Differentiating literacy instruction for student diversity in Stage 2 classes: An observational study

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Abstract

In Australian primary school classes student populations have become increasingly more diverse. The literature provides myriad research-based best practices for effective teaching in inclusive classrooms. Consequently, teaching and learning for students may be as diverse as the students' abilities and as variant as the teachers' instructional strategies they employ to meet individual students' needs. Differentiated instruction has evolved as one approach to meet the diverse educational needs of students in the regular classroom. Additionally, a major concern is students who still have difficulty learning to read. This paper reports an observation study investigating the relationship between student diversity and differentiation of literacy instruction in Stage 2[12] primary classes in Australia. Following a pilot[13] study, literacy lessons in four classes were observed over two terms. An amended version of the Code for Instructional Strategies and Student Academic Responses -Mainstream version (MS-CISSAR) was used to code variables in three major categories: classroom ecologies, teacher instruction and behaviours of students with low-, average- and high-reading ability in each class. The results provided some indication of relationships between the three categories and some differentiated literacy instruction for students with different abilities. However, findings of specific differentiated practices such as flexible grouping, contracts or learning centres were limited in this study.

Introduction

The concept of classrooms as complex educational ecosystems incorporating interrelated environmental contexts, resources, people, teaching and learning has evolved (Conway 2005). In Australian primary classes student populations have become more diverse. Along with regular peers, today's classroom ecologies may encompass students with disabilities, giftedness, ethnically different backgrounds, social or familial disadvantage, diverse heritage or other advantages or difficulties (Smith 2004; Tomlinson 2001, 2003a, 2003b). Hence, students with a much wider range in abilities and support needs are now being educated in the same classrooms (Fields 1999). As such, teaching and learning for each of these student cohorts may be as diverse as students' abilities and as variant as teachers' instructional strategies they employ to meet individual students' needs.

[12] Stage 2 classes combine students from Year 3 and 4 into a composite group.
[13] The pilot is published elsewhere (Smith et al. 2005).

The literature provides myriad research-based strategies for effective teaching that may not be used in inclusive classrooms (Salend & Garrick-Duhaney 1999; Mastropieri & Scruggs 2004). For example, many students are still being taught in whole class arrangements, with teach-to-the-average strategies that may not address student diversity (Juel & Minden-Cupp 2000; Kerry & Kerry 1997). As such, adjusted instruction for students with learning disabilities or advanced learning needs may not be provided (Kauffman et al. 2005). Therefore, current educational debate centres around the rigidity of whole class instructional strategies benefiting a smaller number of 'average' students, versus the need for greater instructional variety for student diversity (Wedell 2005).

Additionally, a major concern is students who still have difficulty learning to read (Louden, et al. 2005). Students' literacy skills may plateau in mid-primary (Comber et al. 2002). Furthermore, instructional deficits contribute to widening the gap between students with lower reading ability and those who are competent 4th grade readers (Comber et al. 2002). Conversely, studies show that students in classes where instruction is varied achieve more highly (Snow et al. 1998). Encouragingly, there is the view that some students are being taught in complex, but productive educational ecologies (Comber et al. 2002). Differentiation using effective strategies is one approach to meeting the individual educational needs of student diversity in complex classroom ecologies (Gartin et al. 2002; Kerry & Kerry 1997). Differentiated instruction involves adapting content, teaching processes and outcomes according to individual student needs in a variety of environmental contexts[14] (Gross et al. 2001; Tomlinson 2001, 2003b).

Some research suggests there is limited differentiated instruction in the regular classroom, while others suggest there is increased differentiation, especially when support is provided (Leyser & Ben-Yehuda 1999; McGarvey et al. 1997). While there is a plethora of research on effective instructional strategies for teaching and learning in inclusive classes, there is little empirical research on differentiated instruction (Conway et al. 2004). Additionally, there is the need for more school-based research into reading practices that helps alleviate concerns surrounding differentiation for student diversity (Conway, et al. 2004). Hence, continuing to investigate literacy strategies that can meet individual student needs in inclusive classes seems warranted. Therefore, this paper presents a study investigating the nature of the relationship between student diversity and differentiation of literacy instruction in Stage 2 primary classes in Australia. The research question is: What is the nature of differences between the behavioural[15], instructional and ecological variables for all students and students with low-, average- and high-reading ability in Stage 2 literacy lessons?

