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# Attributional Beliefs of Students with Learning Disabilities

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*Abstract: While claims of the importance of attribution theory and teachers' expectations of students in regards to performance are repeatedly made, there is little comprehensive research identifying the perceptions preservice teachers have of students with learning disabilities (LD). Accordingly, this study examined 154 Australian preservice secondary school teachers to ascertain their responses to students with and without LD. It was found that preservice secondary school teachers held a negative attribution style towards students with LD. Preservice secondary teachers perceived students with LD as lacking ability in comparison to others in the class. Recommendations for research and training programs conclude the paper.*

Keywords: Learning Disability, Preservice Teachers, Attribution Theory

## Introduction

**S**TUDENTS WITH LEARNING disabilities (LD) form the largest group of students with special educational needs in inclusive classrooms (Clark, 1997; Clark & Artiles, 2000). Australia has a three-tier system of government (national/federal, state, and local) with the state governments holding responsibility for the funding of public (government) schools, policy, and curriculum issues. Each state uses a categorical approach in defining disabilities, resulting in different definitions and categories of LD across the nation. The only state that has identified and categorised LD as a specific learning disability for support is the Northern Territory. By contrast, other states (such as Queensland, Tasmania, and South Australia) identify and define LD, but support generally is through the use of support programs used for students with general learning difficulties (who differ from those with learning disabilities). Finally, some states (such as New South Wales) do not distinguish between LD and general learning difficulties (Parliament of Australia Senate, 2002). Educators' understandings and expectations of students with LD influence such students' actions and academic achievement. Consequently, the relationship between the educators' understanding and perceptions of students with LD, and their subsequent treatment of them is important. Teachers form efficacy beliefs about the process of teaching during their preservice training, and once these beliefs are embedded they can be resistant to change over the span of a teaching career (Woolfolk-Hoy & Spero, 2005). This study therefore examined preservice secondary school teachers' responses to, and expectations of, students with LD, drawing on the theoretical framework of Weiner's Attribution theory (1979, 1985, 1986).

## Literature Review

Students with learning disabilities (LD) form the largest group of students with special educational needs in inclusive classrooms (Clark, 1997; Clark & Artiles, 2000). Although in Australia the term ‘learning difficulty’ is often used, for the purpose of this paper learning disability (LD) will be used referring to the North American definition that LD is a neurological disorder that is manifested by “significant difficulties in acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical skills...intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur the life span” (NJCD, 1998, p. 1). The American LD movement over the years has been extremely influential within Australia. Australia’s legislative system has a three-tier system of government (national/federal, state, and local). Each state government is responsible for the funding of public (government) schools, policy, and curriculum issues for their own state. Each state uses a categorical approach in defining disabilities, resulting in different definitions and categories of LD. Only the Northern Territory has identified and categorised LD as a specific learning disability for support. By contrast, other states (such as Queensland, Tasmania, and South Australia) identify and define LD, but support generally is through the use of support programs used for students with general learning difficulties. Finally, some states (such as New South Wales) do not distinguish between LD and general learning difficulties (Parliament of Australia Senate, 2002). Educators’ beliefs and understandings about students with LD influence such students’ actions and academic achievement.

## Attribution Theory

An attribution refers to the perceptions individuals have regarding the causes of their or another person’s behaviour. Weiner’s (1985, 1986) model of achievement-related behaviour deals with causal perceptions of success and failure and has increased our knowledge of how attributions relate to learning in school (Linnenbrink & Pintrich, 2002). Weiner presented two attribution theories of motivation. First, Weiner presented ‘intrapersonal theory’, which addresses how individuals explain their own successes and failures. The second model, ‘interpersonal theory’, addresses how individuals explain other people’s successes and failures (Tollefson, 2000). In educational contexts, the way in which teachers perceive the students’ behaviour can influence their future expectations and responses to students.

Different behavioural causes are attributed to outcomes, with ability, effort, luck, and task difficulty the main forms (Foll, Rasche, & Higgins, 2008; Holschuh, Nist, & Olejnik, 2001; Schunk, Pintrich, & Meece, 2008; Stipek, 2002; Weiner, 1979, 1986; Yan & Li, 2008). Additional causes can include teacher, mood, health, fatigue, and others (Weiner, 1986). The behavioural cause that has been assigned as the reason for an outcome has many implications. For example, depending upon the cause given for a behavioural outcome, different responses in regards to behaviours and future expectations from the individual and observers will result. Thus, matching the correct cause to the performance and outcome is vital. Each behavioural performance is measured along different dimensions. It is these causal dimensions that have the psychological force to influence expectancies, emotions, self-efficacy beliefs, affects and actual behaviours (Schunk et al., 2008).

