**MEETING THE NEEDS OF STUDENTS WITH SPECIFIC LEARNING DIFFICULTIES
IN THE MAINSTREAM EDUCATION SYSTEM:
DATA FROM PRIMARY SCHOOL TEACHERS IN HONG KONG**

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 This paper reports a small-scale study conducted with 34 primary-school teachers in Hong Kong to determine how they meet the personal and academic learning needs of students officially identified with specific learning disability (SpLD) in their classes. Information was collected from the teachers via a structured questionnaire listing possible strategies for classroom use, and via an open-ended request for additional information from the teachers concerning their current practices. Results indicated that the teachers make relatively few adaptations to meet the SpLD students' needs, and rely mainly on other students in the class to provide peer assistance They sometimes also allow extra time for the students to complete work, and provide some individual help when possible during the lesson. Teachers rarely (if ever) adapt curriculum content, modify instructional resources, or design special learning activities for the students with SpLD. The paper also discusses briefly the contemporary theoretical perspectives on inclusion for SpLD students, differentiated teaching *as a possible solution, and the difficulties encountered in implementing such a model.*

Students with specific learning difficulties (SpLD) are, by definition, of at least average intelligence and are free from any significant cognitive or sensory impairment. They exhibit no primary emotional disorders (although they may develop secondary behavioural problems as a result of their lack of success in school) and they have not suffered any marked degree of cultural or linguistic disadvantage (Lyon, Fletcher & Barnes, 2003). Like all other students, students with SpLD have had normal opportunities to learn through exposure to conventional teaching methods, but they exhibit extreme difficulty in acquiring adequate proficiency in the basic skills of reading, writing, spelling and mathematics (Silver & Hagin, 2002). Students with SpLD attract attention because their learning problems appear difficult to remedy within a mainstream classroom by using normal teaching methods. It is generally accepted that these students require intensive remedial intervention from the hands of a trained specialist teacher if they are to make progress (Pikulski, 1994; Pinnell, 1997).

 In addition to difficulties in acquiring basic academic skills, some students with SpLD may also manifest difficulties in problem solving, physical skills, self-management, and social skills development (Lyon, Fletcher & Barnes, 2003, Tur-Kaspa, 2002). These represent areas where specific intervention may also be needed from teachers.

Inclusion of SpLD students in the mainstream
The trend toward inclusive schooling in most developed countries has increased the likelihood that students with SpLD will be retained full time in mainstream classes (Burden & Burdett, 2005; Roberts & Mather, 1995). Previously, students with SpLD (e.g. dyslexia) were withdrawn regularly for intensive one-to-one remedial tuition, or in some countries were placed in special groups designed to meet their instructional needs. However, the current philosophy is that segregating these children with learning problems, even for short periods of time for remedial teaching, damages their self-esteem, restricts their social interaction with their peers, narrows the curriculum, and diminishes their motivation to learn. It is now believed that maintaining students with specific learning difficulties in regular classrooms, in contact with the mainstream curriculum and methods, is in their best interests in terms of equity, opportunity, and social justice (Allan, 1999; Lipsky & Gartner, 1996; Mittler, 2000). This change in placement policy does however generate additional demands on all regular classroom teachers, who must now attempt to provide the necessary support for students with learning problems during normal lessons.

It must be pointed out that not all educators are convinced of the merits of *full inclusion* for students with SpLD. They doubt that the necessary support for learning can be provided with sufficient intensity, frequency and duration by busy mainstream teachers (e.g. Burden & Burdett, 2005; Kauffman, McGee & Brigham, 2005; Roberts & Mather, 1995). It is clear from studies conducted over the past fifteen years that many mainstream teachers are not particularly eager to participate in full inclusion, even if they believe such a system is desirable in principle. This is usually because they lack confidence in their own ability to teach students with special needs, and because they fear that necessary professional support for teachers would not be sufficient (Scruggs & Mastropieri, 1996). Although there are signs that attitudes toward inclusion are slowly becoming more positive (Avramidis & Norwich, 2005), it is also clear that working in classrooms where students with special needs are included can at times create significant degrees of work-related stress for the teachers involved, particularly if they themselves are not adequately supported (Forlin, Hattie & Douglas, 1996).

