

## The relationship between teacher efficacy, educational beliefs and optimism bias among preservice teachers

Sophie Kearns  
Faculty of Education  
University of Sydney

### TEACHER EFFICACY

In the two decades since the concept of teacher efficacy was first introduced into the area of educational research studies have found evidence supporting the importance of the construct in an educational context. A significant relationship was discovered to exist between teacher efficacy and student achievement (Armor, Conry-Osequera, Cox, King, McDonnell, Pascal, Pauly, & Zellman, 1976; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977; Midgley, Feldlaufer, & Eccles, 1989). It has been determined that a teacher's sense of efficacy, "the extent to which teachers believe they can affect student learning" (Dembo & Gibson, 1985, p.173) is perhaps the most significant predictor and contributor of teacher influence to student achievement (Armor et al., 1976; Berman et al., 1977; Midgley et al., 1989).

Ashton and Webb (1982, 1986) recognised the importance for teachers to have a high sense of efficacy, otherwise referred to as teacher efficacy. Teachers demonstrating a high sense of teacher efficacy are consistently found to display greater skills of organisation, instruction, questioning, explaining, providing feedback to students having difficulties and maintaining students on task. Low efficacy teachers on the other hand display a more custodial than humanistic approach to classroom management, spend significantly more time in group work as opposed to whole group instruction, feel angered and threatened by misbehaviour and experience difficulty in maintaining students on task (Ashton & Webb, 1982, 1986; Dembo & Gibson, 1985; Gibson & Dembo, 1984; Hoy & Woolfolk, 1990; Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy, 1990).

It is of paramount importance to the teaching profession and in the best interests of the students that those individuals who engage in ineffective teaching practices be identified, with the intention that these ineffective behaviours be modified. The context in which this would be of greatest educational benefit is at the preservice teaching level, before the individual assumes sole responsibility for classes. The extent to which teacher efficacy influences student achievement is directly related to the beliefs that the individual teacher holds about his or her ability in any given context. An 'inefficacious' individual does not necessarily lack the skills or knowledge to perform an action. Rather, they lack the belief in their ability to implement such skills or knowledge, consequently rendering both ineffective.

The teacher efficacy construct is bidimensional, consisting of teaching efficacy and personal efficacy. Teaching efficacy is an individual's belief that teaching is instrumental in promoting and increasing student motivation and achievement. Personal efficacy is a teacher's belief in their own ability to have a positive effect on student learning. These two dimensions can operate independently. For example, a teacher may recognise that clear explanations will aid student understanding of a concept (teaching efficacy). They may, however, lack the belief in their own ability to perform such a behaviour (personal efficacy).

#### OPTIMISM BIAS

An individual's belief in his or her performance ability is partly, if

not largely, related to their level of optimism. The value of optimism is that it influences an individual's ability to persevere with difficult tasks and sustain the effort required to overcome obstacles (Bandura, 1995). An optimistic individual is more confident that life events will run their due course smoothly. When it does not they have the belief in their ability to overcome adversity in the face of failure. It follows that individuals who lack a high sense of optimism are more likely to "abort their efforts prematurely when difficulties arise" (p.12). From this it is suggested that an individual's optimism level may be a possible correlate of his or her sense of efficacy.

#### EDUCATIONAL BELIEFS OF PRESERVICE TEACHERS

Given that one's sense of efficacy is a cognitive mechanism governing one's behaviour (Bandura, 1993) it follows that one's beliefs (also a process involving the shaping of one's thoughts) are equally instrumental in determining how one behaves. Beliefs are antecedents of behaviour, whether they are general beliefs or beliefs pertaining to the notion that one can successfully execute an action. Therefore it is necessary to determine whether these educational beliefs of preservice teachers are i) identifiable, ii) developmental (i.e. do one's beliefs change or alter with experience and/or time), and iii) directly related to teacher efficacy. Moreover, the importance in identifying preservice teacher educational beliefs is that they may, like teacher efficacy, be potential predictors of classroom behaviour.

