

Klassen, R., 2002, A question of calibration: A review of the self-efficacy beliefs of students with learning disabilities, LEARNING DISABILITY QUARTERLY, 25(2) pp. 88-102.

Commentary Part 2 - on self-efficacy:

Klassen provides an overview of the underpinning ideas on self-efficacy beliefs but is particularly reminding us that according to Bandura (1995), these are CONTEXT SPECIFIC EVALUATIONS OF CAPABILITY and comprise 4 core experiential components: mastery experiences, vicarious experiences, communicative persuasion (specifically in social and verbal contexts) and interpretations of affective states. So in terms of this Researcher's enquiry, the 'context' is ACADEMIC OUTPUT which includes the ELEMENT of 'achievement' rather than is equivalent to it because we might include a range of academic activities and functions as contributory factors to OUTPUT. In particular, these might be more formative assessments that seek to appraise and advise on learning processes rather than assess learning outcomes, but which might also include other more general functions in academic contexts such as expedience in the research and sourcing of knowledge support resources, or embracing more diverse or individualized ways of communicating knowledge and expressing ideas, for example that we might expect to come across in less writing-based study courses, arts-related perhaps, or in computing and information sciences, or in engineering to name a few.

So in the light of this introductory preamble, might we view making judgments about COMPETENCE in Bandura's stated 4 experiential components as a collective measure of ACADEMIC CONFIDENCE? Perhaps so, despite Klassen referring us to a further paper from Zimmerman (1995) in Bandura's (1995) edited collection, which suggests that self-efficacy beliefs are different from competence beliefs because the former are task-specific however The Researcher feels that there may be a need to be clearer about what constitutes 'a task' (Zimmerman) as equal to or different from 'a context' (Bandura) which adds another layer to the teasing-out process for locating ACADEMIC CONFIDENCE into the contexts of my project.

Klassen's methodology:

Recalling the focus of Klassen's paper, essentially a summary of self-efficacy research 1997-2000, it is of note that the approach that The Researcher for this project used to gain an overview about published research on ACADEMIC CONFIDENCE, ACADEMIC SELF-CONFIDENCE and ACADEMIC BEHAVIOURAL CONFIDENCE, reported in an [earlier post](#) is similar to the procedure adopted by Klassen to search for prior research relating self-efficacy theory specifically to learning disabilities.

The key criteria subsequently applied to analyse the collection of research studies were enshrined in 5 key questions:

- 'What is the nature of the sample and what academic domains are included?'
- 'Are gender differences in efficacy beliefs addressed?'
- 'What is the main research question ... and what are the outcomes in terms of self-efficacy?'
- 'Are the efficacy beliefs of students with LDs [different] compared with the beliefs of normally-achieving or low-achieving students; if so, what are the differences?'

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

- 'Is calibration addressed; if so what conclusions are drawn?'

The Researcher is struck by Klassen's tacit assumption that students with LD are unlikely to be anything other than, at best, 'normally achieving' and it remains one of the main foci of THIS research project to establish that students with a learning profile that identifies with specific learning difficulties (dyslexia) can be, and in many cases are 'high-achievers' along the spectrum of summative academic output.

Summary table of research reviewed by Klassen (2002, p43) - commentary continues beneath it. Highlighted in the table are the studies that focused on college/university-aged students, these being just 3 of the 22 research studies reviewed - The Researcher will be digesting these three studies in due course - and it is also notable that the scope of most of the studies was to explore the effectiveness of learning interventions using self-efficacy as an assessment parameter.

