the Norms and Standards for Educators (Norms and Standards for Educators, 2000:26). However, those with qualifications classified as REQV 11 (M+1) and REQV 12 (M+2) need an alternative access route into the new qualification framework, and the main purpose of the NPDE is to provide such access.

Conceptualisation of NPDE

The NPDE is a 240 credit National Qualifications Framework (NQF) level 5 qualification. It is an interim qualification, which is intended for the upgrading of currently under-qualified (REQV 12 and lower) school educators. The NPDE is aimed at providing the under-qualified educators with the opportunity of becoming fully qualified professionals (REQV 13) by opening up an alternative access route into the NQF. At the moment, it caters for educators at REQV 11 (M+1) or REQV 12 (M+2) who need to upgrade to REQV 13 (M+3), which is currently the qualified educator status in terms of the Employment of Educators Act 76 of 1998. It is assumed that the NPDE will have a classroom focus and will equip educators with the foundational, practical and reflective competences required for further study at NQF level 6.

The NPDE was designed and introduced by the Standards Generating Body for Schooling and the Department of Education to address the plight of the under-qualified educators who were already in the system and who were protected by the Education Labour Relations Council (ELRC) resolution. It was registered by the South African Qualifications Authority (SAQA) in October 2000 (National Professional Diploma in Education, 2003). It differs from other existing education/teaching programmes in that it is a school-based educator skills training programme.

The NPDE has exit level outcomes that are grouped into four components, and which together reflect the work of a professional educator as regulated in the policy on Norms and Standards for

Educators (2000). These components are:

- Component 1: Competences relating to fundamental learning;
- Component 2: Competences relating to the subject and content of teaching;
- Component 3: Competences relating to teaching and learning process;
- Component 4: Competences relating to school and profession.

The exit level outcomes for component 1 are:

- Exit level outcome 1.1: Candidates demonstrate competence in reading, writing and speaking the language/s of instruction in ways that facilitate their own academic learning and their ability to facilitate learning in their classrooms.
- Exit level outcome 1.2: Candidates demonstrate competence in interpreting and using numerical and elementary statistical information to facilitate their own academic learning and their ability to administer teaching, learning and assessment.

Component 2 has only one exit level outcome, which states, in their area/s of specialisation, candidates demonstrate competence in planning, designing, and reflecting on learning programmes appropriate for their learners and learning context.

The exit level outcomes for component 3 are:

- Exit level outcome 3.1: In their area of specialisation, candidates demonstrate competence in selecting, using and adjusting teaching and learning strategies in ways which meet the needs of the learners and the context.
- Exit level outcome 3.2: Candidates demonstrate competence in managing and administering their learning environments and learners in ways that are sensitive, stimulating, democratic and well organised.
- Exit level outcome 3.3: Candidates demonstrate competence in monitoring and assessing learner progress and achievement in their specialisation.

The exit level outcomes for component 4 are:

- Exit level outcome 4.1: Candidates demonstrate that they can function responsibly within the education system, the institution where they are working, and the community in which the institution is located.
- Exit level outcome 4.2: Candidates demonstrate a respect for and commitment to the educator profession.

Evidence of competences demonstrated by the candidates in each exit level outcome are outlined in the NPDE policy document (National Professional Diploma in Education, 2003).

Conceptualisation of classroom-based evaluation

The NPDE programme has a strong classroom focus, therefore, it requires evidence that educators demonstrate applied competences of the exit level outcomes in the real classroom setting. Classroom-based evaluation, therefore, refers to the observation of educators while presenting their lessons in the classroom in order to assess their application of the expected competences. It also involves classroom support where it is needed.

Problem statement

Studies conducted on NPDE programme in South Africa were on learner assessment (Mothata, Van Niekerk & Mays, 2003) and on Recognition of Prior Learning (Moll & Welsh, 2003). Very few, if any studies have attempted to investigate the effectiveness of the NPDE programme, particularly in helping educators to achieve the expected competences. The present study intends to do that. More specifically, this study attempts to find answers to the following research questions:

1. To what extent do educators regard the NPDE programme to be effective in helping them to achieve the expected competences?
2. Do educators' biographical variables have an influence on their evaluation of the NPDE programme?
3. Is there any component (s) that account (s) more effectively for the effectiveness of the NPDE programme?
4. To what extent do educators' perform during the classroom-based evaluation?