Weiner (1979, 1986) proposed three motivational dimensions of attribution theory: locus of causality, controllability, and stability. The locus of causality dimension focuses on a backward-looking belief (cause), locating the cause as either internal or external to the person.

Controllability refers to how much control a person has over a cause. For example, causes can be controllable (such as effort) or uncontrollable (such as ability) and result in different responses and future predictions. Stability defines causes as either a consistent trait or a temporary state. Stable causes, rather than unstable causes, are more likely to be permanent fixtures in future predictions. Therefore, according to Weiner's model, causes of achievement-related behaviour can be located within one of eight categories (two levels of locus, by two levels of controllability, by two levels of stability).

### ***The Influence of Teacher Expectations***

Teachers' expectations can influence students' motivation and performance (Florea, 2007). Students base their attributions for success and failure on cues from the classroom teacher about the students' competence (Clark, 1997). Research has consistently shown that teachers are likely to experience emotions of anger or sympathy following students' performances in the classroom, depending on their expectations of students (Juvonen, 2000; Reyna, 2000; Reyna & Weiner, 2001; Stipek, 2002). Students may interpret anger by the teacher as a reflection of higher expectations. The teacher's reaction suggests that the outcome was in the control of the student, which implies that the student has high ability. Alternatively, students may interpret sympathy by the teacher as a reflection of lower expectations of them, that is, that the outcome was uncontrollable and thus the student has low ability (Clark, 1997; Graham, 1984; Graham, Doubleday & Guarino, 1984; Juvonen, 2000; Reyna, 2000; Reyna & Weiner, 2001).

As well as teachers demonstrating emotions as a consequence of negative outcomes, studies (Bruning et al., 2004; Schunk et al., 2008) have shown that teacher reactions to successful outcomes also have an impact on students. For example, a teacher who praises a student following success from an easy task is likely to infer expectations of low ability. Furthermore, an absence of praise following success from an easy task can infer expectations of higher ability (Schunk et al., 2008). Even though praising student success has positive intentions by teachers, inappropriate praise can indicate to a student that their ability level is low (Bruning et al., 2004).

Further, research generally supports the notion that students with LD are likely to develop a set of beliefs that can have detrimental implications for their future achievements (Heiman, 2006). The suggestion to teach students with LD to attribute their failures to external uncontrollable traits or internal controllable traits, and successes to internal traits (positive attributional style) may be appealing. Repeated failures by students with LD may cause them to create maladaptive beliefs that can develop problems that go beyond their initial disability. In order to extricate the student with LD from this negative attributional cycle, educators must not just focus on remediation for their academic deficits, but provide these students with meaningful successful experiences. Educators also need to consider the attributional beliefs that they hold concerning students with LD (Lackaye & Margalit, 2006). Research has shown that teachers can misunderstand students with LD, and judge students based on the LD label rather than the attributions, characteristics and needs of these students (Lackaye & Margalit, 2006; Tournaki, 2003).

Clark (1997) found that primary school educators viewed LD as an internal, stable and uncontrollable condition and thus held low expectations for students with LD, showing higher reward, lower anger, higher sympathy, and higher expectations for future failure by

these students. Clark's study concluded that teachers responded with the belief that students with LD would fail more than those without LD; would deserve more sympathy and less anger than those without LD; and, should be rewarded more and punished less than those without LD. Clark's study supported similar findings by Tollefson and Chen (1988) and has since been supported by Gray (2002) and Georgiou and colleagues (2002). Tournaki (2003) found that middle school teachers predicted greater academic success when the student was reading below average level without a label attached than those with the LD label.

A teacher's low expectations can have what researchers have called a "Golem effect" (Eccles & Wigfield, 1985) lowering students' own expectations for themselves. If students with LD do not have belief in their ability to achieve and succeed in education then future prospects can be devastating.

Consequently, whilst teachers' interpersonal attributions of students' outcomes have been identified, there is little comprehensive research identifying interpersonal attributions of students with LD. Moreover, there is little research identifying preservice teachers' interpersonal attributions. As teachers' beliefs, understandings, and expectations are less likely to change throughout their teaching career (Woolfolk-Hoy & Spero, 2005), identifying preservice teachers' interpersonal attributions is essential. Accordingly, the aim of the current study was to identify the causal dimensions of LD as perceived by preservice teachers. The study sought to examine comparisons between students with and without LD, and whether Australian preservice secondary school teachers subscribe them to a positive or negative attribution cycle.

