

Valuing Teaching in University Academic Promotions

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Abstract

Studies on academic promotions point to a consensus among academics that excellence in teaching quality should be rewarded and recognised though challenges remain about how exactly this can be done. This article presents a quantitative analysis of all applications for academic promotion and their outcomes over a three-year period (2009-2011) at a South African university; where promotions to all ranks (lecturer to professor) are made on the basis of teaching and/or research. It statistically examines the extent to which academic promotions may be attributed to research and/or teaching with particular reference to gender and rank. The results demonstrate that teaching is valued and brings into sharp relief the gendering of academic promotions. Significant findings show that while more men applied for promotion to the ranks of the professoriate; a greater proportion of women were successful in being promoted at these levels. Moreover, the success rate of females is 20% lower than the success rate of males if research is the only criterion for promotion; and the success rate of females, when using both research and teaching criteria, is 22% higher than it is for males. The research reported suggests that the implication of excluding teaching as a criterion for academic promotions disadvantages the career progression of women academics and is a barrier to increasing the number of women in the professoriate.

Keywords: academic promotions, excellence in teaching versus excellence in research, gender, professoriate, rewards and recognition, university teaching quality

Introduction

Do teaching excellence and expertise matter in academic promotions in universities? Historically, teaching has been a core pillar of universities and today most higher education institutions (HEIs) are reported to have strategies in place that recognise and value teaching quality. These strategies include teaching awards, teaching improvement grants and recognition of teaching through career development, staff appraisal and academic promotion (Bayissa & Zewdie 2010; Cronje, Jacobs & Murdoch, 2002). Moreover, universities have increasingly begun to create senior management and executive leadership positions in their organisations, to focus on and support teaching in a way that was once only reserved for promoting excellence in research.

However, despite these strategies, the general perception is that 'universities' commitment to teaching remains ambiguous in the face of its historically subordinate status to research' (Parker 2008: 237). Studies show that academics often report that teaching activities, while important, do not receive the same measure of reward and recognition that research-related activities do (Young 2006; Badri & Abdulla 2004; Cronje *et al.* 2002). A criticism levelled is that while academic promotions policies, which stipulate that the criteria for promotion should include teaching and research, are in place, they are often not implemented (Chalmers 2011) or do not include teaching as an area that needs to be evaluated for promotion to the higher ranks of the professoriate which is exclusively dependent on research productivity (Parker 2008; Doherty & Manfredi 2006).

It is not surprising, therefore, that the issue of whether teaching (compared to research) is given sufficient consideration for academic promotions has generated much debate in higher education literature. This article examines this issue with reference to the University of KwaZulu-Natal (UKZN), described as one of South Africa's top research universities (QS Rankings, 2012) and one of the largest contact universities, in which the academic promotions policy and procedures provide a framework for academic promotions to all ranks on the basis of teaching and research. This policy has been implemented for more than a decade. The article offers a statistical description and analysis of the actual promotion data and decisions at UKZN for the period 2009-2011. The research was undertaken to determine the extent to which academic promotions are attributed to research

and/or teaching at the university, and with a particular interest in examining the effect of gender and rank.

Challenges of Valuing Teaching in Higher Education Institutions

The literature, largely from the UK, the USA and Australia, argues that teaching-related activities in higher education institutions (HEIs) are not equivalently valued (compared to research) as important criteria for academic promotions, and that research provides greater rewards in terms of recognition, pay and promotion prospects for academics (MacFarlane 2007; Parker 2008; Young 2006; Fairweather 2005; Leslie 2002; Forster 2001; Neumann 2001; Moses 1986). This situation prevails despite most academics' support for the idea that teaching should be a criterion for promotion and their general disagreement that research should be the dominant or only determinant for promotion (Leslie 2002; Ruth 2001). A survey by Cronje *et al.* (2002) demonstrated that academic staff are more likely to be recognised for their research efforts than for excellence in teaching and noted that there was 'a disequilibrium between the recognition for teaching and research' (32). Even in HEIs, where teaching is considered an integral part of the organisation's mission statement, research is accorded a higher status (Fairweather 2005; Leslie 2002). A few studies conducted in South Africa also share the view that staff perception of teaching and research is that 'research is rated more highly as an academic activity' than teaching (Ruth 2001:21; Cronje *et al.* 2002). However, this state of affairs is beginning to change. For example, Badri and Abdulla (2004) reported that at a United Arab Emirate university, research and teaching were weighted equally when promoting faculty at associate professor and professor ranks.