Method

Aims of research

The present research aimed at achieving the following objectives:

- To ascertain the extent to which educators regard NPDE programme to be effective in helping them to achieve the expected competences.
- To determine whether educators' biographical variables (gender, teaching phase and qualification) have any influence on their evaluation of the effectiveness of the NPDE programme.
- To determine which component(s) account(s) more effectively for the effectiveness of the NPDE programme.
- To determine the extent to which educators differ in their performance during the classroom-based evaluation.

Hypotheses

The following theoretical hypotheses were formulated:

- H₁** Educators do not differ in the extent to which they regard NPDE programme to be effective in helping them to achieve the expected competences.
- H₂** Educators' biographical variables (gender, teaching phase and qualification) have no influence on their evaluation of the effectiveness of the NPDE programme.
- H₃** No component(s) account(s) more effectively for the effectiveness of the NPDE programme.
- H₄** Educators do not differ in the extent to which they perform during the classroom-based evaluation.

Participants

Participants for this study were drawn from educators who were registered for the National Professional Diploma in Education (NPDE) with the University of Zululand. The participants had volunteered to participate in the study. This was done in accordance with accidental non-probability sampling design (Table 1).

Table 1 shows the distribution of participants according to their biographical variables. Out of the 215 educators who were involved in the NPDE programme, 202 completed the questionnaire. However, during the classroom-based evaluation only 186 educators were evaluated. Others were for various reasons, not evaluated.

Table 1 Distribution of participants according to biographical variables (N = 202)

Gender		Teaching phase			Qualification	
Male	Female	F	I	S	REQV 11	REQV 12
54	148	78	63	61	93	109

F = Foundation phase; I = Intermediate phase; S = Senior phase

Measures

Data collection was done in two different stages, using two different

research instruments. In the first stage, data were collected towards the end of the final year for the NPDE students, using the questionnaire as a research instrument. In the second stage, data were collected during classroom support and evaluation period in schools, using an evaluation form as a research instrument. The questionnaire was appropriate for rating educators' responses regarding the extent to which they feel the NPDE programme helps them to achieve the listed competences. The evaluation form was appropriate for evaluating educators' demonstration of applied competences in the classroom. Both instruments were amenable to quantitative analysis of data.

The questionnaire consisted of two sections covering the aims of study. The first section consisted of educators' biographical information, namely gender, teaching phase, and qualification. The second section consisted of the National Professional Diploma in Education Effectiveness Scale (NPDEES).

National Professional Diploma in Education Effectiveness Scale (NPDEES)

Informed by the competences that educators need to demonstrate in the NPDE programme, the researcher developed the National Professional Diploma in Education Effectiveness Scale (NPDEES) by phrasing the competences in the form of a statement. This is a five-point scale. Respondents were asked to indicate the effectiveness of the NPDE programme in helping them achieve the expected competences listed. The ratings were: not effective (1), slightly effective (2), effective (3), very effective (4), and extremely effective (5). The overall internal-consistency reliability for the NPDEES in this study, using Cronbach's alpha coefficient, was 0.90, which is an excellent reliability (Tabachnick & Fidel, 1989).

The NPDEES consists of 42 items. The lowest possible score on this scale is $42 \times 1 = 42$ and the highest possible score is $42 \times 5 = 210$. This continuum of 42 – 210 was arbitrarily divided into three categories, namely: 42 – 98 indicating a low effective level (LEL); 99 – 154 a moderate effective level (MEL); and 155 – 210 showing a high effective level (HEL). Therefore the respondent's summated score was classified accordingly into one of these categories. This procedure yielded data to fulfil the first aim. Data obtained through this procedure were also used, together with those of the educators' biographical data, in order to meet the second aim of the present study.

Individuals' total scores on the NPDEES and on each of the four components were used to meet the third aim of the study. The internal-consistency reliability for components 1, 2, 3 and 4 in this study, using Cronbach's alpha coefficient, were 0.87, 0.79, 0.76 and 0.85, respectively. These internal-consistency reliability correlation coefficients are excellent (Tabachnick & Fidel, 1989).