## Method

The purpose of the study was to test basic attributional principles as applied to students with LD. The researchers sought to explore to what extent preservice secondary school teachers' knowledge of the presence or absence of a LD would influence (a) the feedback given to a hypothetical boy based on his ability and the effort expended, (b) the frustration and sympathy preservice secondary teachers felt towards each boy, and (c) the expectations that preservice secondary school teachers held for each student's future.

The preservice secondary school teachers in this study were drawn from four University campuses across New South Wales. The preservice teachers were undertaking a Diploma of Education degree, which prepares graduates to teach children from 12 to 18 years of age. Alongside their university studies, preservice teachers are expected to successfully complete teaching placements or practicums. In the one year, preservice teachers spend an initial two weeks in schools at the beginning of their course, and large blocks of time at the end of each semester in schools (usually around five weeks each semester), and spend the remainder of their time at university. The structure of the program seeks to combine the practical and theoretical elements of teaching by engaging students in professional aspects and classroom practice, from the very beginning of the course. Of the 14 subjects offered to preservice teachers, all must pass an inclusive education subject which focuses on students with special educational needs within an inclusive classroom. Within this subject, students with varying needs and difficulties along with inclusive education strategies are actively taught, as pertains to understanding and managing diverse inclusive classrooms. Participants included 154 preservice secondary school teachers enrolled in a one year teacher-training program, 36%

of who were male and 64% female, a similar ratio to the total number of male and female secondary teachers in Australia (Callan, 2004).

The survey instrument was adapted from Clark's (1997) original study which examined the way in which American elementary teachers perceived the achievement of students with LD in comparison to students without LD. Eight vignettes were created by Clark (1997) and adapted slightly for this study to fit within an Australian context. Each vignette described a hypothetical boy who had just taken a typical classroom test and failed. The vignettes did not specifically identify the cause of the hypothetical boys' failures in order to stimulate causal explanations by the participants. The description of each vignette provided three types of information: a statement of student ability, the typical pattern of effort expended by the student in the classroom, and information on academic performance. The descriptions identified half of the boys as LD and half as NLD, half as high ability and half as low ability, and, half as expending high effort and half as expending low effort. The boys were matched on ability (high/low), on typical effort (high/low), and on the presence/absence of a LD (LD or NLD). Thus, eight vignettes, creating a two (ability) by two (effort) by two (LD/NLD) matrix were formed. The vignettes did not specifically use the terms high or low ability, high or low effort, or LD or NLD. The vignettes used language and explanations of the hypothetical boys that teachers would be familiar with in classroom contexts. An example of a vignette (high ability / low effort / NLD) is:

*Phillip is a student in your class. He has greater aptitude for academic tasks than most children in the class. Although he occasionally does excellent work, he is usually off task and does not participate in class often. He rarely completes class assignments and does not do much of his homework.*

After respondents read the vignettes, they were presented with four questions which asked them (a) what feedback they would give to the child, (b) the degree of frustration that they would feel towards the child, (c) the degree of sympathy that they would feel towards the child, and, (d) their expectation of the likelihood of the boy's future failure.

Each of the four questions that followed the vignettes was presented as a Likert-scale item. The instrument was piloted prior to collecting the data with 40 preservice teachers, who were also asked to comment on the clarity of the vignettes and questions. Very minor revisions were made to the instrument in response to the participants' comments.

## Results

A two (N/LD) by two (ability) by two (effort) multivariate analysis of variance with repeated measures was conducted for the four dependent measures (feedback, frustration, sympathy, and expectation of future failure). Overall, significant main effects, from the multivariate analysis of variance repeated measures, for LD status,  $F(1, 154) = 43.698, p < .001, \eta^2 = .562$ ; ability,  $F(1, 154) = 55.354, p < .001, \eta^2 = .619$ ; and, effort,  $F(1, 154) = 136.901, p < .001, \eta^2 = .801$ , were found for attributional response. The following sections report the univariate analysis of variance using repeated measures for each individual attributional response.

**Feedback**

A significant main effect for LD status,  $F(1, 154) = 30.118, p < .001, \eta^2 = .178$ , ability,  $F(1, 154) = 6.907, p < .01, \eta^2 = .047$ , and, effort,  $F(1, 154) = 240.974, p < .001, \eta^2 = .634$ , was found for feedback. As Figure 1 shows, greater positive feedback was given to the students with LD, those of a low ability, and those who expend high effort.