While it is contended that evaluating research for promotion purposes is relatively objective, with transparent and widely agreed measures, indicators and benchmarks, the same cannot be said for teaching which is deemed to be complex, subjective and difficult to measure, thus limiting the use thereof for promotional purposes (Vardi & Quin 2010). It has been suggested that the more complex 'criteria for the evaluation of teaching in higher education [often] contribute[s] to the marginalization of teaching

within the reward structures of universities' (Pratt 1997: 23), because those responsible for promotion decisions are suspicious of their evaluations.

Chalmers (2011) reviewed initiatives to reward teaching in the UK, Australia and North America and found that although progress was being made in terms of recognising teaching for academic promotion, especially through policy development and revision of performance criteria, actual articulation of policies in practice was deficient as promotion remains focussed on research and the improved status of teaching still needed to be demonstrated. A further criticism is that those HEIs that have implemented various initiatives to recognise and reward teaching on par with research have applied these initiatives to the lower ranks of lecturers and senior lecturers; promotion to the higher ranks of professor is still largely dependent on research productivity (Parker 2008; Doherty & Manfredi 2006) with little attention being paid to teaching excellence at this level. Parker (2008) analysed the criteria used to determine promotions in UK universities by examining the extent to which research and teaching were recognised as evidence for promotions. She found that while universities have 'adopted formal parity' (237) in the research and teaching criteria for lower ranks, this was not the case for the higher ranks; most UK universities required research excellence but did not have similar requirements for teaching excellence for promotion to the level of professor.

From a gender perspective the literature shows that historically women are under-represented in the academic promotion process precisely because of the inequity between teaching and research productivity, where promotions have been traditionally related to research output only (Todd & Bird 2000). Since women are more likely to be over-represented in teaching-related activities (Winchester, Lorenzo, Browning & Chesterman 2006), not including teaching as a criterion for promotion disadvantages women in the promotion processes and exacerbates their under-representation in the higher academic ranks. 2011 academic staff data from the Council on Higher Education (2013) shows that in South Africa, 23% of professors, 33.5% of associate professors, 43.6% of senior lecturers and 49.5% lecturers are women.

Several studies show that women have lower promotion probabilities than men (Groeneveld, Tjidsens & Van Kleef 2012; Ward 2001), are more likely to be over-represented in teaching activities (Winchester *et al.* 2006; Thanacoody, Bartram, Barker & Jacobs 2006; Forster 2001) and are less

active in research than their male counterparts (Fox-Cardamone 2010; Doherty & Manfredi 2006). It is not surprising, therefore, that they are less likely to hold senior ranks of associate professor and professor at their institutions (Fox-Cardamone 2010; Thanacoody *et al.* 2006). A UK research assessment exercise conducted in 2004 showed that male academics were '1.6 times more likely to be counted as research active than females were' (Doherty & Manfredi 2006: 557) and that females were less likely to apply for promotion based on research output. The findings also showed that women remained under-represented in institutions that placed a greater emphasis on research. However, when equal value was placed on teaching and research for promotion, women tended to progress (Doherty & Manfredi 2006; Todd & Bird 2000).

Arguably, much of the research on the topic being considered in this article was generally based on policy analysis, qualitative methods such as interviews and staff surveys rather than on an analysis of actual academic promotions data. There appears to be a lack of research which draws on the evidence of human resource records of HEIs to analyse academic promotions and the extent (if any) to which teaching criteria play a role. This article addresses this gap in the literature by presenting an analysis of data captured from the UKZN academic promotions committee minutes. Triangulation was performed by adding information from the UKZN Human Resources(HR) records, to examine the question of the extent to which teaching excellence contributed to academic promotions, and in particular, with respect to gender and rank.

University of KwaZulu-Natal Context and Academic Promotions

The University of KwaZulu-Natal (UKZN) was formed in 2004 following a merger of the University of Durban-Westville, a historically black (disadvantaged) university, and the University of Natal, a historically white (advantaged) university. The resultant UKZN promotions policy was based on an integration of the policy criteria of the former institutions, in particular including teaching as one of the main areas of evaluation for academic promotion (which was introduced earlier in the former University of Natal – Webbstock 1999).

The UKZN Academic Promotions Policy stipulates that an applicant may be evaluated for promotion in four main areas: teaching; scholarship and research; community service and development; and university service. For promotion to all levels applicants must demonstrate a minimum of *strength* in teaching and in research. In addition, an applicant for promotion to the ranks of all levels from lecturer to associate professor must demonstrate *excellence* in at least one of the main areas; while for promotion to the rank of professor, an applicant must additionally demonstrate *excellence* in two of the main areas. For the period 2009-2011 being analysed, all academics at UKZN were evaluated in one or both areas of teaching and research during the academic promotion process (that is, no candidate was promoted on the basis of excellence in community or university service).