One interesting result that Klassen reports here refers to the research by Baum and Owen (1988) which was interested in '*Why [~~de~~] bright, learning disabled children have such a poor sense of self-efficacy when they possess greater intellectual and creative potential?*' (p325; p14 in Klassen (2002)) suggesting that this may be related to their actual academic achievements persistently falling short of their own, high *internal* standards. Now although their research was with children with an age equivalence to UK upper primary, The Researcher reflects that, even though not identified as such by Baum and Owen, a corollary to their explanation may be that this is an indication of how the stigmatization of 'difference' may impact on learners so that their academic output is at a standard below the level one might expect in relation to their intellectual capability. Given that Baum and Owen's research takes place a good decade ahead of the idea of academic confidence being more objectively formulated by Sander et al it is of no surprise that their research conclusions made no mention of this possibility. The Researcher's conceptualization of *academic confidence* is becoming clearer by considering this as another explanation for the results of studies such as theirs by thinking about this as the impacting factor to explain discrepancies between expected and actual academic achievement in students with learning differences. Taking this one stage further, we might expect 'bright children' to make it to university and that it is not unreasonable to suppose that they bring with them this 'baggage' of learning related emotions connected to their negatively impacting perceptions of their 'learning differences' to their academic output - aka '*academic confidence*'?

However, Klassen reports a further study conducted by Saracoglu et al (1989) with university students where the results suggested that there is no difference in 'Global [= General] Self-Efficacy' between the group with learning differences (disabilities) and the non-LD group. Additionally, and to confound matters further, a much later study by Slemon and Shafir (1997) exploring the calibration of efficacy and [academic?] performance between LD and 'normally-achieving' students found that there were not so much overall differences between the two groups but different patterns of mis-calibration, the most interesting feature of which was the **better** accuracy in estimating achievement potentials for the LD group although these students also showed lower levels of [academic?] optimism than their normally-achieving peers. GoogleScholar reveals related research that has been conducted after Klassen's paper which will be the subject of analysis and review, to be reported in a subsequent post.

Now at this point The Researcher takes stock of Klassen's paper in the context of this PhD project and reflects thus:

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

All the research studies mentioned by Klassen relate to the construct of self-efficacy in its psycho-educational context of course, and the majority relate it to specific criteria. This is in line with Bandura's original thinking that the construct is at the very least domain, if not task specific. It is clear to see that gaining an understanding of self-efficacy is fundamental to gaining an equally clear comprehension of the meaning of 'ACADEMIC CONFIDENCE' in the domain of university learning.

But the way The Researcher sees ACADEMIC CONFIDENCE in the context of this project, (at the moment at least!) is more about it being an assessment of the FEELINGS that an individual learner has to their perceived levels of competency in tackling '**academic tasks**'. Now the point here is that from a professional viewpoint at least as LEARNING DEVELOPERS in university contexts, we speak of striving to enable and empower the students we meet through professional interactions to find ways to increase and enhance their levels of competency in '**academic skills**'. This raises an interesting point: are 'ACADEMIC SKILLS' an indicator of 'ACADEMIC COMPETENCY' in a similar way that 'MATHEMATICAL SKILLS' might be / are an indicator of 'MATHEMATICAL COMPETENCY'? Or is this analogy at fault because assessments of mathematical competency will invariably include assessments of mathematical knowledge since without possession of mathematical facts would it be possible to demonstrate mathematical competency? How could we assess a learner's mathematical competency in, say, manipulating calculations in decimals without them having knowledge about the system of counting numbers and 'place value'?

The Researcher takes this thinking further by suggesting therefore that by considering the phrase 'ACADEMIC KNOWLEDGE' we can shift the discussion into the same domain as 'MATHEMATICAL KNOWLEDGE' provided a sensible understanding of what is meant by 'ACADEMIC KNOWLEDGE' can be established in a such a way that is relatable to discipline-specific knowledge. **Academic knowledge**, in the context of this discussion at least, perhaps may be aligned with the concept of '**SCHOLARSHIP**'? The Researcher is reminded of a very interesting and relatively recent paper by Kinchin et al (2008) where a discussion of the nature of 'SCHOLARSHIP' is presented, albeit in the context of the scholarship of teaching in university learning environments. To discuss the paper further digresses from the thread in THIS BlogPost so a more comprehensive discussion of the nature of scholarship may appear later in a subsequent post should this be deemed useful and relevant.