One major domain of teacher beliefs that is by no means extensive in its research is preservice teacher beliefs about 'teacher' and what they consider to be effective teaching. The fundamental importance of an individual's belief about what they define as effective teaching is that it represents components of the teacher's aspired identity. It is understood that in order to be a successful classroom practitioner it is essential to have a firm teacher identity because only in this condition will the complexities of the teaching and learning relationship be fully appreciated (Bullough & Stokes, 1994). Within the classroom context, the beliefs that an individual holds about 'teacher' and their own identity will influence their behaviour with

regard to the 'orientation' they choose to adopt, be it one that emphasises interpersonal relations, management/organisation, instruction, or a combination of these. One's school experience, formal teacher training, and practicum are the three main forces that influence preservice teacher educational beliefs (Fuller & Bown, 1975; Lortie, 1975; Zeichner & Grant, 1981). Within the specific classroom context these forces will also influence the preservice teacher 'orientation' (Weinstein, 1988).

Interpersonal relations are consistently found to be the main focus of preservice teachers who view this orientation as necessary when working with children (Book, Byers, & Freeman, 1983). This perception is viewed as problematic by Book et al. (1983) as the cognitive function of affecting student academic achievement appears to be denied. Further, the affective interpersonal relation focus is not perceived as a valuable one considering the 'intellectual content' required as a basis of school education, especially at the competitive secondary level. The potentially harmful nature of this educational belief is illustrated by Book et al. (1983) who stated that "the view of teaching as an extended form of parenting may be the nemesis which diminishes preservice teacher's valuing of pedagogy courses and professional attitudes" (p.10).

Preservice teachers throughout their training period are consistently found to display high levels of confidence, although higher at some times than others (Bullough & Stokes, 1994; Kaufman, 1992; Knight & Duke, 1990; Marso & Pigge, 1989; Pigge & Marso, 1987; Weinstein, 1989, 1990).

Studies consistently confirm that preservice teachers who have high

levels of unrealistic optimism before practicum tend to become more realistic, although still confident, after the practicum experience (Bullough & Stokes, 1994). Many criticise this confidence, suggesting that it implies a sense of arrogance on the part of those preservice teachers who disregard the need for professional knowledge. While it is acknowledged that a highly overestimated sense of personal efficacy may in some cases be harmful, Bandura (1995) suggested that positive, or perhaps overestimated self-appraisals should not necessarily be viewed as a "cognitive failing or character flaw to be eradicated" (p.12) as they can in fact benefit the individual. Extra effort may be required and expended to overcome situations that prove to be more challenging than the usual routine, thus extending the individual's performance. Of greater danger is when an individual lacks a sense of optimism and consistently underestimates their capabilities, hence they "rarely set aspirations beyond their immediate reach nor mount the extra effort needed to surpass their ordinary performance" (p.12). This illustrates the parallel that exists between high levels of optimism and confidence and one's sense of personal efficacy.

#### RATIONALE

The importance of the teacher efficacy construct in an educational

setting has further significance beyond the impact it has on student achievement. It may also hinder or further the professional development of teachers who believe themselves fit or unfit to deal with the many challenges that teachers face daily. Further, the majority of studies that examine preservice teacher efficacy has largely been limited to the United States with only two universities accounting for 40% of the total population sampled (Brookhart & Freeman, 1992). Little research into preservice teacher efficacy has been conducted in an Australian context. Thus, further research priority for studying teacher efficacy in preservice teachers in Australian universities is warranted and the present study seeks to gain such insight.

An implicit relationship may exist between preservice teachers' beliefs about the role of teacher, their levels of optimism bias and teacher efficacy. No study has examined the educational beliefs and levels of optimism of preservice teachers as variables possibly affecting teacher efficacy levels at the secondary level. The present study therefore focuses on two major research questions. First, the question arises as to whether i) preservice teacher beliefs about the characteristics of a good teacher and ii) preservice teacher levels of optimism bias directly and significantly impact levels of teacher efficacy. Secondly, do preservice teachers beliefs, optimism and teacher efficacy differ at distinct stages of their teacher education? The quantitative study of these variables in a larger group included preservice teachers at four different stages of their teacher training in order to investigate the differences in the above variables between junior and senior year respondents as indications of possible changes in these variables during teacher education.

To complement this quantitative analysis, qualitative data were gathered from brief, structured interviews with six participants in order to extrapolate richer information as to the most significant changing agents affecting one's beliefs and optimism over the teacher training period.