Evaluation form (EF)

An evaluation form consisted of applied competences that, according to the NPDE policy document, educators were expected to demonstrate in the classroom. The ratings on each competence were from poor to excellent but the overall mark for an individual educator's performance was awarded.

A conventional way of categorising educators according to their performance was used, namely: 0 – 49 indicating a fail (F); 50 – 64 a pass (P); 65 – 74 a first class (FC); and 75 – 100 showing a pass with distinction (D). Thus the respondent's summated scores were classified accordingly into one of these categories. This procedure yielded data to fulfil the fourth aim.

Procedures

The researcher personally administered the questionnaire to the participants while they were attending lectures. Respondents were asked to complete the questionnaire during their spare time. An explanation of the nature of the questionnaire and the purpose of the investigation preceded the administration.

With regard to the evaluation form, each educator's performance was observed and evaluated by different lecturers during the school

visits for classroom support and evaluation. The briefing on the evaluation form was given to educators a month earlier so that they could know beforehand of what was expected of them. This was also done in order to reduce anxiety associated with evaluation among them.

In order to achieve the aims of this study, various statistical procedures were followed. The chi-square one-sample test was used to ascertain the extent to which educators generally regard the NPDE programme to be effective in helping them to achieve the expected competences (aim number one) as well as to determine the extent to which educators differ in their performance during the classroom based evaluation (aim number four). The chi-square test of independence was used to determine whether educators' biographical variables (gender, teaching phase and qualification) have any influence on their evaluation of the effectiveness of the NPDE programme (aim number two). The chi-square test is appropriate for categorical data (Orlich, 1978; Borg & Gall, 1983; Behr, 1988).

The third aim of this study was to determine which component(s) account(s) more effectively for the effectiveness of the NPDE programme. To this end, stepwise regression analysis was used. Stepwise regression analysis is typically used to determine the independent variables that are useful in predicting the dependent variable. The computer program (SPSS 11.5 for Windows) searches for the order in which the best predictor variables (independent variables) are to be entered into the regression analysis. Hence, in regression there are several variables on one side of the equation and one variable on the other side (Borg & Gall, 1983; Tabachnick & Fidell, 1989). In this study, the total of the NPDEES was used as the dependent variable whilst components 1, 2, 3, and 4 were used as predictor variables (independent variables).

Results

Tables 2 to 5 show that there were no observed frequencies for LEL group cells, therefore, it was advisable to collapse it.

Table 2 Respondents group according to effectiveness levels

	MEL (99 – 154)	HEL (155 – 210)
Frequencies	60	142
$\chi^2 = 33.287; \quad df = 1; \quad p < 0.05$		

Table 3 Gender and effectiveness levels

Gender	MEL (99 – 154)	HEL (155 – 210)
Male	15	39
Female	45	103
$\chi^2 = 0.131; \quad df = 1; \quad p > 0.05$		

Table 4 Teaching phase and effectiveness levels

Teaching phase	MEL (99 – 154)	HEL (155 – 210)
Foundation (N = 78)	25	53
Intermediate (N = 63)	19	44
Senior (N = 61)	16	45
$\chi^2 = 0.565; \quad df = 2; \quad p > 0.05$		

Table 5 Qualification and effectiveness levels

Qualification	MEL (99 – 154)	HEL (155 – 210)
REQV 11 (N = 93)	23	70
REQV 12 (N = 109)	37	72
$\chi^2 = 2.040; \quad df = 1; \quad p > 0.05$		

The chi-square test ($\chi^2 = 33.287; df = 1; p < 0.05$) indicated that significant difference was found between the moderate effective level (MEL) and high effective level (HEL) groups (Table 2). This finding showed that educators differ in the extent to which they regard the NPDE programme to be effective in helping them achieve the expected competences. The two groups of effectiveness levels differed between themselves. Put differently, the existence of these two groups was not due to chance factors.

The results of analysis for the second aim revealed that no significant difference was found between males and females with regard to reported effectiveness levels (Table 3). This finding showed that gender has no influence on educators' evaluation of the effectiveness of the NPDE programme. Any gender differences pertaining to the two effectiveness levels were due to chance factors.

Table 4 also indicates that no significant difference was found among Foundation phase, Intermediate phase, and Senior phase with regard to effectiveness levels reported. This finding showed that teaching phase has no influence on educators' evaluation of the effectiveness of the NPDE programme. Any teaching phase-related differences pertaining to the two effectiveness levels were due to chance factors.