Differentiated teaching
The most popular model at this time for accommodating students with specific learning difficulties and others with special needs in the mainstream curriculum is termed *differentiation*. Differentiation in this context implies that teachers will adapt curriculum content, teaching methods, grouping strategies, and instructional resources to match the diverse learning aptitudes, characteristics and needs of the students in their mixed-ability groups (Allan, 1999; Davies, 2000; Deschenes, Ebeling & Sprague, 1999; James & Brown, 1998). In an increasing number of countries a differentiated teaching approach is now seen as *best practice* (Wragg, Haynes, Wragg & Chamberlain, 2000). The approach recognizes that important differences do exist among learners and that these differences must be catered for to maximize learning. In describing differentiation, Van den Berg, Sleegers and Geijsel (2001, p.246) state that; *Teachers accept that their students differ in capabilities and take these differences as the* starting point *for teaching and learning* [Emphasis added].

Teaching mixed-ability classes has never been easy, and devising effective ways of accommodating students' individual differences and learning difficulties presents a major challenge for all teachers. As Rose (2001, p.147) has remarked; *The teaching methods and practices required for the provision of effective inclusion are easier to identify than they are to implement*. In countries where differentiation has been implemented there is accumulating evidence that teachers have great difficulty in applying differentiation strategies in practice, and particularly in sustaining their use over time (e.g. Read, 1998; Schumm & Vaughn, 1991; Simpson & Ure, 1994; Ysseldyke, Thurlow, Wotruba & Nania, 1990; Westwood, 2001). Major obstacles to differentiation include limited preparation time, large class size, teachers' heavy workload, lack of resources, teachers' lack of skills in differentiation, and teachers' lack of motivation to differentiate (Chan, Chang, Westwood & Yuen, 2002; Scott, Vitale & Masten, 1998; Westwood, 2002).

It appears that although theorists exhort teachers to teach adaptively, tailor the curriculum, and modify resource materials to suit a wider ability range (e.g. Janney & Snell, 2000; Lovitt, 2000; Tomlinson, 1999) teachers are unwilling or unable to act on this advice. In systems geared closely to progression through examinations — such as Hong Kong — there is also reluctance to modify curriculum content and the ways in which students are assessed, even though such changes are strongly advocated (e.g. Education Department, 2001; Tomlinson, 2001).

Previous studies in Hong Kong
Two studies carried out in Hong Kong in 2001 indicated that both primary and secondary teachers make relatively few adaptations to accommodate differences among their students (Chan, Chang, Westwood, & Yuen, 2002). In descending order of frequency, the most commonly used differentiation strategies reported by teachers in Hong Kong were:
- Giving some students more individual assistance during the lesson.
- Allowing some students more time to finish schoolwork at home.
- Briefly re-teaching key concepts to some students during the lesson.
- Placing students with difficulties near the front of the room to allow for closer monitoring by the teacher.
- Placing a student with a peer for extra assistance.
- Checking more frequently the work being produced by some students.
- Asking questions of individual students at the appropriate level of difficulty.
- Allowing longer time for some students to answer oral questions.

It can be seen that the most commonly applied strategies in the list above tend to be those that do not require planning and preparation in advance of the lesson. Instead, teachers respond to students' individual needs mainly by the way they conduct and manage the lesson while it is in progress. These results concur with those obtained in similar studies in other countries (e.g. Weston, Taylor, Lewis & MacDonald, 1998; Ellett, 1993) where the most commonly reported differentiation strategies were providing students with extra support during the lesson, giving extra guidance to some individuals, and simplifying instructions.

The recent study reported here was designed to investigate in more detail the strategies used by teachers specifically to meet the personal and learning needs of students with SpLD in their classes. The study is part of a more complex investigation of affective characteristics of primary-age students with SpLD (reported elsewhere) and is also part of an on-going exploration of teachers' classroom practices in Hong Kong (Chan, Chang, Westwood, & Yuen, 2002; Westwood, 2002).

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Method

Participants

A total of 34 primary-school teachers were selected for the study. These teachers were responsible for teaching core subjects (Chinese, English, Mathematics) to mainstream classes in the Primary 3 to Primary 6 age range. The criterion for selection of a teacher was that his or her class must contain a least one student with SpLD, as identified officially by an educational psychologist.