## METHODOLOGY

### Participants

The sample for Phase 1 consisted of 222 university students enrolled in a four year Bachelor of Education (Secondary) program. Students across all four years of the course were represented: 52 first year students, 66 second year students, 65 third year students and 39 fourth year students. All participants were training to become specialised

secondary teachers in their respective curriculum areas.

The sample for Phase 2 of the study consisted of six students drawn from the group described above. The students who were interviewed were selected according to contrasting levels of teacher efficacy on the questionnaire results. Two first year students, the individual who displayed the highest level of teacher efficacy and the individual who displayed the lowest level of teacher efficacy were chosen from among

those who were willing to participate in an interview. Additionally, four third year students, the two who displayed the highest levels of teacher efficacy and the two who displayed the lowest levels of teacher efficacy were chosen. First year students and third year students were the two subgroups selected because they showed the greatest and most significant variance in the results measuring beliefs and optimism bias.

### Test Materials

To investigate the relationship between preservice teachers' efficacy, beliefs and optimism bias, the participants were administered a questionnaire consisting of instruments measuring each variable. A social desirability scale (Marlowe & Crowne, 1960) was also administered.

A fixed response measure for teachers' beliefs and 'unrealistic optimism' was developed based on Weinstein's (1989) open-ended questionnaire which examined the differences between primary and secondary preservice and inservice teachers' responses to the question: "What do you 'have in mind' when you use the phrase 'a really good teacher?'. Of the 20 'categories' that Weinstein gathered as a result of coding responses to her open-ended question, the characteristics with the highest percentage rating for secondary preservice teachers were selected for the present study.

An additional five characteristics were formulated and selected to ensure that the three subscales of i) interpersonal relations, ii) management and organisation, and iii) instruction were evenly represented. A total of 18 characteristics were represented with the inclusion of the category 'other' to allow respondents to add any other variable they considered important.

In order to examine preservice teacher beliefs of 'teacher,' participants were asked a) to tick up to eight characteristics they had in mind when they use the phrase 'a really good teacher' and b) to rate on a five-point Likert scale (from 'never true of me' to 'always true of me') how they as a teacher display all of the 18 characteristics, not only the ones previously chosen. This measure was labelled the Preservice Teacher Belief Questionnaire 1 (PTBQ1). Next, students were asked, "Compared with other students in your year and in your curriculum area, how effective do you think you will be as a classroom teacher?" They were required to respond on a five-point Likert scale from 'well below average' to 'well above average.'

Given the same list of 18 characteristics students were then asked, "Compared with other students in your year and curriculum area, judge how effective you think you will be as a classroom teacher for all of the characteristics." They were required to rate themselves on a five-point Likert scale ranging from 'well below average' to 'well above average'. This measure was labelled the Preservice Teacher Belief Questionnaire 2 (PTBQ2).

Preservice teachers' efficacy was measured using Guskey and Passaro's (1994) revised model of the Gibson and Dembo (1984) Teacher Efficacy Scale (TES). Students were then required to complete the revised Life

Orientation Test (LOT-R) devised by Scheier and Carver (1994) to measure optimism bias. The instrument contained 10 items in statement form that asked participants to indicate their extent of agreement with each of the items on a five-point Likert scale from 'strongly disagree' to 'strongly agree'.

The final section of the questionnaire consisted of 10 true/false items drawn from the Marlowe-Crowne Social Desirability Scale (M-C SDS: Marlowe & Crowne, 1960). The M-C SDS (1960) was included to assess the degree of compliance in demand characteristics (i.e. responding in a manner the subjects feel the researcher desires).

## Procedure

### Pilot Study

A pilot study was conducted early in May 1995. According to the results of the pilot study significant modifications were made to the questionnaire including: rewording ambiguous instructions; reordering the scales so they appeared consistently with negative responses on the left to positive responses on the right; and eliminating repetitive and redundant questions.

### Phase 1

In mid-May 1995 the questionnaires were administered in tutorial times by the researcher over the period of one week. The month of May was chosen for data collection so that first and second year students had no teaching experience whereas third and fourth year students had previous teaching experience. This allowed comparison between two discrete groups.

### Phase 2

Six individual interviews were conducted five months after the initial questionnaire was administered, shortly after students had completed practicum.