To return to the point and to tidy up with some summarizing of Klassen's discussion points:

- A key fact is that the studies Klassen reviewed by and large show that 'self-efficacy ratings are predictive of subsequent functioning' (2002, p20) and later in his discussion suggests that estimations of self-efficacy might be regarded as a form of metacognition (2002, p22) then citing research that supports the argument that learners with LD have been shown to be metacognitively deficient to some degree (Klassen's eg: Butler, 1999) and further cites the study by Pintrich et al (1994), one of the papers in his review, which supports the same view.
- Another key fact is that Klassen's review tells us that many of the studies he considered report mis-calibration of efficacy beliefs in students with LD but particularly that it is more common for these students to OVER-estimate their [academic] confidence than accurately, or under-estimate it. It is suggested that one factor that may explain this is the lack of 'task demand awareness' at the outset, as reported in the previous [BlogPost](#) referring to research by Butler (1999). Klassen reminds us of the social cognitive theory that being optimistic about self-efficacy beliefs inclines learners to greater effort, determination and

perseverance but adds that his synopsis of this collection of research studies reveals that 'for students with learning problems, positive efficacy beliefs, especially in the face of academic weaknesses, might not operate in the same way as for normally-achieving students'. Klassen summarizes this part of his discussion by suggesting therefore that if we are to consider self-evaluation as an internal reflective judgment about metacognition and/or self-knowledge then by severely mis-judging efficacy this is certainly generating a substantially less-than-accurate self-knowledge which may be academically harmful (2002, p24). This is interesting and a factor that The Researcher for this PhD project had not considered, and is now reflecting on how this may impact on data collected on Academic Behavioural Confidence in the final part of this research because it may emerge that students with identified dyslexia - research group **DI** (see the [Research Design](#) page for a refresh on research groups) - may in fact produce HIGHER (than expected) scores on the ABC Scale which is counter-intuitive and which might be directly attributable to **mis-calibration**. This will need thinking about.

- On methodological issues that Klassen identifies in the studies reviewed, the most significant reported was described as 'conceptual blurring' by which is meant a level of departure from principal definition of self-efficacy in the broad body of social cognitive theory literature. Pajares (1997) has also cautioned researchers to take methodological care when working in an unfamiliar territory of motivation constructs so The Researcher must take precautions to ensure that use of such constructs in the development of the methodology for THIS project are clearly understood and correctly employed.
- A final factor of note is Klassen once more pointing us to Pajares' extensive work on self-efficacy to recount that GENERALIZED self-efficacy measurements used to assess CONFIDENCE in tackling tasks or dealing with situations are by their very definition not specific to the nature of these tasks and situations. We are reminded that this can lead (and has led) to the de-contextualized use of self-efficacy measures by assuming them to be markers of fixed personality traits rather than more accurately considering the domains of functioning to which the self-efficacy is attributed. Klassen further cites studies from his review (eg: Baum & Owen, 1988 amongst others) that sought to gauge self-efficacy without clarifying a *domain of functioning*, reasoning that although unspecified, we might assume that this is the ACADEMIC DOMAIN and hence the studies are locating their self-efficacy measures in terms of ACADEMIC FUNCTIONING (which, by the way, The Researcher attempts to comment on in the 'Researcher's Commentary' attached to a previous [BlogPost](#)). Klassen also draws focus to weaknesses in understanding about the self-efficacy beliefs people possess when operating in domains that are comprised of numerous sub-domains. In the context of this research project this is an important idea to understand as it is well-researched feature of dyslexia that it can be a disparate blend of strengths and weaknesses, especially amongst learners with the intellectual capacity to function in university learning environments to one degree or another. In this vein, The Researcher has already reflected on sub-domains within the suggested bi-directional relationship between ACADEMIC CONFIDENCE and ACADEMIC OUTPUT with an attempt made to visualize this in the first of the [Literature Review Maps](#) that will be supporting this PhD project.