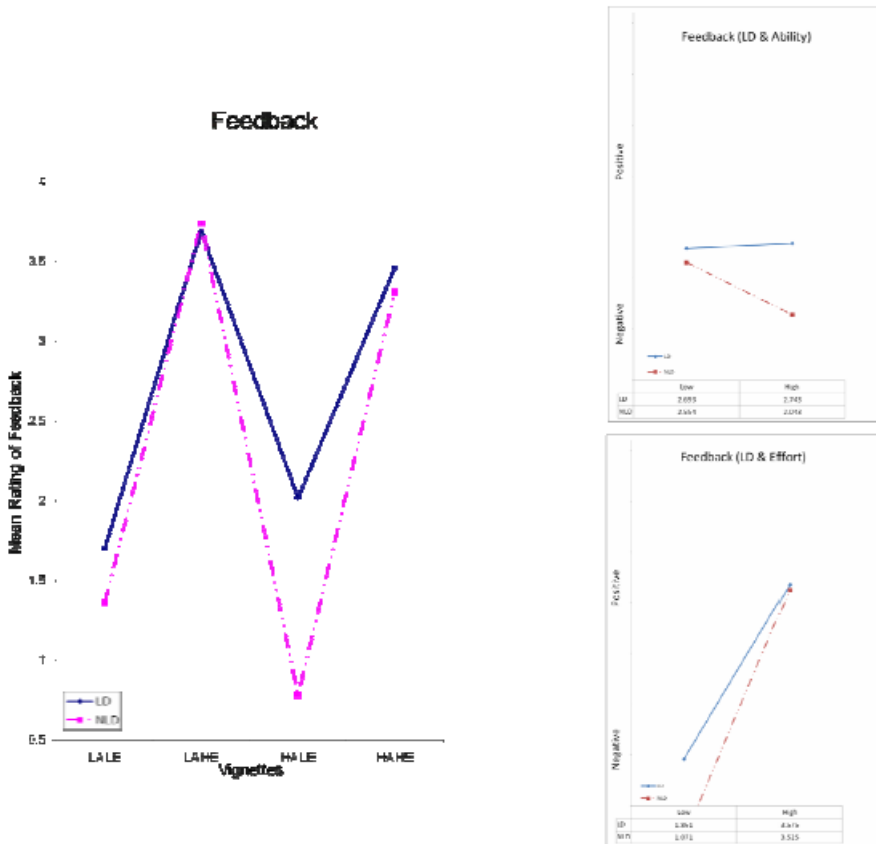


Figure 1: *Preservice Teachers' Feedback to Students*

Preservice teachers considered a boy's level of ability and his LD status  $F(1, 154) = 14.171, p < .001, \eta^2 = .093$ , when giving feedback. Figure 1 shows that LD status was particularly influential with high ability students. Thus, high ability students with LD received greater positive feedback than their high ability NLD counterparts. Moreover, it was the effort expended by the student and his LD status that appeared to most strongly influence feedback given,  $F(1, 154) = 31.077, p < .001, \eta^2 = .183$ . Also shown in Figure 1, LD status was particularly influential for students who expend low effort. Thus, students with LD who expend low effort received considerably greater positive feedback than their NLD counterparts who expend low effort. Thus feedback for test failure was governed by both the students' level of ability and the amount of effort they expend, with preservice teachers' knowledge of a child's LD status having a mediating influence on the feedback given.

**Frustration**

A significant main effect for LD status,  $F(1, 154) = 8.016, p < .001, \eta^2 = .055$ , and, effort,  $F(1, 154) = 453.589, p < .001, \eta^2 = .765$  was found for feelings of frustration. Greater frustration was felt towards students without LD, and students who expend low effort. Effort expended by the student and his LD status appeared to influence frustration level,  $F(1, 154) = 90.672, p < .001, \eta^2 = .395$ . As shown in Figure 2, LD status was influential. Preservice teachers felt less frustrated towards students with LD who expended low effort than preservice teachers felt towards their counterparts.