## RESULTS

Reliability analysis, descriptives, t tests, univariate analysis of variance (ANOVA), factor analysis and correlations were used to determine the results in Phase 1 of the study. In Phase 2 of the study transcripts from the six interviews were analysed.

### Beliefs

Reliability analysis of the two scales of eighteen characteristics showed that the PTBQ1 displayed a very high Cronbach alpha coefficient of .85, indicating internal consistency. The repeat scale, PTBQ2, was also internally consistent as shown by the Cronbach alpha coefficient of .88.

HYPOTHESIS #1a. Students at all levels rate the interpersonal relation orientation as significantly more important than either the management/organisation or the instruction orientation of the valued (x

variable) and non-valued (y variable) characteristics on the PTBQ1. Supporting hypothesis #1a, means for the interpersonal relation orientation exceeded both the instruction orientation ( $t = 10.10$ ,  $df = 216$ ) and the management/organisation orientation ( $t = 7.81$ ,  $df = 212$ ). Students were then required to rate the extent to which they felt 'they as teachers' presently display all of the characteristics (p variable), not only the valued ones. Results showed that they scored themselves as most competent for the interpersonal relation orientation. This result was statistically significant as the means for the interpersonal orientation exceeded both instruction ( $t = 8.99$ ,  $df = 221$ ) and management/organisation ( $t = 10.71$ ,  $df = 221$ ).

HYPOTHESIS #1b. Students rate themselves significantly higher for the characteristics they value (x variable) than for non-valued characteristics (y variable).

Students felt more competent, regardless of orientation, for the characteristics they valued in a "really good teacher" (x variable) than they did for the characteristics perceived as less important (y variable).

HYPOTHESIS #1c. Junior students rate themselves significantly higher

than senior students for all orientations of the valued characteristics (x variable) and present self-rating (p variable) for all the characteristics.

ANOVA was used to determine whether mean differences existed between the four subgroups. Tukey's Honestly Significant Difference test (HSD) was used to identify where differences occurred. Second year students and third year students differed significantly from first year students for the management/organisation orientation. Means for first year students exceeded both second and third year students. First year students attained significantly higher scores for the instruction orientation than third year.

For the present self-rating, first year students rated themselves overall as significantly higher than third year students, indicating that they felt considerably more competent with management and organisation in the classroom. First year students rated themselves significantly higher than third year students for instruction.

### Optimism

HYPOTHESIS #2a. All students display high levels of optimism both when comparing themselves to peers (concerning their predicted effectiveness as a classroom teacher) and for the LOT-R optimism scale.

The overall scores obtained from the one item predicted effectiveness scale were reasonably high ( $X = 3.78$ ,  $SD = 0.58$ ). One hundred and forty one students of the 222 rated themselves as "above average". For the LOT-R optimism scale the overall level of optimism was quite high ( $X = 20.97$ ,  $SD = 4.16$ ).

HYPOTHESIS #2b. First year students express a significantly higher sense of 'unrealistic optimism' than second, third and fourth year students when comparing themselves to their peers on the PTBQ2 (f

variable - future teaching performance rating on all 18 characteristics).

Consistent with the results from both the x and the p variables, first year students displayed the highest scores when they rated their beliefs in their own abilities for all three orientations. Data for the interpersonal orientation showed that first year means significantly exceeded both second and third year. In management/organisation orientation first year rated themselves significantly higher than third year and in the instruction orientation first year students also displayed the highest mean score, differing significantly from third year.

### Teacher Efficacy

In order to validate the two dimensional construct of teacher efficacy, factor analysis which used the principal axis factoring (PAF) method was used. The VARIMAX approach was used to obtain an orthogonal rotation of factors. The factor loading values were set at .35 and items clearly fell onto two factor loadings which illustrated conceptually distinct dimensions of the teacher efficacy construct. Items on Factor 1, except item 4 and item 15 are concerned with the extent to which teachers can overcome external factors, such as family background, to affect student performance (teaching efficacy). Items falling on Factor 2 illustrate the extent to which teachers are personally capable of affecting student performance (personal efficacy). However, reliability analysis of Factor one yielded a Cronbach alpha coefficient of .623 when item 14 was deleted. This coefficient is an acceptable but low level of internal consistency. Factor 2 on the other hand was not internally consistent (Cronbach alpha coefficient = .592).