[14] In this study the environmental context or ecology is the regular classroom where students with special needs are included, hence the term inclusive classroom.
[15] Behavioural in this context includes student academic responses to instruction.

Method

The method incorporated a pilot study, and observation of classroom ecologies, teacher instruction and student responses to instruction during literacy lessons in four inclusive primary classes across two schools.

Participants

Two schools were randomly selected from one coastal region in New South Wales. Principals provided permission for the study and invited two Stage 2 teachers from each school to participate. Teachers in each Stage 2 class randomly selected two students with lower-reading ability, two performing at grade level and two higher-reading ability students. Hence, there were four teachers and 24 students, eight with lower-reading ability, eight with average-reading ability and eight with higher-reading ability.

Instrumentation

The Code for Instructional Strategies and Student Academic Response – Mainstream version (MS-CISSAR) (Greenwood et al. 1990) was chosen to code and record data. The MS-CISSAR has been used in many studies and has had extensive validation and amended versions have also been used (Carta et al. 1990; Conway et al. 2004; Greenwood et al. 1994). The instrumentation and observation process were field-tested to assess the instrument and amendments were made according to the pilot outcomes. Table 1 provides the specific variables that could be coded. There were three categories to be assessed. These included *student, teacher* and *ecology* categories. Within each of these categories there were sub-categories. The *student* category included: academic responses and competing responses. The *teacher* category included: instructor, focus and instruction/management. The classroom *ecology* category included grouping, organised activity, implemented process and specific task or materials. There were 80 variables altogether including: 14 student variables, 28 teacher variables and 38 classroom ecology variables. A comments column on the coding checksheets allowed additional data to be included.

Categories and sub-categories	Code no.	Description of sub-categories	Codes/variables relevant to this study
STUDENT RESPONSES			
Academic responses	8	specific, active response	*writing, task participation, reading aloud, reading silently, talk academically, listening/attending, task management, no academic response*
Competing responses	6	response that competes with academic response	*aggression, disruption, non-compliance, talk inappropriately, looking around, no inappropriate responses*
TEACHER INSTRUCTION OR MANAGEMENT			
Instructor	7	person teaching target student	*regular teacher, peer, volunteer, aide, special education teacher, other, none*
Focus	5	to whom teacher behaviour is directed	*whole class/small group, other/s in whole class, other/s in small group, target individual, no one*
Behaviours	16	teacher's responses relative to target student	*question/academic, question/management, question/discipline, command academic, command/ management, command/discipline, talk/academic, talk/manage, talk/discipline, talk/non-academic, non-verbal prompt/cue, attention, praise/affirmation, reading aloud, other, no response*
INSTRUCTIONAL ECOLOGY			
Instructional grouping	5	instructional patterns	*whole class, small group, one-on-one, independent, no instruction*
Organised activity	13	subject of instruction	*business/management, silent reading, reading to/with student/s, encoding/decoding, sight words, comprehension, writing, language, reading activity, spelling, handwriting, other, no organised activity*
Implementation process	10	process of instruction	*reviewing, outlining lesson content, presenting content, modelling/demonstrating, scaffolding/guiding practice, independent practice/learning, monitoring/feedback, transition, other, no implemented activity*
Specific tasks or materials	10	curriculum materials	*readers, workbooks, worksheet, exercise book/pen/pencil/paper, listen/lecture, discussion, other media, computer, fetch/put, no task*

Table 1 *Categories, sub-categories, descriptions and code examples for MS-CISSAR*

