Considering moderators: How important are they for teacher expectancy research?

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It is now over four decades since Rosenthal and Jacobson (1968) completed the first study of teacher expectations. They proposed that teachers must interact differently with students for whom they had high and low expectations, which ultimately led to high expectation students achieving more than low expectations students. Several researchers, such as Brophy and Good (1970) and Cooper and Good (1983) then investigated teacher behaviours in order to try and identify the differential teacher behaviours which might result in students receiving messages about what their teachers expected of them and ultimately fulfilling their teachers’ expectations, the self-fulfilling prophecy effect. These researchers were indeed able to identify various differential teacher behaviours. Some researchers (e.g., Cooper, Baron, & Lowe, 1985; Dusek & Joseph, 1985; Good & Findley, 1985; Rubie-Davies, Hattie, & Hamilton, 2006), however, also suggested that particular types of students or student characteristics might result in teachers having high or low expectations for particular students. For example, characteristics such as gender, race, socioeconomic status, diagnostic labels and various other student characteristics were investigated. Indeed, it was found that teachers had higher expectations for boys in maths and science and for girls in reading (Page & Rosenthal, 1990), higher expectations for American European students rather than African American or Latino students (Baron, Tom, & Cooper, 1985), or in New Zealand higher expectations for New Zealand European and Asian than Maori students (Rubie-Davies et al., 2006), higher expectations for middle class students than poorer students (Rist, 2000) and so on. However, all these studies, those that explored teacher behaviours and those that explored student characteristics, all analysed their data by aggregating teacher data. Studies such as this treat all teachers as one variable and generally then the size of the effect of teacher expectations is found to be quite small, around .3. But studies like this make an assumption that all teachers are the same, that overall we will find similar results across all teachers. But are all teachers the same?

The authors of the current paper argue that teachers can differ markedly in their expectations, beliefs and characteristics, and that when data are examined by particular teacher characteristics or moderators, effects of teacher expectations can be quite large. Only three researchers, however, have investigated teacher moderators in relation to expectations: Eisha Babad, Rhona Weinstein and Christine Rubie-Davies. The next section will summarise the findings of studies of teacher moderators which have been led by these three researchers.

In a series of studies Babad and his colleagues have explored the interactions of high and low bias teachers with their students (Babad, Bernieri, & Rosenthal, 1987, 1989a, 1989b, 1991; Babad & Taylor, 1992). High bias teachers were those who were easily swayed by false information about some students and who would interact with students based on the false information they were given, rather than judging students according to their own interactions with them. Low bias teachers, on the other hand, were not easily swayed by false information
about students and continued to interact with students in line with student performance and their day to day interactions with them. When Babad videotaped high bias teachers in Israel interacting with a student or even just talking about a student, 10 year old students, pre-service teachers and experienced teachers could tell from just 10-second video clips whether the child the teacher was interacting with or talking about was a high or a low expectation student. He endeavoured to distort the audio on the video tapes so that judgements were made on the basis of non-verbal rather than verbal behaviour. Babad repeated his study with 10 year olds in New Zealand where the students could not understand Hebrew (Babad & Taylor, 1992), and they too could tell from just the short video clips whether the child the teacher was interacting with or talking about was a high or a low expectation student.

Weinstein explored the interactions of high differentiating teachers with high and low expectation students compared to those of low differentiating teachers. High differentiating teachers were those who treated high and low expectation students very differently while low expectation teachers interacted very similarly with all students. In a summary of several studies, Weinstein (2002) reported that high differentiating teachers were more likely to focus on whole class structures or to group students according to ability whereas low differentiating teachers spent less time on whole class structures and employed flexible, mostly heterogeneous grouping with neutral labels. High differentiating teachers implemented a highly differentiated curriculum and tasks offering less variety with similar processes and products. On the other hand, low differentiating teachers presented a greater variety of tasks to students, more challenging learning experiences and subject matter that include divergent processes and products. High differentiating teachers viewed intelligence as something which is fixed whereas low differentiating teachers viewed intelligence as malleable. High differentiating teachers viewed their role as that of director or academic instructor while low differentiating teachers saw themselves as facilitators and socialisers. Low differentiating teachers expressed more positive expectations and showed respect for individual differences in learning.

