



A teacher expectation intervention: Modelling the practices of high expectation teachers



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ABSTRACT

Since the original Pygmalion study, there have been very few interventions in the teacher expectation field and none that have been randomized control trials designed to change teacher practices to reflect those of high expectation teachers. The current study was designed to address this gap in the literature. Teachers ($N = 84$) were randomly assigned to either intervention or control groups. Those in the intervention group attended four workshops at which were presented the instructional strategies and practices of high expectation teachers. At each workshop, the intervention group planned changed practices to introduce to their classrooms modelled on the behaviours of high expectation teachers. The researchers visited the teachers on three further occasions to ensure fidelity of the implementation. Students in the classes of the intervention group teachers significantly improved their mathematics achievement over one year, showing a rate of improvement beyond that shown by the students of the control group teachers. Teachers reported high levels of satisfaction with their changed practices and overall, there was a demonstrable degree of integrity in the implementation of the intervention as measured by the researchers. Practical guidelines in relation to the intervention and future directions of the project are included.

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1. Introduction

Teacher expectations for student success are important because they are deemed to have a self-fulfilling prophecy effect such that, when teachers have high expectations for student achievement they interact with their students in ways that cause their expectations to become realized (Good & Nichols, 2001). Indeed several studies have shown that students for whom teachers have high expectations tend to achieve at higher levels than those for whom they have low expectations, even when achievement is controlled. For example, Madon, Jussim, and Eccles (1997) controlled for prior mathematics ability and showed that in mathematics for both high and low achievers, teachers' under- as well as over-estimates of achievement produced self-fulfilling prophecy effects.

Since the initial experimental study of Rosenthal and Jacobson (1968), teacher expectations have mostly been investigated

through descriptive studies. For example, researchers have studied student characteristics that may lead teachers to form high or low expectations for particular students. In a study of this kind, Tenenbaum and Ruck (2007) have shown that student ethnicity can influence teacher expectations with teachers having higher expectations for white and Asian students when compared with non-Asian ethnic minorities.

Studies have also identified teacher behaviors that transmit expectations. For example, Brophy (1985) showed that teachers tend to wait less time for low expectation students (lows) to answer a question than they do for high expectation students (highs), they criticize lows more often for failure than highs, but praise them less frequently for success than highs, and they call on lows less frequently than highs to answer questions.

Weinstein and her colleagues (Weinstein, 1989, 1993, 2002; Weinstein, Marshall, Brattesani, & Middlestadt, 1982; Weinstein & Middlestadt, 1979) have investigated how students ascertain teachers' expectations for them. They have shown that teacher differentiation in the curriculum delivered to high and low expectation students, feedback from the teacher, public acknowledgment of achievement, the ways that students are grouped, and the verbal and non-verbal behaviors of teachers enable students to interpret their teachers' expectations for their achievement.

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Researchers have also explored how teacher beliefs can moderate expectation effects. For example, Babad (2009) has reported that teachers who hold biased beliefs about their students tend to be more dogmatic in their views and more authoritarian in their interactions with students than those who are less biased and hence expectations are more salient in the classes of high bias teachers and expectation effects are greater. Such teachers are more inclined to judge students based on stereotypical information rather than on objective results and so are also more likely to form biased expectations (Babad, 2009).

Hence there is a large body of literature in specific areas of the teacher expectation field that has described teacher and student behavior, characteristics, and beliefs that are associated with high and low teacher expectations. However, while the very first teacher expectation study (Rosenthal & Jacobson, 1968) was experimental, there have been few other randomized control trials in the expectation field, particularly when compared with the large number of descriptive studies. Further, no studies have been published which have attempted to positively influence student achievement as a result of an intervention designed to change teacher practices and beliefs to replicate those of teachers who have high expectations for all their students. The current study was designed to address this gap in the literature; it is an experimental, rather than a descriptive study.

1.1. Theorizing high expectations

Policy makers and educational leaders appear to believe that high expectations can translate into improved achievement for students because there are consistent calls for teachers to have high expectations for all their students. This implies that teachers can change their expectations and that currently teacher expectations are not sufficiently high for all students and they should be. But whether or not teachers' expectations can be increased for all students with corresponding improvements in students' achievement has not previously been empirically tested. Indeed, the conception that some teachers do have correspondingly high or low expectations for all their students has only been explored in the literature relatively recently (e.g., Rubie-Davies, 2007).