Data collection procedure

Results of formal assessments suggested the six target students in each Stage 2 class matched with the low-, average- and high-reading groups in which the teachers had allocated them. The students were then allocated a code number from 1 to 6, with 1 and 2 being students with low-reading ability, 3 and 4 being average and 5 and 6 having high-reading ability (LRA, ARA, and HRA respectively). Following training, trialling and collection of reliability data, the researcher and a trained research assistant met before and after each observation to review and discuss variable descriptions. In each observation session, all six students in a class were observed in a cycle of student 1, 3, 5, 2, 4, 6 and variables coded cyclically within a four minute timeframe. Each student was observed within intervals of 40 seconds. The first cue prompted coders to find target student 1. The next cue, on the ten second mark, prompted momentary time sampling for a few

seconds, and coding for 27 seconds. At the 40 second cue, the next target student was sought, followed by 27 seconds for coding and recording nine of the 80 variables. Two observers independently recorded variables in 12 minute rotations with planned rest periods. Randomly selected periods for the coders to record in the same cycles allowed for collection of inter-reliability data. The observations occurred over ten 1 hour literacy blocks in each class across twelve weeks, i.e. 40 observation sessions altogether.

Analyses

The SPSS was used to record and analyse data. Descriptive data analyses of frequency estimates for variables were conducted on 150 intervals for each student, equal to 3.3 hours and 1200 data points for each student group of LRA, ARA, and HRA or 3600 data points aggregated for all students together. The data were analysed by combining intervals of each category within an observation period of 1 hour and totalling each of the 40 observation sessions. Percentage scores were tabulated for each student, teacher and ecological variable across the three student groups and altogether. Then cross-tabulations, Chi square, and nomographs[16] between the most frequently coded variables for all students and for students with LRA, ARA, and HRA to explore patterns of interrelationships between the variables were undertaken.

Results

Classroom ecology, teacher instruction and student responses to instruction across the three student groups and for students altogether are presented. Table 2 provides the results of percentage scores for student, teacher and ecology variables[17]. An overview of variables with the highest percentage scores in each of the three categories is supplied.

Overall, the descriptive results indicated that all students mainly *worked independently* of the teacher or in *whole class arrangements*, undertaking *comprehension, reading, other activities*, such as assessment tasks, or *writing* on *worksheets or exercise books*. Teachers generally *focussed on individuals within the whole class* or the *class as a whole*, used *academic talk* with a high percentage of *monitoring/feedback* or *other* processes. Students were coded as mainly *writing* or *listening*, with little *inappropriate behaviours*.

[16] A nomograph is a graphical representation of numerical relationships used to calculate significance values between the student groupings according to percentage scores and in conjunction with the different sample sizes. Significant differences can be determined directly from percentage figures rather than raw frequencies. This enables the researcher to pinpoint significant differences in specific data without analyses of surplus or unnecessary data that was not suggested as significant using Chi square analysis (Oppenheim, 1992).

[17] Coded variables are *italicised* in the following text for ease of reading.

STUDENT RESPONSES				
Sub-categories	**Overall %**	**LRA %**	**ARA %**	**HRA%**
Academic responding	**n=3600**	**n=1200**	**n=1200**	**n=1200**
1. *writing*	26.1%	22.5%	27.2%	28.7%
6 *listening/attending*	22.0%	23.1%	21.2%	21.8%
8. *no academic responding*	14.6%	21.4%	13.8%	8.8%
4. *reading silently*	11.9%	9.8%	10.9%	15%
7. *task management*	10.8%	10.6%	11%	10.8%
Competing response				
5. *no inappropriate*	86.7%	80%	87.6%	92.5%
1. *looking around*	9.8%	15.3%	9.3%	4.8%
TEACHER INSTRUCTION/MANAGEMENT				
Instructor				
1. *class teacher*	94%	94.9%	91.9%	95.3%
Teacher focus				
2. *other in whole class*	33.9%	33.2%	34.4%	34.2%
1. *whole class/group*	29.6%	28.8%	29.8%	30.1%
3. *other in small group*	18.5%	18.0%	18.5%	19.0%
Teacher's behaviour				
7. *talk/academic*	24.4%	24.7%	25.1%	23.3%
13. *attention*	18.3%	17.7%	17.8%	19.4%
1. *question/academic*	9.2%	8.8%	9.3%	9.4%
11. *praise/reinforcement*	8.0%	7.5%	7.3%	9.2%
INSTRUCTIONAL ECOLOGY				
Instructional grouping				
4. *independent*	45.9%	43.8%	44.6%	49.4%
1. *whole class*	38.3%	39.1%	38.9%	36.8%
2. *small group*	9.8%	10.8%	11.1%	7.4%
Organised activity				
12. *other:*	13.8%	13.5%	12.9%	14.8%
6. *comprehension*	13.5%	13.3%	14.1%	13.1%
9. *reading activity*	13.2%	12.5%	12.5%	14.6%
7. *writing activity*	11.5%	11.3%	12.7%	11%
8. *language activity*	11.5%	12.3%	10.4%	11.8%
10. *spelling*	11.2%	11.3%	11.7%	10.7%
Implementation process				
6. *independent learning*	47.3%	46%	45.8%	50.1%
8. *transition*	9.6%	9.3%	9.2%	10.4%
9. *other:*	9.2%	9.8%	9.9%	7.8%
7. *monitoring/feedback*	9.1%	8.8%	9.5%	9%
5 *scaffold/guide practice*	8.7%	9.7%	8.8%	7.5%
Specific tasks or materials				
3. *worksheet*	21.9%	21.2%	21.4%	23%
4. *exercise book/paper/pen*	19.3%	19.4%	19.5%	18.9%
7. *other media*	13.2%	14.0%	12.9%	12.7%
1. *reader/s*	10.2%	10.3%	9.2%	11.1%