Table 5 also indicates that no significant difference was found between the REQV11 and REQV12 qualifications with regard to reported effectiveness levels. This finding showed that the qualification has no influence on educators' evaluation of the effectiveness of the NPDE programme. Any qualification-related differences pertaining to the two effectiveness levels were due to chance factors.

Table 6 illustrates the results of the analysis for the third aim. It shows that component 2 (competences relating to the subject and content of teaching) and component 1 (competences relating to fundamental learning) emerged as significant predictors of the effectiveness of the NPDE programme. ($F = 715.87; P < 0.00$ and $F = 1760.97; P < 0.00$, respectively). Component 2 explained the largest proportion of the variance, namely 78% whilst component 2 and component 1 explained 95% of the variance. Component 3 (competences relating to teaching and learning processes) and component 4 (competences relating to the school and the profession) could not predict the effectiveness of the NPDE programme.

Table 7 shows that there were no observed frequencies for F group cells, therefore, it was advisable to collapse it.

Table 6 Proportion of variance in effectiveness of NPDE programme explained by predictor variables

Variable	R ²	F	P
Component 2: Competences relating to the subject and content of teaching	0.78	715.87	0.00
Component 1: Competences relating to fundamental learning	0.95	1760.97	0.00

Table 7 Group and classroom-based performance

	P	FC	D
Frequencies	85	71	30
$\chi^2 = 26.335; \quad df = 2; \quad p < 0.05$			

The chi-square test indicated that significant difference was found among the pass (P), First class (FC) and distinction (D) groups (Table 7). This finding showed that educators differ in the extent to which they performed during the classroom-based evaluation. The three groups of pass performances differ among themselves. Put differently, the existence of these three groups was not due to chance factors.

Discussion

The findings revealed that educators differ in the extent to which they regard NPDE programme to be effective in helping them to achieve

the expected competences. A higher percentage of educators (70%) reported a high level of effectiveness compared to those who reported a moderate level (30%) (Table 2). None of the educators reported a low effective level. There may be several reasons for high level of effectiveness reported by educators. One of the reasons may be that the lecturers who taught them were experienced and well qualified to teach the different modules offered in the programme.

Another reason may be that the lecturers were aware of the expected competences for their respective modules hence their teaching was in line with them. A further reason may be that what was taught matched well with what educators were already doing and experiencing in their day-to-day teaching.

The findings also indicated that educators' biographical variables, namely gender, teaching phase and qualification have no influence on their evaluation of the effectiveness of the NPDE programme. This means that educators' general evaluation of the effectiveness of the NPDE programme is the same.

The findings further indicated that component 2, which entails competences relating to the subject and content of teaching, and component 1, which entails competences relating to fundamental learning are best predictors of the effectiveness of the NPDE programme. This implies that these are the components that can be used to predict the effectiveness of the NPDE programme.

Lastly, the findings revealed that educators differ in the extent to which they perform during the classroom-based evaluation. A higher percentage of educators (45.7%) passed compared to those who passed with first class (38.2%) and those who passed with a distinction (16.1%) (Table 7). None of the educators failed. Getting briefing on the evaluation form a month in advance might have reduced anxiety among educators and also helped all of them to pass. However, the fact that they all passed does not necessarily mean that they did not experience deficiencies in the classroom evaluation. The mere fact that a very low percentage of them passed with a distinction and a low percentage passed with first class is a testimony to this conclusion.

Conclusion

Deducing from the findings of this study, educators are satisfied with the help that the NPDE programme offers them. They have been

equipped with the competences they need in their teaching career. However, given that the percentage of educators who obtained a pass mark during classroom evaluation was higher than that of those who obtained a first class and a distinction, it appears that they need support. Effective supervision and guidance from trained mentors at their schools of location can play an important role in this regard. Another solution may be ongoing workshops, focusing on the demonstration of applied competences in the classroom.

Considering that giving the briefing on the evaluation form to educators a month ahead of classroom-based evaluation may have influenced their performance during evaluation, one cannot guarantee that the competences of the NPDE programme are effectively classroom based. Further similar research, by other tertiary institutions involved in the same programme, is proposed so that more light can be shed on the findings.

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