The Researcher is encouraged by closing remarks in Klassen's paper that suggest directions for future research:

- accurate measurement of self-efficacy beliefs in students with LD is more complex than indicated by previous (to 2002 presumably) practice;

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

- self-efficacy research with LD groups needs to be conducted in different ways than to date;
- using qualitative measures to validate quantitative analysis seems prudent;

all of which are consistent with The Researcher's scoping and planning of this project.

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Appendix 1: Summary Table of research papers reviewed

Author (date)	# of stdsAge/grade	Performance task or domain	Self-efficacy measure	Intervention or research question	Outcomes
Alvarez & Adelman (1986)	19 stds (some LD) aged 9.6 to 15.2	Arithmetic	20-item 11-point scale (0 to 10)	Why do students with learning problems (including LD) overstate their capabilities?	“students’ positive self-evaluations represent a selective tendency and are due to an inability to make accurate self-evaluative judgments.”
Baum & Owen (1988)	112Grade 4, 5, and 6	General academic functioning (no performance task given)	SEAT – 34 items measuring general academic self-efficacy	What are self-efficacy differences between high and avg. ability LD students?	High ability LD students displayed lower efficacy beliefs than did high ability non-LD, or avg. ability LD
Bryan & Bryan (1991)	18Junior high and high school	(Math) 50 addition and subtraction questions	Estimated number (/50) of accurately completed arithmetic items in 5 minutes	Positive mood induction: thinking of happiest day of their lives	Positive affect increased and performance. However, was not changed with a control group of younger, non-LD risk”) stds.
Butler, 1995	6 college students with LD	Student-chosen task—writing, reading, math—depending on need	16-item SE questionnaire; also 1 item asking stds. to rate their ability on task	SCL: Std-generated strategies guided by instructor	The stated components of SE measure—perceptions competence, task preference, rating of on-task ability—showed significant increase
Butler, 1998b	30 (over 3 studies) college and university stds. with LD	Student-chosen task—writing, reading, math—depending on need	1 item rating task ability; measure judging task competence, task preference, and general SE; 8-item ‘across-tasks’ SE	SCL: Std-generated strategies guided by instructor	Task-specific SE increased all studies; global SE not changed in post-test; SE for ‘non-instructed’ tasks increased in one study, but in other
Graham & Harris (1989a)	22 LD and 11 NAa (control); grades 5-6	Writing	10 items measuring stds’ confidence to write stories	Self-instructional strategy training; added self-	SE increased in both treatment groups (strategy training with/without self-reg. training. No difference between treatment groups

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

				reg. training	
Graham & Harris (1989b)	3 sixth-grade stds	Writing	5 items assessing perceived ability to write a good essay	Strategy instruction for planning and writing essays	Two of three stds showed increases with intervention
Graham, MacArthur, Schwartz, & Page-Voth (1992)	4 5th-grade LD stds	Writing	10 item 5-pt. scale measuring SE for writing tasks and cognitive strats	Planning and writing strategies	Confidence for writing dropped for 3 stds (all male) and rose slightly for 1 std (female) after treatment
Graham, Schwartz, & MacArthur (1993)	39 LD and 29 control in grades 4,5,7 & 8	Domain is writing – no performance task	10 items measuring efficacy for composing process and writing tasks	(Study measured stds' knowledge and attitudes – no intervention)	No difference found in SE either composing process writing tasks between LD NA groups or between older and younger students
Gresham, Evans & Elliott (1988)	336 stds. incl. mildly handicapped (incl. LD), gifted, and NA in grds. 3-5	Social and academic functioning (no performance task)	Group-administered 28 item, 5-point scale assessing academic and social efficacy (ASSESS)	Purpose: to explore SE beliefs in MH (incl. LD) gifted, and NA students	MH stds. (LD, MR, and BD) reported lower academic social SE than NA and gifted stds. Also, MH stds. were reported by teachers as lower in academic and social SE
Hampton (1998)	109 high school and vocational rehab stds. with LD; 87 people without LD	Academic functioning	Sources of Academic Self-Efficacy Scale (SASES) – 46 items	To devise an instrument to explore the sources of SE beliefs and to explore differences between LD and NA students	LD stds. rated each of four sources lower than NA stds. Also, Social Persuasion and Physical Arousal did not significantly contribute to regression equation for LD students; that is, only Past Performance and Vicarious Learning were significant.
Omizo, Cubberly, & Cubberly (1985)	60 6-8 year old LD stds – 20 in each of 3 groups	Arithmetic achievement	20-item scale modelled after Bandura & Schunk (1981)	Three groups: control, teacher- and participant-modelling	Both conditions resulted increased SE beliefs; participant modelling sig. raised SE beliefs over teacher modelling
Page-Voth & Graham (1999)	30 grade 7 and 8 stds	Writing (essays)	6-item scale measuring efficacy to write essays	Goal-setting; goal-setting and strategy instruction; control group	No changes in self-efficacy beliefs in any of three groups
Panagos &	96 high school	Career	14 item (1 for	How are	Ratings of SE beliefs were