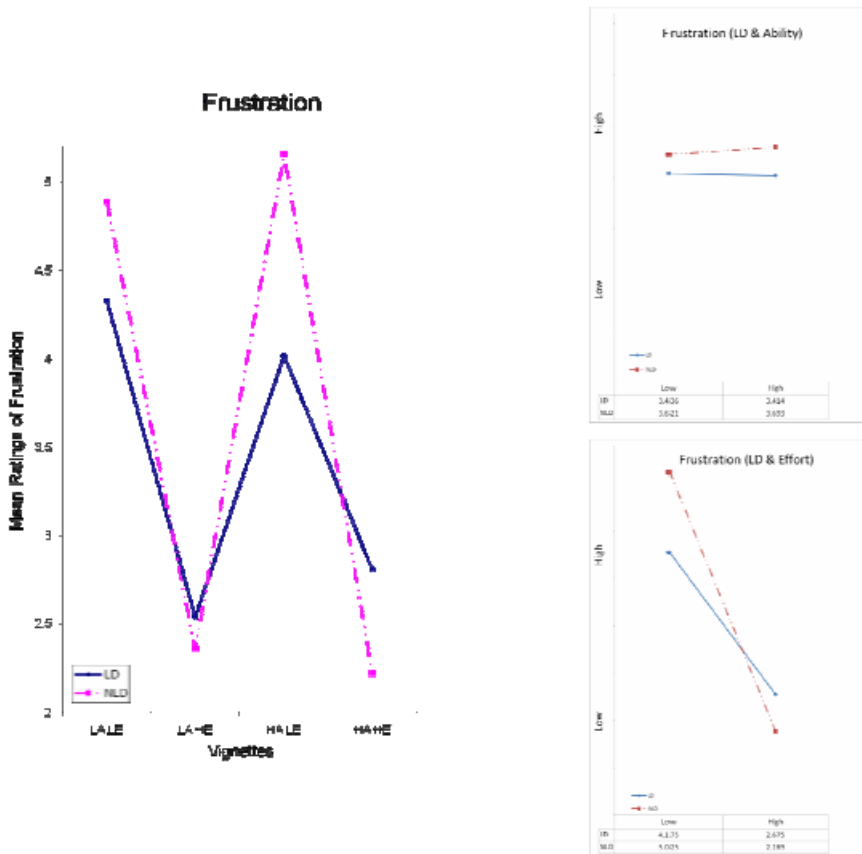


Figure 2: Preservice Teachers' Frustrations towards Students

Also shown in Figure 2, LD status was influential across high and low effort students but was somewhat more influential on low effort students. Preservice teachers felt significantly greater differences of frustration between high and low effort students without LD than they did students with LD. Effort was more influential in teachers' frustration level for students without LD ( $M_1 - M_2 = -2.736$ ) than students with LD ( $M_1 - M_2 = -1.500$ ). Thus, the frustration felt towards students was governed by the level of effort expended and preservice teachers' knowledge of a child's LD status. Preservice teachers felt greater frustration towards



students without LD when they expend low effort, and yet less frustration towards students without LD when they expend high effort.

**Sympathy**

A significant main effect for LD status,  $F(1, 154) = 110.541, p < .001, \eta^2 = .443$ , ability,  $F(1, 154) = 59.976, p < .001, \eta^2 = .302$ , and effort,  $F(1, 154) = 83.009, p < .001, \eta^2 = .374$ , was found for sympathy. Figure 3 shows that greater sympathy was felt by preservice teachers towards students with LD, students of a low ability, and students who expend high effort.