HYPOTHESIS #3a. The overall personal efficacy score is higher than teaching efficacy scores for all groups.

HYPOTHESIS #3b. Junior students display higher levels of both personal efficacy and teaching efficacy than senior students.

The totalled teaching efficacy and personal efficacy variables were analysed separately by oneway ANOVA with Tukey's HSD test. The teaching efficacy scale score revealed no statistically significant differences between any two groups. The personal efficacy scale score identified that second year students significantly exceeded first year students but no other differences among groups were found.

HYPOTHESIS #3c. A positive correlation between personal efficacy and instruction orientation and teaching efficacy and instruction orientation and a positive correlation between optimism and personal efficacy are predicted.

All correlations are positive and some significant at the  $<0.01$  and  $<0.001$  level, however, all coefficients are very low.

### DISCUSSION



### Optimism bias

Overwhelmingly, perhaps the most significant finding of the present study with regard to optimism is the discrepancy displayed consistently between first year students and third year students. First year students judged themselves to be significantly more competent than third year students for the orientations of management/organisation and instruction on all three self-ratings (i.e. on the valued characteristics, the present self-rating and the future self-rating). These findings are consistent with previous research (Weinstein, 1988; Weinstein, 1989, 1990) that find that high levels of "unrealistic optimism" are prominent among the preservice teacher population, particularly before they have completed practicum.

Interestingly, a clear and consistent pattern emerged as a result of comparing group differences between ratings on the valued, present and future characteristics. A U-shaped curve has formed. After first year there is a slight difference in one's optimism (there is a decrease) that reaches its lowest point in the third year and then another substantial difference occurs as fourth year students display high levels of optimism. Past studies (Hoy & Woolfolk, 1990; Kaufman, 1992; Knight & Duke, 1990; Weinstein, 1989, 1990) suggest that fourth or final year students reflect the confidence of entering teacher candidates, a confidence that is not categorised as "unrealistic" given that they have completed several practicum experiences and have been exposed to the realities and complexities of schools and classrooms. Why, then, do third year students continuously display the lowest levels of belief in teaching abilities? The Bachelor of Education program is designed in such a way that for practicum, preservice teachers would normally teach only one subject at a time, until fourth year when they are required to teach both their methods. For example, if an individual has English and History as their teaching methods, they would under normal circumstances teach English on their first practicum, History on their second practicum and both methods for their final or fourth year practicum. Therefore it is suggested that third year students were more plagued by self-doubt in their ability than any other year because while they had been previously exposed to the reality of classroom occurrences, at the time of questionnaire administration their next practicum was fast approaching and they had no experience teaching in their second curriculum area. Further, it is well recognised that teachers tend to favour one subject area more than another and typically a preservice teacher would complete their first practicum experience in their major teaching area for which they felt better prepared. Thus, perhaps third year students were concerned with the approaching practicum in their teaching minor.

Considering this, the U-shaped curve that emerged can also be explained to fit both second and fourth year students. Second year students are not as 'unrealistic' as first year students and this may largely be due

to the hesitancy they feel toward their approaching first practicum

experience. Also they have been introduced more to the technicalities and intricacies of teaching practice within their course content while first year students were still at very general and theoretical stages of their Bachelor of Education program and are unlikely to appreciate what is involved in teaching and learning. Fourth year students, having completed two practicum experiences and covered both of their curriculum areas, not surprisingly present an overall more balanced perspective of their teaching abilities. There does exist some evidence (Bandura, 1995) to suggest that negative experiences and feelings are both beneficial and necessary if professional and/or personal growth and development are to occur. Therefore, perhaps this time for third year students is an essential period of transition of benefit to the individual who might in fact be reassessing or being forced to challenge their existing beliefs. Clarification as to whether third year optimism bias has decreased since entering the course or whether the particular cohort of third year students began with comparatively low optimism bias could only be achieved through a longitudinal study.