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

DuBois (1999)	stds	interest: A career interest inventory (14 areas) was administered	each career area) Career Self-Efficacy Scale; Four item, 5-point Sources of Efficacy Information Scale	career SE beliefs linked with vocational interests? Also, what is the role of the 4 sources of SE beliefs?	significant predictor of careinterest. Also, Bandura's sources of efficacy beliefs contribute to the development of career SE beliefs.
Pintrich, Anderman, & Klobucar (1994)	19 LD, 20 NA grade 5 students	Reading: two reading comprehension tasks were given	10-item, 7-point scale measuring reading efficacy beliefs	How does SE for reading comp. differ between groups?	LD stds did not show sig. different SE beliefs than the NA stds, in spite of lower performance levels
Saracoglu, Minden & Wilchesky (1989)	34 LD and 31 NA university students	General and social self-efficacy	23-item Self-Efficacy Scale	Do SE beliefs differ for LD and NA univ. stds?	LD and NA stds showed diff. in social and generalSE correlated positively with adjustment to university
Sawyer, Graham, & Harris (1992)	33 5th and 6th grade LD stds; 10 LD control	10-item scale measuring SE for writing a "made-up story"	Writing a story	Three types of Self-Regulated Strategy Development plus control group	SE levels increased in all groups: post-test SE levelnot differ among the four intervention groups
Schunk (1985)	30 6th-grade LD stds.	Stds were briefly shown 25 pairs of subtraction q's and asked to rate on 10-point scale	Mathematics: subtraction	Goal-setting: self-set goals, assigned goals, and no goals	Participation in goal-setting resulted in sig. higher SE judgments than other 2 groups
Schunk & Cox (1986)	90 grade 6-8 LD stds	Stds were briefly shown 25 pairs of subtraction q's and asked to rate on 10-point scale	Mathematics: subtraction	Verbalization and effort feedback	Verbalization of the steps problem enhances SE. Also, effort-attributional feedback enhanced SE
Slemon & Shafir (1997)	92 LD and 40 NA college stds	Students estimated their score (1-19) on the WAIS-R (9 subtests) and the WRAT-R (3 subtests)	Verbal and nonverbal cognitive functioning on WAIS-R and 3 achievement areas on the WRAT-R	What are the SE beliefs (predicted scores) for LD and NA post-secondary students? (No intervention)	The LD group "tend to lack optimistic beliefs about ability of the NA stds."
Wong, Butler, Ficzere, &	38 LD and low-achiev. gr. 8 &	Questionnaire on attitudes	Writing: opinion	Planning, drafting, and	Posttest SE measure showed significant increase

BlogPost #6: More on 'calibration' – further commentary on Klassen's paper

Kuperis (1996)	9	towards writing and SE	essays	revising strategies	
Wong, Butler, Ficzere, & Kuperis (1997)	21 LD and LA stds in gr. 9 & 10	10-item, 5-point scale	Writing: compare and contrast essays	Writing strategies	Self-efficacy beliefs did not change from pretest to pos