Procedure and instrument

The teachers were required to respond to the questionnaire *Teaching Strategies for Students with Learning Difficulties (TSSLD)* designed by these writers specifically for the purposes of this study. *TSSLD* contains twelve stem items each presenting a possible strategy for adapting classroom procedures or modifying teaching approach to suit students' special needs. The items were derived partly from the literature on differentiation (e.g. Conway, 1996; Ellett, 1993; Fuchs & Fuchs, 1998; Schumm & Vaughn, 1991) and partly from the findings of two previous studies carried out in Hong Kong in which teachers' practices in differentiation had been investigated (Chan, Chang, Westwood & Yuen, 2002). The actual items in the questionnaire can be identified in Table 1 below. Results from reliability analyses in the present teacher sample showed the scale and factors had adequate internal consistency. Total scale: alpha coefficient= .87; Factor 1 (Managerial/Pedagogical Strategies)=.78; Factor 2(Utilizing outside resources)=.54; and Factor 3(Curriuclum adaptation)=.68.

The teachers responded to each item on a 6-point Likert-type scale (0 to 5) indicating the extent to which they employed any of the strategies described when teaching their classes — a rating of 5 indicated that the strategy was *used very frequently* while 0 indicated never used. On this scale a rating of 3 suggests the particular strategy was used *sometimes*.

The questionnaire also contained an open-ended section inviting the teachers to supply a brief description of any other strategies they used in their classes for helping students with SpLD improve their academic achievements and to enhance their social and personal development.

Analysis of data

Means and standard deviations were calculated for responses to all items in the *Teaching Strategies for Students with Learning Difficulties (TSSLD)* questionnaire. The frequency of use of each strategy was determined, and the resulting list arranged in descending order of frequency (Table 2).

The responses provided by the teachers were also used to perform a factor analysis (principal components with varimax rotation) on items in *TSSLD* (Table 3).

The qualitative and descriptive comments from teachers in the open-ended section were analysed and coded. Naturally occurring categories or descriptors were generated to summarize these comments (Table 4).

Results

Teachers' responses to the questionnaire

In Table 1 the twelve items in the questionnaire have been rearranged in descending order of frequency of reported usage. The mean refers to the mean rating within a 6-point scale (0-5), with 5 indicating *very frequent use* and 0 indicates *never used*.

It is evident from Table 1 that the teachers in this survey were not making frequent or extensive use of any of the twelve possible adaptive strategies. Given that the mean response rates reported in Table 1 relate to a 6-point rating scale, only the first four strategies came even close to recording a *sometimes used* frequency (if the standard deviation above the mean is taken into account). It seems from the data here that teachers do *sometimes* encourage peer assistance, allow students with SpLD more time to complete their work, or give them extra assistance during the lesson. To a small extent they also try to enlist the cooperation of parents. But none of these strategies are used routinely or frequently.

Table 1
Teachers' helping strategies for SpLD students in mainstream class (n= 34)

Questionnaire Items	Mean	SD
1. Encouraging other students to give help to SpLD student when needed	2.97	1.09
2. Allowing the students more time to finish written work	2.59	1.18
3. Giving the SpLD student more direct help during the lesson	2.56	0.79
4. Making more frequent contact with students' parents for help at home	2.44	1.08
5. Revising more frequently reading and writing core vocabulary	2.21	1.25
6. Placing the SpLD student in a particular ability group in class	2.18	1.73
7. Providing the student with extra tuition out of lesson time	2.15	1.33
8. Setting smaller tasks or exercises, with less reading and writing	2.00	1.13
9. Setting the SpLD student different homework from other students	1.53	0.99
10. Allowing the student to leave your lesson to receive remedial teaching	1.32	1.51
11. Using computer-aided instruction with the students	1.09	1.08
12. Finding and using simpler books and materials for the student	0.94	0.92

In theory, the first three strategies listed in Table 1 would be relatively easy to implement in the classroom and do not require additional preparation by the teacher before the lesson. In other words, they do not add to a teacher's workload. In contrast, the five strategies used least by the teachers (Table 1) would tend to require pre-planning in terms of preparing activities or resources in advance, or to necessitate some disruption to normal classroom routines or procedures.