#### Preservice Teacher Educational Beliefs of Orientation

As expected, preservice teachers rated characteristics of interpersonal relations as the most important of the orientations that they considered were displayed by 'a really good teacher'. Interpersonal relations were valued significantly higher than management/organisation and particularly instruction. It is argued, however, that the consistent interpersonal focus may be perceived by preservice secondary teachers as a prerequisite for one to become an effective teacher. This possibility does not diminish the importance of the instructional focus in their mind. This is critical given that the low scores attributed to the instruction and management orientations are relative to interpersonal relations. Absolute levels of instruction and management/organisation may not be low at all, particularly not alarmingly low. In fact optimism bias results clearly displayed that relatively few low scores were found on any of the scales. Interpersonal skills are more dispositional and are implicitly linked to personality variables. Without a sense of how to relate to students it may be considered by preservice teachers that one will not appeal to the students and therefore not be characterised as an effective teacher. The interviews offered preservice teachers the opportunity to justify the reasons as to why they felt that an interpersonal relation focus is significantly more important than instruction and management/organisation. In response to the question,

"Some teachers try to emphasise warmth and closeness to students while others seem to stress the importance of getting the kids to work effectively.

I know both are important but which do you consider more important?"

one individual said, "I think the warmth one is very important because the students have to be made to feel like the school is a place where they want to be." This example confirms the suggestion that

interpersonal relations are considered necessary before one can teach effectively.

The following examples illustrate that between these two third year students there is no apparent distinction between the individual with low teacher efficacy and the individual with high teacher efficacy in regard to the level of significance they attach to either interpersonal relations or instruction;

- "I think you can't have one without the other...they both go hand in hand." (LOW)
- "I think they're the same thing. I think if you can inspire kids with

warmth...

and enthusiasm that's your best tool for getting kids to work effectively. I don't think you can do one without the other." (HIGH)

The preservice teacher with high teacher efficacy went on to say,

"I think that a bad teacher can possibly get kids to work effectively without using any interpersonal skills, but I don't think that's a good teacher...as soon as the kids leave school they're going to go 'Yuk, I hated that.'"

The quote above highlights the belief that even a teacher who uses instructional skills in isolation is not considered to be effective, again emphasising the necessity for an individual to possess solid interpersonal skills.

#### Teacher Efficacy

Before discussing the results of the teacher efficacy analysis, the reliability and the validity of the TES as a measure of preservice teacher efficacy must be considered. Low and unacceptable levels of reliability were revealed for the teacher efficacy and personal efficacy scales, respectively. Too many factors are not represented by the TES; it is simply not adequately explicit. If we examine the highest loaded item (item 7) of Factor 1,

"I am very limited in what I can achieve because a student's home environment is a large influence on his/her achievement"

it becomes obvious that an individual, particularly one with no practicum experience, would have difficulty rating the extent of their agreement for numerous reasons. Firstly and perhaps most importantly, the situation-specific nature of teacher efficacy is clearly not represented by item seven (i.e. the fact that one's teacher efficacy is unlikely to remain fixed at any one point throughout the period of a

teaching day). Respondents may be uncertain what the term "achieve" implies. Further, considering that teachers are often more confident in subject area than another it is unclear which subject they refer to when completing questions such as item seven. As the findings of teacher efficacy are now discussed within the context of the present study, they must be considered in their most general terms, as they were measured.

The expected, yet nonetheless interesting trend that emerged in relation to the teaching efficacy and personal efficacy scores was that the personal efficacy scores were higher than the teaching scores for all years. They were substantially higher for second, third and fourth year students who felt that they can personally make a difference to student performance; more so than teachers in general. This finding is consistent with Hoy and Woolfolk's (1990) findings that personal efficacy increased after practicum. Surprisingly, however, the personal efficacy scores revealed that first year students were significantly lower in their belief that they could personally affect student performance than were second year students, who unexpectedly displayed the highest level of personal efficacy. It appears contradictory that after having consistently displayed the highest levels of optimism with regard to specific characteristics of teaching effectiveness that first year students should feel least capable of all four years to personally affect student performance. On closer examination, however, this result is in fact logical considering the context in which teacher efficacy was measured, as previously discussed. The personal efficacy items are

all strictly focussed on instruction. This assumes that when a preservice teacher responds to such items that they must consider not only their teaching ability but the ability of students to learn. Therefore in terms of what the TES measured in the context of the present study, it is reasonable that first year students displayed significantly lower personal efficacy than any other year, simply because they have not yet commenced the component of the Bachelor of Education program that teaches preservice teachers specific skills of 'how to teach'.