Table 2 *Percentage scores for student, teacher and ecology variables*

Overall percentages of each variable are placed in chronological order from highest to lowest percentage. The numbers beside each variable represent the order in which they were placed on the coding sheet.
When analysing differences between student groupings, descriptive results suggested ARA and HRA students were coded as *writing* more, while LRA students were *distracted* (*looking around*) more often than their peers. However, the *classroom teacher* was recorded as the instructor more often for LRA and HRA students, than ARA students. The HRA students mostly *worked independently*, with LRA and ARA students mostly *taught in whole class situations* by the *class teacher*, rather than having *small group* or *individualised instruction*. It appeared that teachers *spoke academically* to ARA and LRA students more often than HRA students.

The results suggested that the teacher *attended* to HRA students more and directed *academic questions* to ARA and HRA students more, but HRA students had less *scaffolded or guided support*. There was some evidence to suggest that LRA students were mainly involved in *language activities*, ARA students mostly undertook *comprehension* and *writing activities*, while HRA students chiefly worked on *reading* or *other* activities. In terms of resource materials, it appeared LRA students mostly used *other media*, while HRA students mostly used *readers*.

On the whole, descriptive data analyses suggested some differentiation between the percentage scores of variables in each sub-category, as well as differences in instructional approaches for each student reading ability level. However, more rigorous data analyses were required to examine differences between the student, teacher and ecology variables and each student ability grouping.

Chi square analyses were used to investigate significant differences between the variables and revealed significant differences within all three observed categories. Nomographs were then used for testing differences between variables within the sub-categories found to have significant differences when tested using Chi square analysis. In the student category, results confirmed that there were significant differences in academic responding ($\chi 2$= 98.54, df =14, p<.000) and competing behaviours ($\chi 2$= 95.48, df =8, p<.000) sub-categories. Table 3 provides the nomograph results of students' academic responses and competing behaviours. Nomograph results identified statistically significant differences within the variables writing, no engagement and reading silently. The findings suggested LRA students were observed undertaking significantly less writing activities or silent reading and were significantly less engaged than their higher reading ability peers. Significant effects were also found in the looking around and no inappropriate behaviours variables in the competing behaviours sub-category. This suggested that LRA students were observed displaying considerably more inappropriate behaviours than their ARA and HRA peers and were looking around more than HRA students.