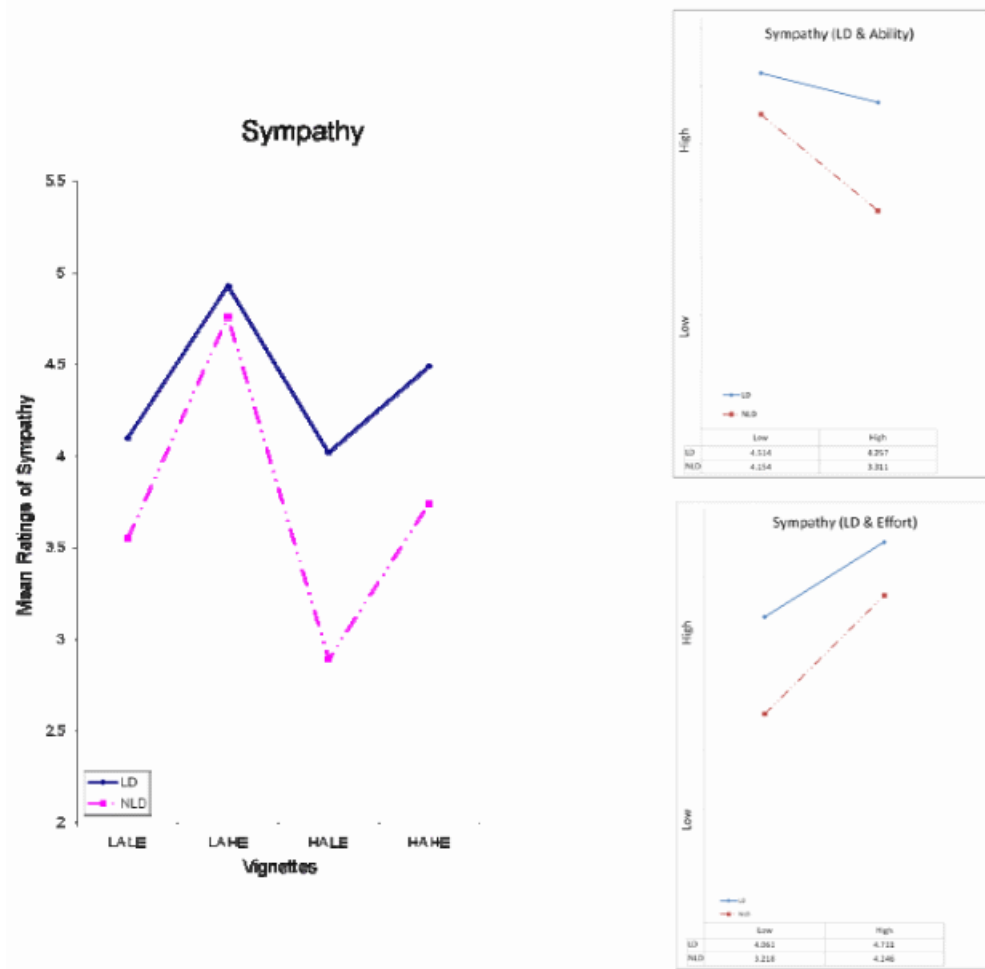


Figure 3: *Preservice Teachers' Sympathy towards Students*

Sympathy was greater towards students with LD, towards low ability students, and towards students who expend high effort. Preservice teachers considered a student's LD status and amount of effort expended when eliciting sympathy towards them,  $F(1, 154) = 9.754, p <$

.001,  $\eta^2 = .066$ . As shown in Figure 3, LD status is particularly influential with students who expend low effort, whereby sympathy is considerably greater towards students with LD. Moreover, effort is more influential towards students without LD, in regards to sympathy. Furthermore, it was the LD status and ability level of the student that appeared to most strongly influence preservice teachers' sympathy,  $F(1, 154) = 18.914$ ,  $p < .001$ ,  $\eta^2 = .120$ . As shown in Figure 3, LD status is particularly influential towards students who are of a high ability, where sympathy is considerably greater towards students with LD. Moreover, ability is more influential for students without LD in regards to preservice teacher sympathy. Thus preservice teachers generally demonstrated more sympathy (in all cases) to students with LD than their peers without LD when they failed a test.

### ***Expectancy of Future Failure***

A significant main effect for LD status,  $F(1, 154) = 87.499$ ,  $p < .001$ ,  $\eta^2 = .386$ , ability,  $F(1, 154) = 203.989$ ,  $p < .001$ ,  $\eta^2 = .595$ , and, effort,  $F(1, 154) = 221.643$ ,  $p < .001$ ,  $\eta^2 = .615$ , was found for preservice teachers' expectations of a student's future failure. Consequently, preservice teachers had a significantly higher expectation of future failure for students with LD, students of a low ability, and students who expend low effort.