Weinstein, though, has examined other teacher moderators of teacher expectations. In a study with Alvidrez (Alvidrez & Weinstein, 1999) they showed differences in teacher beliefs, decisions and interactions with high and low expectation students depending on whether the teachers were high or low stratification teachers. High stratification teachers perceived large differences between the highest and lowest ability children in their classes. Low stratification teachers saw children far less discrepancy in their high and low expectation students. Again, there were also differences between these two types of teachers in the ways in which they structured their classrooms. High stratification teachers made many hierarchical distinctions about children’s intellectual and social competence compared with low stratification teachers who did not make many hierarchical distinctions about children’s intellectual and social competence. High stratification teachers regarded children more negatively and perceived less improvement over a school year, whereas low stratification teachers regarded children similarly and expected that all children would improve. Indeed, the more teachers’ perceptions were stratified, the more their ratings of children’s competence were predictive of parents’ ratings, i.e., parents’ perceptions of their children’s ability and competence mirrored teacher perceptions. Further the stratification of teachers’ perceptions was consistent across the year.

Weinstein (Perry & Weinstein, 1998) has also examined effects on students when children have child-centred or non-child-centred teachers in the early years of schooling. Non child-centred teachers were those who directed student learning giving children little or no
autonomy over their own learning. Child-centred teachers on the other hand encouraged child autonomy and responsibility. Non child-centred teachers presented uniform, highly structured tasks with limited choice whereas child-centred teachers offered differentiated tasks with variety and choice, recognising individual differences and abilities. Non child-centred teachers offered limited opportunities for conversations about instructional content and interpersonal issues or for children to engage in peer interaction. Child-centred teachers, however, engaged in practices to build positive student relationships (peer interactions, child-led group work, problem solving, and negotiation). The study showed that higher rates of child (learner)-centred teacher practices resulted in improved peer relationships compared with classes where there was a non-child centred approach. Children displayed less anger towards a deviant peer and showed greater empathy towards a deviant peer than was evident in non-child centred classes. Further, in child-centred compared to non-child centred classes there were lower rates of interpersonal behavioural problems, lower rates of children rejecting their classmates and a reduction in deviance overall.

Rubie-Davies (2006, 2007, 2008) has examined the teacher moderator of high and low expectation teachers. High expectation teachers expect the end of year performance of all their students to be well above where they started at the beginning of the year. This applies to students ranging from below average through to well above average (i.e., the expectation that all students will move, for example, from below average to average; from moderately below average to above average, and so on). In contrast, low expectation teachers do not expect their students to move from one level of achievement to another. There appear to be important differences in the classroom environment for students with high or low expectation teachers and such disparities may act as mechanisms for teacher expectation effects. For example, low expectation teachers provided quite separate activities for high and low ability students while high expectation teachers provided challenging learning opportunities for all students (Rubie-Davies, 2008). The questioning of high expectation teachers was more open and inferential when compared to that of low expectation teachers who asked fewer open and more closed questions. Differences also applied to instructions, e.g., the framework for student learning was clearer and a larger number of explanations were given by high expectation teachers, whereas there were fewer explanations about concepts given by low expectation teachers leading to rather more limited support for student learning. Low expectation teachers managed children’s behaviour negatively; high expectation teachers managed their students’ behaviour positively and valued the importance of a social climate within the classroom. Low expectation teachers gave more procedural statements in class that teaching statements. High expectation teachers set clear learning goals and provided students with more feedback on the next step in their learning and progress (Rubie-Davies, 2007). Further the academic self-concept of students with high expectation teachers has been shown to increase over one year while that of students with low expectation teachers declined dramatically (Rubie-Davies, 2006).

Rubie-Davies has also begun to investigate other psychological variables related to high and low expectation teachers. For example, in a recent study (Rubie-Davies, in press) was able to show that high expectation teachers not only had high expectations for their students but they also perceived a wide range of student characteristics (e.g., confidence, motivation, persistence, attitude to school work) very positively whereas for low expectation teachers there was little association between their expectations and how they perceived student characteristics. Where correlations were found for low expectation teachers, these tended to be negative.
The current study investigated a further psychological variable, teacher efficacy for high and low expectation teachers. Hence this study asked the question: do high expectation teachers have higher personal teaching efficacy (Woolfolk & Hoy, 1990) than low expectation teachers?