Sub-categories & variables	LRA/ARA		ARA/HRA		LRA/HRA	
Academic responding	N	%	N	%	N	%
writing	270/326	22.5/27.2*	326/344	27.2/28.7	270/344	22.5/28.7*
listening/attending	277/254	23.1/21.2	254/261	21.2/21.8	277/261	23.1/21.8
no engagement	257/165	21.4/13.8	165/105	13.8/8.8	257/105	21.4/8.8*
reading silently	117/131	9.8/10.9	131/180	0.9/15.0*	117/180	9.8/15.0*
task management	127/132	10.6/11.0	132/130	11.0/10.8	127/130	10.6/10.8
Competing behaviours						
no inappropriate	960/105	18.0/87.6*	1051/111	87.6/92.5*	960/111	80.0/92.5*
looking around	183/111	15.3/9.3	111/58	9.3/4.8	183/58	15.3/4.8*

*$p < .05$

Table 3 *Differences between variables in academic responding and competing behaviours sub-categories*

No significant differences were found for the teacher focus or teacher behaviour variables in the teacher instruction sub-category. However, differences were significant for the teacher instructor sub-category ($\chi 2$ = 39.12, df =10, p<.000. Table 4 provides the nomograph results.

Sub-category & variable	LRA/ARA		ARA/HRA		LRA/HRA	
Instructor	N	%	N	%	N	%
class teacher	1139/1103	94.9/91.9*	1103/1143	91.9/95.3%*	1139/1143	94.9/95.3

*$p < .05$

Table 4 *Differences between variables in the instructor sub-category*

Significant differences between student ability groupings were noted within the teacher instructor sub-category. The *classroom teacher* was coded as the most frequent instructor and students with LRA and HRA were observed being taught by the class teacher for more intervals than their ARA peers. Nomograph results for the *grouping* sub-category in the instructional ecology category can be found in Table 5.

Sub-category & variables	LRA/ARA		ARA/HRA		LRA/HRA	
Grouping	N	%	N	%	N	%
independent	525/535	43.8/44.6	535/593	44.6/49.4	525/593	43.8/49.4
whole class	469/467	39.1/38.9	467/442	38.9/36.8	469/442	39.1/36.8
small group	130/133	10.8/11.1	133/89	11.1/7.4	130/89	10.8/7.4

*$p < .05$

Table 5 *Differences between variables in the grouping sub-category*

While Chi square results were significant for the grouping sub-category ($\chi 2$= 17.35, df =8, p<.027), results using the nomograph indicated no significant differences in the grouping variables. However, two results were almost statistically different in the *working independently* variable, which could suggest HRA students *worked more independently* than LRA or ARA students.

Overall, descriptive data suggested some differences between the variables and the various student groupings. Chi square analyses were then used to investigate differences within sub-categories. Finally, nomograph interpretations were used to identify significant differences between the variables in the student, teacher, and ecology categories across the student groupings. Some significant differences were indicated in the student and teacher categories when Chi square and nomograph analyses were undertaken. The results suggested ARA and HRA students *read silently* more often than LRA students, who *wrote* significantly less than their higher ability peers. The LRA students displayed *looking around* behaviours more often and were *less engaged* than their higher reading ability peers. Only one significant difference was found when investigating differences between the variables and academic-engagement in the teacher category. Students with LRA were less engaged than their ARA and HRA peers when instructed by the class teacher. These results suggested there was very little instructional differentiation occurring between student groupings. However, some instructional differentiation between student ability levels was suggested. While no inappropriate behaviours predominated, LRA students were less engaged than their ARA or HRA peers.

Discussion

In the present study, students mostly worked *independently* or the *teacher mainly taught in whole class* arrangements, a result supported by findings in other studies (Logan et al. 1997; Logan & Malone 1998; Montague & Rinaldi 2001; NICHD 2005; Schumm et al. 2000; Taylor et al. 2002; Vaughn et al. 2001). Braithwaite's (1999) findings suggested that more effective literacy teachers provided more independent work than in less effective classes. Moreover, Taylor et al.'s (2002) study indicated that whole group instruction predominated in observations of K-6 classes, at the expense of small group instruction.