Since the merger in 2004, UKZN has been organised around four colleges — Agriculture, Engineering and Science; Humanities; Health Sciences; and Law and Management Studies. In the period 2004-2011 each college comprised two faculties. In the years for which the promotions data are analysed in this article, each of the eight faculties developed and implemented Senate-approved, faculty-specific criteria for evaluating research outputs for promotion. Unlike the criteria for research, teaching assessment criteria were also Senate-approved but were based on a common set of categories that applied across the university (that is, the criteria were not faculty-specific). All academics applying for promotions submit a teaching portfolio for evaluation. In each area of teaching and research, an applicant for academic promotions is assessed as achieving an evaluation resulting in one of the following ratings: excellence, strength or not meeting any of the criteria (i.e. below strength).

The evaluation of teaching for all levels of promotion takes place on the basis of an assessment of an applicant's teaching portfolio. The teaching portfolio requires candidates to provide information and evidence in the following eight categories:

- (1) rationale for approach to education;
- (2) methods of teaching and supervision;
- (3) methods of assessments and student performance;
- (4) peer and student evaluations of teaching;
- (5) ongoing study of tertiary education theory and methodology;

- (6) development of new curricula;
- (7) sharing teaching expertise with others; and
- (8) special recognition of teaching.

Detailed descriptions of the criteria for each category and assessment expectations are explained in the UKZN Academic Staff Promotions Procedures and Guidelines, which set out details for compiling and assessing teaching portfolios. Each category and the overall teaching portfolio are evaluated in descending order as: outstanding; excellent; strength; inadequate or no evidence. Categories 1 to 4 apply to all candidates and are evaluated for an overall judgement of strength in teaching. For an evaluation of excellence in teaching, candidates must achieve ‘outstanding’ or ‘excellence’ in a majority of categories 1 to 4, plus ‘excellence’ or ‘outstanding’ in at least two of the categories 5 to 8. According to the policy, while strength in teaching is a minimum criterion, for an assessment of excellence in teaching, candidates must provide evidence of excellence in teaching practice and in the scholarship of teaching. The university’s Quality Promotions and Assurance (QPA) department conducts annual workshops on developing and evaluating teaching portfolios for academic promotions.

The process is as follows: applications for promotions are called for once a year. The relevant Faculty Academic Promotions Committee evaluates each candidate’s application, based on the relevant criteria, and makes a recommendation to the College Academic Promotions Committee. Each teaching portfolio submitted for promotion purposes is evaluated by the Faculty Teaching-Portfolio Assessment committee, a sub-committee of the Faculty Promotions Committee. The sub-committee also includes a member from the QPA department, whose role is to ensure procedural regularity and consistency in evaluating teaching portfolios in accordance with the approved guidelines of the promotions policy. University-wide consistency in teaching portfolio evaluation is achieved by each faculty submitting three portfolios (good, average and weak) to a Teaching Portfolio Moderating Committee, chaired by the QPA director. This moderating committee also mediates any disputes on teaching portfolio evaluations, including those arising from deliberations in any of the promotions committees. The College Academic Promotions Committee makes the final decision on academic promotions and records the evaluation outcomes of the area(s) considered

and the success (or otherwise) of the application and these are noted by the Senior Academic Promotions Committee.

Methodology

In the research on which this article is based, a quantitative analysis was done of academic promotions for UKZN staff over a three-year period and the relationship between academic promotion applications, outcomes, teaching or research excellence, rank and gender was statistically examined. For the analysis, all applicants for academic promotion in the period from 2009-2011 inclusive, were selected from all four colleges in the university, namely Agriculture, Engineering and Science; Humanities; Health Sciences; and Law and Management Studies. Applications for promotion to the ranks of professor, associate professor, senior lecturer and lecturer were considered.

Demographic data, criteria for promotion (based on research and teaching excellence) and promotion decisions were captured directly from the UKZN College Academic Promotions Committee minutes onto an MS Excel spread-sheet. These were cross-referenced and triangulated with data from the UKZN Human Resources Division (also on an MS Excel spread-sheet). The spread-sheets were then merged and errors and omissions in the data were resolved on a case-by-case basis. This method of double-entry ensured that data capturing errors, duplicate entries and the potential for missing data were minimised. Permission was obtained from the Registrar of UKZN as custodian of all institutional data.