1.2. Intervention studies in the teacher expectation field

The first ever study in the teacher expectation field (Rosenthal & Jacobson, 1968) was a randomized control trial in which teachers in one school were told that randomly identified students would suddenly blossom. By the end of the first year of the study, overall those who had been identified as "bloomers" had made greater intellectual gains than students who were not randomly assigned. However, this initial study caused much controversy, mostly related to the methodology employed. For example, Snow (1969) argued that the intelligence test used to track changes in the experimentally identified students was not normed for the youngest students in the study where the biggest gains were found and therefore their results would have had to have been extrapolated. He believed this made the validity of the results questionable. Elashoff and Snow (1971) raised the same issue but also added debate about the effects of multiple administrations of the test and pointed out that whereas there were experimental effects for the younger students, the older students did not show statistically significant intellectual gains. Nevertheless, while there was debate related to whether IQ could be raised experimentally, none of the critics at the time, and few researchers today, would deny the existence of teacher expectation effects. In Rosenthal and Jacobson's (1968) initial work, it was theorized that teachers must interact differentially with students for whom they have correspondingly high or low expectations and that this differentiation is what

would ultimately lead to students achieving at higher or lower levels, dependent on their teachers' expectations.

Following the initial study, there were several other replication attempts. Raudenbush (1984) identified 18 such studies. He showed that the timing of the false information given to teachers regarding students likely to suddenly make great learning gains mattered. If the teachers knew the students for more than two weeks then they were not influenced by researcher manipulation but in the five studies where the experimental manipulation occurred before teachers had met their students, there was an effect of the intervention on student achievement.

Kerman (1979) trained teachers to distribute their interactions with students more equitably. He argued that frequent differentiation among teachers in calling on high versus low expectation students led to the lows disengaging from class discussions and therefore decreased their learning. The 742 teachers who volunteered for the project were divided into an experimental and control group. Kerman reported that training teachers to interact equitably with students led to significant academic gains for the low achievers as well as a reduction in absenteeism and discipline referrals. Evaluations of this program (Gottfredson, Marciniak, Birdseye, & Gottfredson, 1995), however, were less enthusiastic about its positive effects for low achieving students. This is probably because teacher expectation effects are more complex than simply a reduction to teacher behaviors.

Through an aggregation of studies at the time, Brophy (1983, 1985) took a similar approach to changing specific teacher behaviors by identifying mechanisms through which low teacher expectations could be portrayed to students. For example, teachers were found to wait less time for lows to respond to questions, less was demanded of lows and lows were praised less and criticized more than their high expectation peers. Brophy (1983) identified 17 teacher behaviors that portrayed teachers' expectations. His idea was that teachers should be made aware of these behaviors and that then the teachers would monitor their own interactions for equity in distribution to students. However, Brophy did not collect evidence to indicate that teachers did moderate their behavior. There was simply an assumption that making teachers aware of the interactions that portrayed expectations would lead to change.

Other researchers (Babad, 1990a; Good & Brophy, 1974) took a different pathway to addressing teacher differential behavior. Good and Brophy (1974) observed teacher behavior towards low participants (a group teacher rarely interacted with) and an extension group (students that teachers did not persist with when they responded incorrectly to questions). This differentiation in teacher behavior towards these groups was considered inappropriate by the researchers. The researchers also recorded appropriate teacher behavior towards two contrast groups. The teachers were then individually interviewed, shown the observational data, and given feedback on their differentiating behaviors. The teachers were also encouraged to interact more frequently with the low participants and to prompt the extension group more frequently so that the students had additional response opportunities. Subsequent observations of the teachers did show changes in teachers' behaviors towards the two target groups and there was some indication of corresponding changes in student behavior. That is, both student groups became more inclined than previously to respond to their teachers and to initiate interactions following the teacher feedback.

Babad (1998) claimed that teacher behavior can differ in the quantity and quality of learning support provided to students, in how much pressure is put on students, and in the quality of the emotional support experienced by high and low expectation students. Based on studies (Babad, 1995; Babad, Avni-Babad, & Rosenthal, 2003) in which he found that students were particularly resentful of teachers who gave more emotional support to some

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