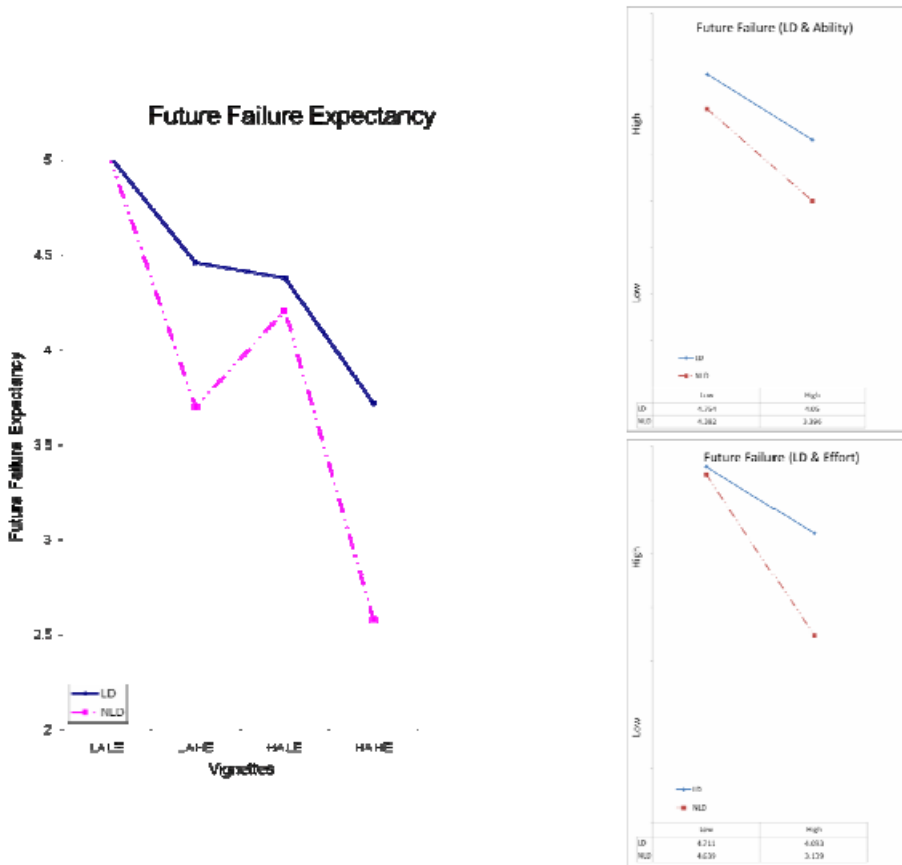


Figure 4: Preservice Teachers' Expectations of Future Failure of Students

Preservice teachers considered a student's LD status and ability level when eliciting their expectation of future failure for the student,  $F(1, 154) = 6.108, p < .001, \eta^2 = .057$ . As shown in Figure 4, LD status was particularly influential for students of high ability, where expectation of future failure was considerably higher for students with LD. Moreover, effort expended was more influential in eliciting preservice teachers' expectations towards students without LD than for students with LD. Furthermore, it was the students' LD status and effort that appeared to most strongly influence preservice teachers' expectations,  $F(1, 154) = 76.557, p < .001, \eta^2 = .355$ . As shown in Figure 4, LD status was particularly influential with students who expend high effort, where expectation of future failure was considerably higher for students with LD. Moreover effort expended was more influential in eliciting their expectation towards students without LD than students with LD. The highest expectation of future failure was elicited for students with and without LD who had low ability and expended low effort. However, the lowest expectation of future failure was elicited for students without LD who had high ability and expended high effort. Thus, as a student's level of ability and effort increased, the influence that LD status conveyed for expectations of future failure,

was greater. However, when effort expended was high, LD status still created a greater difference in expectations of future failure for students with and without LD.

## Discussion

The findings show that as students' ability levels decrease, the feedback becomes more positive, the sympathy levels rise, and the expectation of future failure increases. Moreover, as students' expended efforts increase, the feedback becomes more positive, the frustration decreases, the sympathy levels rise, and the expectation of future failure decreases. Furthermore, as students' ability levels increase the difference in feedback given to students with and without LD increases, the difference in sympathy level increases, and the difference in expectations of future failure increases. Moreover, as students' expended efforts decrease, the difference in feedback given to students with and without LD increases, the difference in frustration and sympathy levels increase, and the difference in expectations of future failure decreases.

In summary, it seems that LD does influence preservice secondary school teachers' responses to students' test failures. The work of Weiner and Kukla (1970) specified that responses towards students of high ability with LD who expended low effort and failed a test, would be the same as their NLD peers, should LD not have any influence on teachers' responses. However, as the results of this study have shown, when the cause for failure becomes more controllable, preservice secondary school teachers give greater positive feedback, are more sympathetic, and less frustrated towards students with LD than their NLD counterparts. In addition, the less stable the cause of failure, the greater was the expectation of future failure that preservice secondary school teachers held for students with LD compared to their NLD peers. In all four responses (feedback, frustration, sympathy, and expectation of future failure), a greater difference between high and low ability/effort students occurred within students without LD than within students with LD. Low ability and low effort were clear causal explanations for the failure of students without LD ('normal self-esteem attribution' (Jacobson, Lowery, & DuCette, 1986)). As for students with LD there was less difference between high and low ability/effort students. Therefore, low ability and low effort were not always clear causes for the failure because LD was also a mediating influence ('negative attribution style' (Waheeda & Grainger, 2002)).