The analysis explicitly excludes community or university service as an area of evaluation for promotion as there were no applications for promotion based on excellence in these categories for the period being analysed and the number of applications based on service was negligible. Similarly, out-of-cycle promotions were also excluded. The data was then analysed by calculating frequencies and a log-linear analysis was conducted. The log-linear model approach does not make an a priori distinction between independent and dependent variables, although our model specifications allow for the distinction to be made. The emphasis of the log-linear methods was primarily to test for independence and generalized independence, goodness-of-fit tests and estimation of cell frequencies or probabilities for the underlying contingency table.

The results report on all academic staff members who applied for promotion in each year of 2009, 2010 and 2011, a total of 165 cases. The key dependent variable was the outcome of the application and the independent variables were the rank and the gender of the applicant. The results demonstrate the extent to which teaching excellence, rather than research prowess exclusively, when used as promotion criteria, affects the outcome of the promotion applications of the profiled applicants.

Promotion Applications and Outcomes

In this section a quantitative description of the academic promotion applications and outcomes is provided and analysed in terms of rank and gender

Of the 165 academic promotions applicants for the period 2009-2011, 88 were successful and these outcomes are described by year, gender and rank (see Table 1). The largest number of applications (71) and the largest number of successful outcomes (39) were for the rank of senior lecturer while the smallest (10) were for lecturer level where all were successful. However, overall 49% of the 165 applications were for promotion to lecturer and senior lecturer levels and 51% of the applications for promotion were for the higher ranks of associate professor and professor. Applications in the lower ranks of lecturer and senior lecturer were more likely to be successful than applications to the higher ranks. This was a statistically significant finding ($r_s = -.204$; $p < 0.01$ – see Table 2).

Table 1: Summary of UKZN academic promotion applications and outcomes (2009-2011)

Characteristics (N=165)	Applications		Successful applications	
	No.	%	No.	%¹
Year				
2009	58	35.1	35	60.3%
2010	59	35.8	31	52.5%
2011	48	29.1	22	45.8%

¹ Percentage successful relative to applicants per category.

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Gender				
Female	79	47.9	45	57.0%
Male	86	52.1	43	50.0%
Rank				
Lecturer	10	6.1	10	100%
Senior Lecturer	71	43.0	39	54.9%
Associate Professor	51	30.9	25	49.0%
Professor	33	20.0	14	42.4%

Table 2: Correlations between Application-outcome, Gender and Rank

			Application Outcome	Gender	Rank
Spearman's rho	Applica-tion outcome	Correlation coefficient	1.000	-.080	-.204**
		Sig. (2-tailed)		.301	.008
		N	167	167	167
	Gender	Correlation coefficient	-.080	1.000	.193*
		Sig. (2-tailed)	.301		.012
		N	167	167	167
Rank	Correlation coefficient	-.204**	.193*	1.000	
	Sig. (2-tailed)	.008	.012		
	N	167	167	167	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

For the three-year period that was analysed, there were more male applicants (52%) than female applicants (48%) but relatively more females were successful (Table 1). Of the 88 (or 53%) applicants who were successful in

their bid for promotion, 57% of all the female applicants were successful while 50% of all male applicants were promoted.

The study found there was a positive correlation between gender and applications for the higher ranks, where men were more likely to apply for higher ranks than women (see Table 2). This result was significant ($r_s = .193$; $p < 0.05$). When intersecting rank and gender, Table 3 shows that while more men applied for promotion to the ranks of associate professor and professor; a greater proportion of women were actually successful in being promoted (52% of the women vs. 43% of the men) at these levels. It also shows that at the lower rank levels of lecturer and senior lecturer more women (46) applied for promotion than men (35) and had similar levels of success (60%).

Table 3: Promotion outcomes by rank and gender

	Female		Male		Total	
	(n)	(%)	(n)	(%)	(n)	(%)
SUCCESSFUL	45	27.3%	43	26.1%	88	53.3%
Lecturer	8	4.8%	2	1.2%	10	6.1%
Senior lecturer	20	12.1%	19	11.5%	39	23.6%
Associate professor	10	6.1%	15	9.1%	25	15.2%
Professor	7	4.2%	7	4.2%	14	8.5%
UNSUCCESSFUL	34	20.6%	43	26.1%	77	46.7%
Lecturer	0	0%	0	0%	0	0
Senior lecturer	18	10.9%	14	8.5%	32	19.4%
Associate professor	9	5.5%	17	10.3%	26	15.8%
Professor	7	4.2%	12	7.3%	19	11.5%
GRAND TOTAL	79	47.9%	86	52.1%	165	100.0%

Teaching and Research in Successful Academic Promotions

Each promotions applicant is evaluated for their research outputs and their teaching contributions as showing strength or excellence. The various

combinations of outcomes for all successful candidates are captured in Table 4, which shows the distribution by rank and gender.