A more complex issue is to consider why second year students displayed significantly higher personal efficacy than first year students. It is suggested that the reasons for this are identical to the reasons that first year displayed low personal efficacy although in the opposite direction. By this it is implied that while first year students had absolutely no training into the specific skills of teaching, second year students were administered the questionnaire at the end of two-hour tutorials on specific teaching skills and effective teaching practice. Perhaps sensitised and with this information fresh in their minds they feel confident in their instructional ability to affect student performance. This may be a positive indicator of the effectiveness of that particular course component.

Of interest is the lack of the strength of the correlations between variables of; personal efficacy and the present self-rating of

instruction orientation, teaching efficacy and the valued instruction characteristics, and personal efficacy and optimism. Despite the fact that all correlations were positive, the coefficients were very low, probably attributable to the low reliability of the TES. Only occasionally was there any indication from the interview to suggest that orientation predicted teacher efficacy because there was a significant amount of overlapping between all three orientations among high and low efficacy preservice teachers.

#### EDUCATIONAL IMPLICATIONS

All of the most significant educational implications of the present study are directed to teacher educators with the purpose of improving the teacher training programs to cater better for the needs of preservice teachers. Essentially, the most obvious need is to address the comparatively low levels of optimism and belief in one's ability displayed by third year students. Techniques that focus on enhancing self-confidence would be of benefit to these preservice teachers, particularly as they approach practicum. The teacher efficacy construct shows that preservice teachers are more likely to enjoy their practicum experience and succeed if they believe they are capable of affecting student performance.

Further, teacher education programs may benefit from modeling the second year course of the Bachelor of Education (Secondary) designed to teach students the macro skills of teaching. The particular component, according to interviews and the personal efficacy levels displayed by second year students, is successful in meeting preservice teacher needs. Technicalities such as effective questioning and explaining are, in a sense, tangible skills that preservice teachers can improve on. Perhaps it is the usefulness and purposefulness of the course that second year students have responded to. Program developers should consider this when planning preservice teacher training course components. This may warrant further cross-institutional investigation. Providing preservice teachers with many opportunities to experience a wide range of both teaching and learning environments (positive and negative) may aid in the formation and retention of stronger beliefs and a sense of identity. Teacher educators should seek to incorporate strategies within their programs that allow for the identification of those preservice teachers who display little consistency in their educational beliefs. In this way more individualised needs can be

targeted. Incorporated within this is the possibility of stipulating that preservice teachers should conduct more practicum lessons in their weaker subject area. By this, a stronger sense of teacher efficacy may develop in a wider range a domains, thus enhancing both the professional development of the individual and the staff with whom they work.

The investigation of the presence of teacher efficacy among preservice teachers has by no means been conclusive, although of great significance is the direction that further research can and should

approach the issue of examining preservice teacher efficacy. The need for a more reliable and valid measure of preservice teacher efficacy does not go unnoticed and is in fact essential if further studies are to elicit accurate findings of the construct. In order for this to occur researchers would benefit by developing an instrument suited for preservice teachers that can cater for specific situations. For example, the possibility of requiring subjects to rate the belief in their effectiveness with regard to a scenario would allow for the clarification of the variables of frame of reference and subject area. Less ambiguity may result and the findings of such a design could be defined more conclusively than can be done at present. Therefore the reconstruction of a more detailed and explicit measure of teacher efficacy that is suited to preservice teachers is not only warranted, but necessary.

### Conclusion

The present study has further developed and recognised the important role that an individual's beliefs, largely shaping their identity, have in an educational context. This is particularly salient given that the majority of preservice teachers included in the study will become full-time teachers whose beliefs will have a direct influence on their students, their colleagues and their own professional development. Thus for further educational purposes it is probably time to maximise opportunities that provide individuals the chance to observe a wide variety of teaching and learning styles, both effective and ineffective. These instances will provide individuals with direct and purposeful experiences that will most assist in developing positive and firm identities among all preservice teachers. The nature of 'beliefs' necessitates further qualitative research methods and teaching strategies in order to identify the context in which the dominant ideologies of preservice teachers are located.

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