Unfortunately, LRA students' achievement may be impeded in whole class teaching contexts (Schumm et al. 2000; Vaughn et al. 2001). Additionally, small group learning may engender higher reading achievement (Vaughn et al. 2003). Braithwaite's (1999) study found that more effective literacy teachers taught more in small groups. Nonetheless, maintaining students within the same ability groupings, rather than flexibly grouping, can disadvantage some student learning (Gartin et al. 2002; Haager & Klingner 2005; Hoffman 2003; Jenkins et al. 1994). Additionally, students have been reported as feeling stigmatised if ineffective strategies are used during grouping contexts (Elbaum, Vaughn et al. 1999). Combining effective strategies to teach reading and providing extra support for students with LRA or LD, such as alternating peer tutoring,

adapting materials and direct instruction within flexible groupings, have been mooted in the literature as effective differentiation strategies (Elbaum, Moody et al. 1999). However, studies have found that students rarely work in pairs or small groups, a finding consistent with the current study (Vaughn et al. 2001).

Research supporting instruction based on the effective instructional cycle components, such as *scaffolded or guided practice*, *working individually, and monitoring or feedback*, is strong (Arthur-Kelly 2005; Good & Brophy 2003; Smith et al. 2001; Swanson 1999; Walther-Thomas et al. 2000). Effective teachers consistently use all components of the effective instructional cycle (Taylor et al. 2002). However, learning observed in the current study did not seem to be based on reviewing prior knowledge, and lesson outlines were rarely coded. Use of the effective instructional cycle in full is foundational to differentiating instruction and for developing effective reading skills and learning outcomes generally (Good & Brophy 2003; Good et al. 1998; Haager & Klingner 2005; Mastropieri & Scruggs 2004). Hence, full use of the effective instructional cycle components may be needed in Stage 2 literacy lessons.

The results so far suggest that students in Stage 2 classes generally worked in whole class arrangements, where students worked individually, while the teacher oversaw proceedings and provided support or feedback when needed, or when the instructor felt such support was needed. While, this approach could be considered quite traditional, such whole class teaching may be beneficial if additional support is provided (Good & Brophy 2003; Mastropieri & Scruggs 2004).

The teachers' focus was generally *on the class as a whole*, using *academic talk* as the foremost teacher instructional approach. Anderson's (1987) and Taylor, and colleague's (2002) studies also found that teacher talk was very high and more prevalent than guiding student learning. By contrast, Braithwaite's (1999) study indicated that more effective teachers used more teacher talk than teachers in less effective classes. However, they added that students in more effective classes discussed more than their peers overall. Even though discussion is an effective literacy strategy and a key differentiation technique to motivate student engagement, there was minimal student discussion found in the present study (Gambrell & Mazzoni 1999; Mastropieri & Scruggs 2004). English, Hargreaves and Hislam's (2002) and NICHD's (2005) studies also confirmed limited verbal interactions between students and the teacher. Furthermore, more teacher talk, combined with questioning, were indicated in English et al.'s (2002) study. Conversely, in Braithwaite's (1999) study in less effective classes, teachers used more questioning and explanations. Notably, while there were some academic questioning, there was limited questioning overall indicated in the current study.

In this study, students mostly undertook *comprehension, reading, language, writing* and *other* tasks, mainly involving *pen and paper* responses and the core academic responses were *writing, listening* and *attending* to the teacher. A similar outcome was found in Baumann et al. (1998) and Greenwood et al. (2003) studies,

though comprehension and writing weren't identified in their study. Such content in the current study suggests use of both whole language and skills-based learning content. If this is the case, then these findings may reflect the literature support for a balanced approach to literacy instruction (Baumann et al. 1998; Ivey et al. 2000; Pressley et al. 2002). However, students generally undertook whole language-based activities, such as *language*, *reading* and *writing activities,* more frequently than skills-based activities, such as *encoding/decoding* or *sight word recognition* in the current study. Furthermore, Stage 2 teachers in the current study did use skills-based instruction and may have been balancing whole language content, within traditional whole class instruction. Recent Australian reports have identified the need for more phonics, skills-based instruction (DEST, 2005, Notably, the literature supports a more balanced or interactive approach to teaching literacy or reading, involving the combination of skills-based and whole language (Baumann et al. 1998; DEST 2005; Flippo 2001; Pressley & Fingeret 2005; Pressley et al. 1998; Robinson 2005).