For the study period, 43% or 38 of all successful promotion outcomes (n=88) were based on the candidates' being assessed as showing excellence in both teaching and research. Many more (34% or 30) were promoted on excellence in teaching (and strength in research), then were promoted on excellence in research (with strength in teaching) (22% or 20). This means that overall, a majority, more than three quarters (77.3%) who were successful in their promotions, had been evaluated as having achieved excellence in teaching. At all rank levels half or more of the successful candidates achieved an evaluation of excellence in teaching.

It may be worth mentioning that even among the unsuccessful candidates (77) more academics (17) achieved excellence in teaching compared to those who were evaluated as showing excellence in research (11) but did not meet the other criterion and hence were not successful.

Table 4: Successful promotion evaluations of teaching and research by rank and gender

Rank	Female		Male		Total	
	(n)	(%)	(n)	(%)	(n)	(%)
Lecturer	8	9.1%	2	2.3%	10	11.4%
Excellence in both Excellence in research and strength in teaching	2	2.3%	0	0.0%	2	2.3%
Excellence in teaching and strength in research	0	0.0%	1	1.1%	1	1.1%
	6	6.8%	1	1.1%	7	8.0%
Senior lecturer	20	22.7%	19	21.6%	39.0	44.3%
Excellence in both Excellence in research and strength in teaching	9	10.2%	7	8.0%	16	18.2%
Excellence in teaching and strength in research	1	1.1%	7	8.0%	8	9.1%
	10	11.4%	5	5.7%	15	17.0%

Associate professor	10	11.4%	15	17.0%	25.0	28.4%
Excellence in both	4	4.5%	2	2.3%	6	6.8%
Excellence in research and strength in teaching	3	3.4%	8	9.1%	11	12.5%
Excellence in teaching and strength in research	3	3.4%	5	5.7%	8	9.1%
Professor	7	8.0%	7	8.0%	14.0	15.9%
Excellence in both	7	8.0%	7	8.0%	14	15.9%
Grand total	45	51.1%	43	48.9%	88	100.0%

For promotion to the ranks of lecturer, senior lecturer and associate professor, candidates must achieve excellence in at least one area, hence those who had been promoted on the basis of excellence in teaching (and strength in research) would not have been successful had there not been the teaching criterion in the academic promotions. This translates to 30 (or 34%) of the successful applicants directly attributing their promotion to teaching excellence. If the 14 professors (who must demonstrate excellence in at least two areas) who were promoted on the basis of excellence in both teaching and research are added, then the figure rises to 44 or half of the successful candidates having been promoted as a result of the recognition of teaching excellence in the promotions process.

In terms of gender, Table 4 bears evidence that more successful females (42%) were evaluated to have excellence in teaching as compared to males (25%). Conversely, more successful males were evaluated with excellence in research (37%) than females (9%), over the study period.

For each rank level in which excellence in only one area was required (lecturer to associate professor), women exceeded the requirements and dominated in achieving excellence in both teaching and research. Similarly, males dominated in being evaluated as excellent in research for all levels where excellence in one area was required.

Furthermore, 19 of the 45 successfully promoted females (42%) would not have been promoted were it not for teaching as an area of evaluation; similarly only 11 out of 43 (26%) of males would not have been promoted. The role that teaching plays in academic promotions success was analysed statistically below, further interrogating the findings for women.

Statistical Analysis: Outcomes of Teaching and Research in Academic Promotions

The data in this study was used to set up a log-linear analysis of variance table by using the parameters Gender, OutcomeOld (the outcome if only research is used as promotion criteria) and OutcomeNew (the outcome if both teaching and research are used as promotion criteria). The following output was obtained after interrogating the 165 applications for academic promotion at UKZN, for the period 2009-2011:

Table 5: The log-linear model (saturated model) analysis of variance

Parameter		Estimate	SE	Chisq	Pr>chisq
OutcomeOld	SUCCESSFUL	-0.3497	0.1184	8.72	0.0032
OutcomeNew	SUCCESSFUL	0.2927	0.1184	6.11	0.0134
Gender	Female	-0.1414	0.1184	1.43	0.2326
OutcomeOld* OutcomeNew	SUCCESSFUL SUCCESSFUL	0.7045	0.1184	35.39	<.0001
OutcomeOld* Gender	SUCCESSFUL Female	-0.2477	0.1184	4.37	0.0365
OutcomeNew* Gender	SUCCESSFUL Female	0.2355	0.1184	3.96	0.0467
OutcomeO* OutcomeN* Gender	SUCCESSFUL SUCCESSFUL Female	0.0686	0.1184	0.34	0.5626

The *p*-value of 0.5626 in the last row of Table 5 of the log-linear analysis of variance table indicates that the three-variable interaction is non-significant (greater than 0.05), which means that there is no significant effect between the three parameters Gender, OutcomeOld and OutcomeNew, more specifically, thus, concluding that there is no evidence of a significant pattern by which these three variables jointly perform. All of the two-variable

interactions, however, are significant, as can be seen by the last column in rows 4-6 of Table 5; where all values are lower than 0.05; thus demonstrating evidence of pairwise mutual dependence among all three the mentioned variables (OutcomeOld, OutcomeNew and Gender). This model is often referred to as homogeneous association.