In general, most teachers surveyed in this study appear unlikely to make many (or any) adjustments to curriculum content, instructional resources, or learning activities for the students with SpLD.

Factor analysis of TSSLD
As a second step in processing the data — and to explore in more detail the way in which teachers' helping strategies may be interrelated — the results from the 34 teachers were used in a factor analysis of the *Teaching Strategies for Students with Learning Difficulties (TSSLD)* instrument. Table 2 indicates that the *TSSLD* items appear to load on three main factors, which together account for some 72.55% of the variance.

The first factor, accounting for 29.74% of the variance, could be termed 'managerial and pedagogical strategies' with loadings from items involving some degree of extra teaching and/or organisation of support. Of the six items loading on this factor only three (items 1, 2, and 3) are actually used to any extent by the teachers in this study, as revealed in Table 2. The second factor might be termed *Utilising outside resources*. The teachers in this study tended not to employ these strategies very frequently, although some minor use of parental support and involvement was reported (mean 2.44). The third factor is clearly associated with *curriculum adaptation*. Teachers in this study very rarely apply strategies of this type, presumably because of the

additional effort required in planning and implementation, and perhaps due to a need to follow a prescribed syllabus and work toward examinations.

Table 2
Factor   analysis of TSSLD [Principal Components with Varimax Rotation]

Factor 1 Managerial/Pedagogical Strategies	*Loading*	*Percentage of*
Item		*Variance*
7. Providing the student with extra tuition out of lesson time	0.82	
5. Revising more frequently reading and writing core vocabulary	0.81	
6. Placing the SpLD student in a particular ability group in class	0.78	
2. Allowing the students more time to finish written work	0.71	
1. Encouraging other students to give help to SpLD student when needed	0.68	
3. Giving the SpLD student more direct help during the lesson	0.58	29.74%
Factor 2 Utilising outside resources		
Item		
4. Making more frequent contact with students' parents for help at home	0.87	
11. Using computer-aided instruction with the students	0.81	
10. Allowing the student to leave your lesson to receive remedial teaching	0.81	22.79%
Factor 3 Curriculum adaptation		
Item		
9. Setting the SpLD student different homework from other students	0.89	
8. Setting smaller tasks or exercises, with less reading and writing	0.84	
12. Finding and using simpler books and materials for the student	0.55	20.02%

Total percentage of variance: 72.55%

Teachers' own suggestions
Finally, the teachers' comments in the open-ended section of the questionnaire were analysed to investigate whether they had devised other effective ways of providing assistance to students with SpLD. Unfortunately, the teachers contributed disappointingly few additional comments in this

Table 3
Teachers' suggestions for supporting students with SpLD

Strategy	Times mentioned
Asking classmates to help the student with schoolwork and homework	10
Pair the student with one who is higher achieving, helpful and well-behaved	6
Be prepared to set aside time to listen to and talk with the student; rapport	5
Talk privately with student's classmates to help them understand the problem	4
Create more opportunities for the student to contribute during lesson	4
Communicate more frequently with parents to show interest and co-operation	3
Providing individual guidance and help	2
Teach student to break tasks down into manageable steps; short-term goals	2
Interact more with the student during all lessons1	
Buy board games for students' to use during breaks (increase social interaction)	1
Explain (pre-teach) homework assignments clearly to increase success rate	1
Give the student more responsibilities and duties in the classroom	1
Use reward system to reinforce effort and accomplishments	1
Arrange classroom seating to facilitate social interaction and communication	1
Encourage student to stay at school to complete homework (with help)	1

section of the questionnaire, suggesting perhaps that teachers do not really know how best to meet the needs of students with learning difficulties in their classes. Table 3 summarises the main categories of support that emerged from the teachers' additional suggestions.

Data in Table 3 indicate that teachers regard the other students in the class as the most readily available and appropriate resource for support. In practice, this was also the strategy most frequently used by the teachers, as revealed in Table 1. The extant research literature suggests that peer assistance of this type is indeed a powerful teaching strategy, and teachers are wise to develop this student-to-student support network within every class (e.g. Arthur, Gordon & Butterfield, 2003; Topping, 1995).