As Weiner (1986) highlighted, teachers' response to students with LD can be seen as a 'norm to be kind' which is often felt towards those having limitations (such as those with LD). The greatest frustration, least sympathy, and most negative feedback were assigned to the high ability, low effort student without LD. Clearly, the preservice teachers perceived this boy's failures to be within his personal control and held him responsible. Conversely, the least frustration, greatest sympathy, and most positive feedback were given to the low ability, high effort student with LD. It would seem that the preservice teachers responded more positively to this student because the cause was seen to be out of his control (i.e. with two uncontrollable stable causes for failure to try to overcome through expending high effort). Furthermore, this supports previous research by Meltzer and colleagues (2004), and Tournaki (2003) in that they judge low-achieving students with LD more negatively than low-achieving students without LD. Thus, the attributional message that preservice secondary school teachers transmit to students with LD is that they have less ability than their peers

without LD, and should have lower expectations as a result which supports previous research (Clark, 1997; Georgiou et al., 2002; Tollefson & Chen, 1988; Tournaki, 2003).

Although these results suggest that preservice secondary school teachers respond to students with and without LD differently there are some limitations of the current research. The use of vignette scenarios may produce responses which differ from the responses teachers would make in natural settings (Lee, Hallahan & Herzog, 1996). The responses preservice teachers make to such scenarios may be those they feel they should make given a similar situation rather than those they might actually make. However, the current study sought to advance research built on the foundation of methods similar to that employed in numerous studies involving attribution and achievement (Clark, 1997; Weiner & Kukla, 1970). As the data were collected from the various university campuses at the end of a lecture, the response rate was high. Nevertheless, only those who were in attendance at the lecture had the opportunity to complete the survey instrument. Thus, a small minority of preservice teachers across the university campuses who did not attend the lecture did not complete the survey. This may or may not have influenced the findings of the current study.

### ***Implications***

The attributional view that Australian preservice secondary school teachers hold in regards to students with LD and the indirect messages that they may send to these students is an important one to consider. This may then lead to attitudinal changes that will help the student with LD achieve. Therefore preservice secondary school teachers may view students with LD in terms of their potential to learn, like they do with other students, rather than retaining a deficit view. One step towards redressing this situation is for tertiary institutions to better prepare future teachers with the skills, perceptions and knowledge to teach students with LD (as opposed to learning difficulties generally). As tertiary institutions are governed by the states' education departments, changes need to be made by policy makers and those within the departments across the states.

The policy makers, government, and departments across the states of Australia firstly need to address the concern of LD being defined and included as 'learning difficulty'. Learning difficulty is an extremely broad term used in many of the states in Australia, and covers many types of students from those with LD to those in poverty, and those with a moderate intellectual disability (Elkins, 2002). Thus, LD needs to be considered as its own identity so that greater awareness, perceptions and knowledge of these students can be achieved. This can only be done, however, if a nationally recognised and accepted definition of LD occurs. The current national and commonwealth legislations surrounding LD need to be better defined. If the states' education departments and government focused more on LD, preservice teacher training providers would more likely accommodate changes to the programs to increase awareness, perceptions and expectations towards students with LD.

Future research might focus upon the range of data collection methods employed, and the groups examined in such studies. There needs to be a greater focus on Australia's philosophical educational view of students in general, and in particular, on students with LD. It could also be useful to replicate this study using university lecturers who instruct in education. The same use of vignettes on girls, as opposed to boys would be necessary to determine whether there are different attributional responses for different genders. Further studies in Australia could compare teachers' and preservice teachers' perceptions and expectations of

students with LD. As a final point, the future research studies discussed here could also be carried out cross-nationally to provide comparative data. Given the present Australian government's intention to establish educational consistency at a national level, such a study would be timely.

## Conclusion

Perceptions, understandings, and expectations within Australia of those with LD, have raised issues over the years. This study has broadened and added to the research base on LD. The transformation of classrooms with inclusive and diverse classes, and the changing views of teaching all students and meeting everyone's needs represent significant challenges. The development of programs for new teachers to address these emerging challenges in relation to students with LD is clearly central to the focus of this study. Preservice teachers' perceptions, understandings and expectations of students with LD need to be guided carefully through their teacher training course and practicum experiences. Thus, there needs to be higher expectations through an educational belief, not a medical belief, so that teachers can properly diagnose students' potential to learn.

As a voice for the students would say, 'don't judge what I can do, by what you think I can't do' (Human Rights and Equal Opportunity Commission, 2003, p. 1).

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