Homogeneous association implies that the conditional relationship between any pair of variables, given the third variable, is the same at each level of the third variable. That is, the odds ratio of gender and promotion application outcome, using teaching and research as criteria (OutcomeNew), is the same for both successful and unsuccessful applicants using the research excellence criteria (OutcomeOld). Likewise, the odds ratio of OutcomeNew and OutcomeOld is identical for male and female applicants. The deviance goodness of fits statistic for the homogeneous model reflected in Table 5 was found to be 0.35 with degrees of freedom 1 ($p=0.5533$). This provides strong evidence of pairwise condition dependence of OutcomeNew, OutcomeOld and Gender.

Table 6: The log-linear model homogeneous model parameter estimate

Parameter		Estimate	SE	Chisq	Pr>chisq
OutcomeOld	SUCCESSFUL	-0.3217	0.1037	9.63	0.0019
OutcomeNew	SUCCESSFUL	0.2644	0.1034	6.54	0.0106
Gender	Female	-0.0940	0.0823	1.30	0.2534
OutcomeOld* OutcomeNew	SUCCESSFUL	0.6823	0.1072	40.50	<.0001
	SUCCESSFUL				
OutcomeOld* Gender	Female	-0.2141	0.0991	4.67	0.0306
OutcomeNew* Gender	Female	0.2008	0.0979	4.20	0.0404

The interactions estimate in Table 6 is the conditional log odds ratio. Since we established that all two-way interactions are significant, we did not

interpret the first three rows of the above table, as each variable experiences interaction with another.

The log odds ratio of OutcomeOld*OutcomeNew, reflected at 0.6823 in Table 6, shows strong positive association between promotion application success using research as promotion criteria (OutcomeOld, successful) and successful application for promotion when using research as well as teaching (OutcomeNew, successful) as promotion criteria, this association being the same for both for male and female applicants. What this means, therefore, is that irrespective of gender, there is a strong relationship between being successful under the research only criteria, versus being successful under the research and teaching criteria, for the profiled applicants in the study. When taking the log odds ratio of OutcomeOld*Gender, we found a negative association (-0.2141) between female applicants and success using research excellence (OutcomeOld), for both successful and unsuccessful records in OutcomeNew, where teaching excellence only is recognised. We further noted that $\exp(-0.2141) = 0.8073$, indicating that the success rate of females was almost 20% less than the success rate of males under OutcomeOld (research criteria only), both for those applicants that would have been successful under OutcomeNew (when both research and teaching are used as criteria) or not.

On the other hand, OutcomeNew*Gender log odds ratio showed positive association between female applicants and success using teaching and research criteria; this was true for both successful and unsuccessful applicants using research excellence criteria (Outcome Old). In other words, the success rate of females under the teaching and research promotion criteria was 22% higher than it was for males, irrespective of whether they would have been successful under the research only criteria for promotion, since $\exp(0.2008)=1.22$, from the last row of Table 6 above.

This homogeneous model reproduces the predicted cell frequencies for the data given in Table 7. The homogeneous model predicted the frequencies with fractional errors, which supports the goodness of the mutual dependence of the three variables, thus showing strong evidence for the applicability of the fitted model.

In summary, the key results are that if we partition the applicants by status of their outcome when both teaching and research

OutcomeOld	OutcomeNew	Gender	Observed		Predicted			Residual
			Frequency	Error	Frequency	Error	Residual	
SUCCESSFUL	SUCCESSFUL	F	27	4.752033	26.34529	4.568679	0.654708	
SUCCESSFUL	SUCCESSFUL	M	32	5.078773	32.65471	4.992621	-0.65471	
SUCCESSFUL	UNSUCCESSFUL	F	2	1.405616	2.654708	1.160192	-0.65471	
SUCCESSFUL	UNSUCCESSFUL	M	8	2.759007	7.345292	2.398375	0.654708	
UNSUCCESSFUL	SUCCESSFUL	F	19	4.100259	19.65471	4.005945	-0.65471	
UNSUCCESSFUL	SUCCESSFUL	M	11	3.204164	10.34529	2.903556	0.654708	
UNSUCCESSFUL	UNSUCCESSFUL	F	31	5.017545	30.34529	4.847527	0.654708	
UNSUCCESSFUL	UNSUCCESSFUL	M	35	5.251262	35.65471	5.165683	-0.65471	