Moreover, student academic behaviours were more likely to include *writing* or *listening,* with limited differentiation practices in the current study. This is in contrast to the differentiated practices recommended in the literature for more diversity in student responses (Algozzine et al. 1998; Brady & Scully 2006; Baker & Wigfield 1999; Comber et al. 2002; Duffy-Hester 1999; Kerry & Kerry 1997; Pressley et al. 1996; Tomlinson 2000a, 2000b; Woolley & Hay 2003). As there were minimal competing behaviours recorded in the current study, the more traditional whole class teaching approach may serve to reduce inappropriate behaviours.

Overall, when exploring differences across ecology, instruction and behavioural responses between the three student groups, some differences were found. It seemed that students with LRA were *taught more by the classroom teacher in whole group arrangements, received more scaffolding*, whilst *undertaking language activities* and *used a variety of media,* but were *less engaged* than their higher ability peers. In contrast, ARA students had more *teacher instruction involving questioning and academic talk*, but less *teacher focus.* They mostly *read silently* or completed *comprehension* and *writing activities*, more often than their lower ability peers. However, no behavioural difficulties were noted for ARA students in the current study. Moreover, HRA students were mostly *instructed by the class teacher,* with *academic talk* and *questioning* as the main instructional approaches. However, teachers' focus may have been on others during this instructional time, even though *attention* may have been directed to HRA students more often overall. The HRA students were more likely to *write* or *read silently or undertake other activities,* such as assessment tasks*,* and mostly *worked independently*. These findings correspond with those of Westberg et al. (1993) who found that more able students had limited instructional differentiation, grouping, or discussion opportunities. More time was also spent by higher ability students writing or listening to lectures, than for average ability students in their study. Similarly to ARA students*, no inappropriate behaviours* were noted for students with HRA. While these findings suggested different provisions between each ability grouping in the current study, the differences were minimal and the type of differences don't reflect differentiated practices found in the literature, such as

tutoring, mentoring, flexible grouping or learning centre activities that cater for different learning styles or interests (Gartin et al. 2002; Hoffman 2003; Tomlinson 2000a, 2001; Vaughn et al. 2001).

Conclusion

Observations using an amended version of the MS-CISSAR were used to identify student, teacher and ecological variables in relation to targeted students with low-, average- and high-reading ability in Stage 2 classes, as well as potential relationships between patterns of coded variables. The observation results provided the opportunity to assess links between classroom ecology, teacher instruction and student responses to literacy instruction. The results of the observations suggested that there was some differentiated instruction occurring during literacy lessons. There was also some differentiation of instruction between students with low, average and high reading ability. However, specific differentiated practices such as flexible grouping, contracts or learning centres were limited in this study. This is in accord with the literature that suggests little differentiation occurs in regular classrooms where students with special needs are included.

In this study, whole group instruction predominated in primary classrooms and seemed to result in more appropriate student behaviours. If whole group instruction is the dominant grouping format, then seeking effective instructional contexts within this format may be needed. If small group instruction is conducive to higher reading achievement, then grouping students flexibly with additional supporting strategies, such as discussion, questioning, or tutoring, may be worthwhile. Supportive strategies that are foundational to reading success are also evident when teachers use all components of the effective instructional cycle. A balanced approach to literacy instruction, that includes increasing skills-based instruction for students who require it, is suggested in the findings. It seems that additional research is required to investigate more differentiated practices for students with different literacy needs.

It is noted that the results of this study are only a small portion of a much wider study that incorporated exploration of student academic-engagement, literacy content, student assessment and outcomes, teacher perceptions of practice, teacher professional development, teacher concerns regarding differentiated practices and support needs. Surveys, interviews, sampling and case studies were used to collect the additional data. These aspects of the study may illuminate differentiation practices not apparent from the observational component of the study. Additionally, the teacher interviews and surveys may provide opportunities to examine similarities and differences between researcher observed and teacher perceived practices. The additional data may indicate difficulties with differentiation and recommendations for practices that could be used to differentiate instruction for student diversity in inclusive Stage 2 classes.

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