There is clear evidence also in Table 3 that the teachers recognize their important role and responsibilities in the guidance and counselling of a student with learning problems. In Hong Kong there is a well-established tradition that all teachers must be able to counsel students and help them cope with their personal problems (Ho & Hau, 2005; Yuen, 2002). This is reflected in the comments above that teachers need to listen to these students, talk with them and with their classmates, establish rapport, and communicate with parents.

The suggestions in Table 3 are sensible and useful, and it is unfortunate indeed that more teachers do not adopt them in their day-to-day interactions in the classroom.

Discussion and conclusion
The most obvious finding from this study is that mainstream primary teachers in Hong Kong do not appear to make many adaptations to meet the needs of students with SpLD. This confirms findings from previous studies in Hong Kong (Chan, Chang, Westwood & Yuen, 2002; Lo, Morris & Che, 2000) and overseas (Fuchs & Fuchs, 1998; Schumm & Vaughn, 1991; Simpson & Ure, 1994; Ysseldyke, Thurlow, Wotruba & Nania, 1990).

It is not clear from this study whether the lack of differentiation in approach is due to outside pressure on the teachers from parents and principals to cover the set syllabus with all students and to treat all students equally, or due to lack of knowledge and skills in adaptive teaching strategies on the part of the teachers. It is even possible that the lack of differentiation is due to unwillingness on the teacher's part to deviate far from traditional whole-class teaching methods because of the time and effort involved in doing things differently. Further research involving personal interviews with the teachers and direct observation of their day-to-day classroom methods would be necessary to shed light on the underlying reasons. If it is found that teachers lack awareness of appropriate strategies to use in class, the implication is clearly that in-service professional development programs must address this weakness in classroom expertise. However, it was indicated clearly in the introduction above that in all countries where studies have been conducted, teachers find differentiation very difficult to implement and sustain — so in-service support for teachers in this areas will also need to be on-going.

Given that the teachers in this study are not making many adjustments to meet the personal and learning needs of students with SpLD, one must question the long-term value of placing such students full-time in inclusive classrooms. As indicated in the introduction, it is commonly accepted that students with significant learning difficulties usually require intensive remedial teaching at the hands of an expert (Pikulski, 1994) and they are unlikely to improve simply by being integrated into the mainstream class without support (Roberts & Mather, 1995). Research in the US has suggested that the best outcomes are often obtained when a student with learning difficulties receives both expert teaching by being withdrawn from class for certain periods (or receives after-hours tuition) and *also* receives effective ongoing in-class support in the

mainstream (Marston, 1996). Perhaps this combined support system is needed in the schools of Hong Kong, where at the moment great interest is being shown in improving the provisions for students with SpLD (Education Department (2002).

Certain limitations in this study must be acknowledged. Firstly, the sample of teachers was fairly small in number and the responses may not be truly representative of the practices of all primary teachers teaching SpLD students. However, the findings here are entirely in keeping with results from other studies in Hong Kong using larger samples and with studies overseas. Secondly, the use of a questionnaire with teaching and management strategies already listed is problematic. For example, there may be a temptation for teachers to indicate in such a list that they do use a certain range of adaptive strategies sometimes, when in fact they do not use them at all. As Avramidis and Norwich (2005, p.218) rightly comment, *Likert-type inventories [used in educational research] can lead to superficiality*. An attempt was made to counteract this possible tendency by having an open-ended section asking for teachers' own suggestions and ideas. The extent to which teachers do really adapt to individual student differences can only be determined by direct observation in classrooms over a reasonable period of time. Future research might also obtain information from the students themselves to discover what type of help they think they need, and the extent to which they do (or do not) receive it.

The needs of students with SpLD are always difficult to address adequately. The results from this study suggest that it is unwise at this time to expect mainstream primary teachers in Hong Kong to be able to meet these special needs fully, particularly when class sizes are large (35+ students) and teachers appear to lack the necessary expertise or motivation for implementing appropriate in-class remedial interventions. Full-time inclusion without remedial support for students with SpLD may not be the best option. Earlier systems of providing regular and intensive remedial teaching for students with difficulties either after school hours or by withdrawing them from certain timetabled lessons may still have much to offer — although not necessarily regarded as a politically correct option in this era of inclusive schooling.

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