are used as promotion criteria, then for both the successful and the unsuccessful candidates, the success rate of women will be 20% lower than that of men if teaching is excluded as promotion criteria. On the other hand, if we partition the applicants by status of their outcome when applying for promotion based on research only, then introducing teaching as promotional criteria will result in the success rate of women being 22% higher than that of males, irrespective of the status of the outcome under the research only criteria.

Discussion

The analysis provides evidence of how teaching has been and can be valued in the actual academic promotions outcomes of a large, South African university which has a strong research focus. UKZN comprises more than 40000 students and approximately 1400 academics, about half of whom are women. The research reported in this article was conducted in the period 2009-2011, during which 165 academics applied for promotion and 88 or 53% were successful. The results showed that when teaching and research were equally available in the promotions criteria, more candidates were evaluated as achieving excellence in teaching than in research.

The notion that teaching cannot be evaluated with consistency and with the same rigour as research productivity is challenged by the UKZN case. It has been demonstrated that promotions processes that are merit-based, fair and transparent with mechanisms for dealing with differences can be instituted to evaluate teaching. At UKZN university-wide consistency in teaching portfolio evaluations is achieved through the Teaching Portfolio Moderating Committee that also mediates any disputes about teaching portfolios. The University also provides annual education and training workshops for academic staff on how to develop teaching portfolios for promotion. Moreover promotion committee members and the relevant quality staff are required to attend workshops and training sessions on how to evaluate teaching portfolios. These factors have contributed to a culture of accepting teaching as a valid and important part of the promotions process.

Not surprisingly the data bears evidence that applications for promotion in the lower ranks was more likely to be successful than applications to the higher ranks. This is because the criteria for promotion to

the senior ranks are more demanding and more substantial contributions toward the main evaluation areas are expected at the higher rank levels.

A major finding is the role teaching plays in academic promotions for women and the extent to which academic promotions are gendered. The analysis revealed that men are more likely to apply for the higher ranks of associate professor and professor. Women may be more tentative about applying for higher academic ranks which are more demanding because of family responsibilities, work-life balance, gender stereotypes, gender discrimination, limited career mobility and fewer years of service (Groeneveld *et al.* 2012; Thanacoody *et al.* 2006; Forster 2001; Ward 2001; Todd & Bird 2000). However, despite the lower application rates for these ranks, the results show that more of those women who applied (52%) for associate professorships and professorships were successful versus the 43% of males who were successful.

This study clearly demonstrates the extent to which women are affected in promotions outcomes through the inclusion of teaching in promotions criteria. From the data presented 91% (41 of the 45) successful women achieved an evaluation of excellence in teaching in the promotions outcomes compared to 63% of males who achieved the same outcome. The results are consistent with those from previous studies which confirmed that more women were likely to be promoted on teaching compared to men who were promoted on the same criteria. The analysis presented in this article goes further by quantifying the margin by which teaching influences promotions in these cases. Also, the results show that more men (59%) were promoted on research excellence alone than women (this excludes professors) and corroborates the findings of Winchester *et al.* (2006) and Forster (2001). The dominant view in the literature is that teaching is not valued and that females are disadvantaged in academic promotions. This article shows that if teaching is a criterion for promotion the means for its evaluation created and it is accepted by the academic community as a valid and important component of assessing candidates for promotions, then; it significantly improves the odds for female academics being successful in promotion applications. The data analysed suggests that the success rate of female applicants for promotion at UKZN between 2009 and 2011 is almost 20% less than the success rate of males if research is the only criterion for promotion; while the success rate of females, when using both research and

teaching criteria, is 22% higher than it is for males. This finding thus provides hard evidence for a long-held view that women, who are over-represented in teaching in HEIs, are disadvantaged in academic promotions which do not adequately or equally recognise teaching as a criterion.

As demonstrated by Parker (2008) and Doherty and Manfredi (2006), the primacy of research in academic promotions in universities is the dominant norm and difficult to challenge despite widespread views that teaching-based criteria can and should be equally valued, especially insofar as it disadvantages women. For example, Todd and Bird's (2000) study at an Australian university, where the promotions and tenure committee members were interviewed, supported the view that including teaching excellence as a criterion for promotion was especially beneficial to female staff: 'While some men benefit[ted] from this broadening of the application of the promotion criteria, it was felt that commitment to teaching ... particularly within the university, was more characteristic of women' (4).