Method

Participants were 62 primary school teachers (Years 5-8) from 16 randomly selected schools across New Zealand. One month into the academic year, teachers completed a questionnaire related to personal teacher efficacy. They also estimated each student’s reading level at year’s end. Each school supplied recently completed standardized reading test results for the students (asTTLr reading). Teacher expectations ($N = 1607$) were compared with actual student achievement. Mean difference between beginning-year student achievement and teacher expectations for year-end performance was $1.20$ ($SD = .80$). Teachers whose expectations were $.5$ standard deviation above that mean were classified high expectation teachers ($n = 12$), those whose expectations were $.5$ below, low expectation teachers ($n = 9$) and the remainder, average expectation teachers ($n = 41$).

The second questionnaire included items from the Teachers’ Sense of Efficacy Scale (24 items) (Tschannen-Moran & Hoy, 2001) and teacher efficacy items from the PALS scales (6 items) (Midgley et al., 2000). Because items from Midgley’s scale were included in the questionnaire for the current study, a factor analysis was conducted. Four factors were identified: efficacy in providing for individuals ($\alpha = .86$), in instructional strategies ($\alpha = .87$), in influencing student learning ($\alpha = .79$) and in classroom management ($\alpha = .84$).

Findings

Means were calculated for each teacher efficacy factor by teacher expectation group (see Table 1). The means for every teacher efficacy factor were higher for high expectation teachers than for average expectation teachers which were higher than for low expectation teachers. A statistically significant difference between the three teacher expectation groups was found for efficacy in instructional strategies ($F (2,59) = 5.47, p < .007$), efficacy in influencing students, ($F (2,59) = 3.57, p < .04$) and efficacy in providing for individuals ($F (2,59) = 4.85, p = .01$). No statistically significant difference between the three groups for efficacy in classroom management ($F (2,59) = 1.64, p < .20$) was found.

Table 1: Means and standard deviations by teacher expectation for teacher efficacy factors

<table>
<thead>
<tr>
<th>Expectation level</th>
<th>Instructional Strategies</th>
<th>Influencing students</th>
<th>Class management</th>
<th>Providing for individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>High</td>
<td>72.17</td>
<td>5.87</td>
<td>60.08</td>
<td>8.15</td>
</tr>
<tr>
<td>Average</td>
<td>68.68</td>
<td>5.65</td>
<td>54.88</td>
<td>5.79</td>
</tr>
<tr>
<td>Low</td>
<td>63.89</td>
<td>5.53</td>
<td>53.11</td>
<td>9.40</td>
</tr>
</tbody>
</table>

Post hoc Hochberg’s GT2 tests showed that differences for efficacy in instructional strategies were between high and low teacher expectation groups ($p < .005, d = 1.45$). The difference in means between average and low expectation teachers just avoided statistical significance ($p < .07$). Post hoc tests for efficacy in influencing students between high and
average ($p < .07$) and high and low teacher expectation groups ($p < .07$) just avoided statistical significance. Post hoc tests showed differences for efficacy in providing for individuals were between high and low teacher expectation groups ($p < .008, d = 1.03$). The difference in means between high and average expectation groups was not statistically significant ($p < .27$). Overall these results show a trend for teachers with high expectations to have high teacher efficacy and those with low expectations to have reduced teacher efficacy.

**Theoretical and educational significance**

This study is important because while the mechanics of excellent instruction have been extensively studied (e.g., Topping & Ferguson, 2005), the impact of psychological teacher variables on student outcomes are less well understood. In particular, teacher variables as moderators of teacher expectancy effects have received little attention. While it may not seem surprising that teachers who expect students to make large gains believe they can contribute positively to student learning, nevertheless this is the first study to have explored relationships between these important variables. Teacher expectation research was founded within arguments about equality for all students. The few studies that have included teacher moderators as variables have shown large effects for teacher expectations on student outcomes (McKown & Weinstein, 2008; Rubie-Davies, 2006, 2007). Hence this study contributes to the current paradigm shift in teacher expectation research which is increasingly recognizing the need to include moderators when examining the importance of teacher expectations.
References


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