The literature (Parker 2008; Doherty & Manfredi 2006) also suggests that where teaching is valued in promotions, it is often not considered in real terms at the professoriate level. It would appear that UKZN is among a few universities world-wide that allows for promotion to professor to be based on excellence in both teaching and research. Furthermore, while these studies showed that women were less likely to be promoted to the rank of professor, at UKZN 50% of women who applied for professorships were successful versus the 37% of successful male applicants; and during the period 2009-2011, equal numbers of men and women were promoted to professor. It is important to note this does not imply that there is equity of gender representation at the professoriate level, which is still dominated by males (Groeneveld *et al.* 2012; Thanacoody *et al.* 2006; Forster 2001). This is also the case for UKZN where, in 2011, 25.3% of professors were females (CHE 2013). However, this figure compares favourably with national figures which show that only 23% of professors are female in South Africa (CHE 2013). This study shows that valuing teaching in academic promotions can provide a way to increase the number of women in the professoriate and thereby contribute to having more successful women academics to serve as senior mentors and role models. Thanacoody *et al.* (2006) assert that female role models are in the best position to understand the challenges faced by female academics and to empathise with these academics. They are also better equipped to

encourage and motivate other females to apply for more senior positions.

A point raised in some studies is that a further obstacle to the promotion of women is the androcentric composition of the promotions-evaluating committees (Thanacoody *et al.* 2006). It is worth mentioning that in the context of UKZN, the promotions committees (as with all other committees) are required to be diverse in composition. A related point is the representation of women in leadership positions who serve on these committees. These women can influence decisions in many different aspects by encouraging women to apply and by contributing to the formal promotions process.

It is possible to discern a shift in university promotions policies toward including teaching for evaluating promotions. However, despite recommendations from studies that universities should formulate formal policy documents for rewarding teaching excellence through a variety of strategies (including promotions) (Cronje *et al.* 2002), it has been found that such policies are not necessarily implemented as intended (Chalmers 2011). At UKZN the Academic Promotions Policy stipulates that the criteria for promotion include teaching and research equally. This article provides evidence that the policy is being realised in practice; that is, the evaluation of teaching is considered to be as important as research for making academic promotion decisions at all levels, including in particular at the rank of professor, and that this implementation benefits women academics. Moreover, by having to demonstrate strength in both teaching and research and then excellence in one or more area as defined in the UKZN promotions policy, results in a valuing and balancing of both teaching and research and does not pit one against the other.

Conclusion

The question posed in the introduction has been addressed: teaching excellence and expertise matter in academic promotions in universities. The analysis of actual academic promotions data and outcomes in one institution, UKZN, provides a clear answer, namely that valuing teaching does matter in the promotions process and it especially matters for one group of academics – women.

With a few exceptions, the dominant theme in the literature in this area is that compared to research, teaching is not equivalently valued as a

criterion for academic promotions. Despite a consensus that in principle, teaching needs to be an important criterion, there appears to be little evidence to support that it is actually being implemented. This article has demonstrated how teaching, which has been part of the academic promotions for more than a decade in one relatively large research-intensive university, can contribute to gender equity in HEIs through academic promotions.

Although previous studies show that women generally have lower probability of successful application for promotion than men have, this statistical analysis of actual applications and outcomes demonstrates that if teaching is included as a criterion, the probability of successful application for promotion for women is increased more than the corresponding figures for men. In other words, including teaching as a promotion criteria improves the odds of women being promoted. The literature also shows that advancement to the rank of professor is largely dependent on research productivity, and as a consequence favours the promotion of men. However, the equal valuing of both teaching and research in academic promotions criteria for all rank levels ensures that women are not disadvantaged in the promotions process, and this is translated into practice as evidenced in the outcome of the academic promotions process. The case of UKZN shows women enjoying significantly higher odds (22%) of being promoted under the included criterion of teaching, compared to men.

The results of this analysis are limited to UKZN, as the dataset is unique and is based on the university's human resources records and resolutions captured in the university's College Academic Promotions Committee minutes. Many more similar quantitative and statistical analyses are needed, especially of actual promotions outcomes, to provide generalizable evidence and to complement the many studies that focus on perception, attitudes and opinions about academic promotions based on interviews and surveys in this area.

While women continue to remain underrepresented in senior academic ranks and positions in universities, the results of this study point to a real and concrete way in which this challenge can be addressed by recognising and valuing a core pillar of higher education – teaching – an activity that appears to be increasingly dominated by women academics in many countries of the world, including South Africa.

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