

Motivation, strategic learning and achievement in Social Studies in years 5 to 9

Ken Rodwell & Phillip J Moore

Department of Education  
The University of Newcastle

Paper presented at the 1994 AARE Annual Conference, Newcastle, New South Wales.

27th November to 1st December, 1994.

Abstract

Motivation and Strategic Learning Development of Scales and a Cross sectional Study of Social Studies Across Years 5-9

The aim of this research was to examine the motivational and strategic learning constructs in Social Studies across Years 5 to 9.

Student motivation in Social Studies was assessed in two ways: using a modified version of Chan's (1991) Causal Attribution Scales, and a modified version of the motive scales from Biggs' (1987) Learning Process Questionnaire. The modification reflected the nature of learning in Social Studies. For strategic learning, a 20-item scale was developed from the literature on self-regulated learning and strategic learning in Social Studies. The latter scale sought information on knowledge of particular strategies and also the frequency of student use of such strategies.

The presentation will focus on the development of the initial Social Studies scales in motivation (attributions, approaches to learning) and strategic learning, which employed 421 students across Years 5 to 9. Statistical analyses, including reliabilities are reported, as is a comparison of the results between junior (Years 5 & 6) and senior (Years 7, 8 & 9).

The purpose of the paper is to provide a progress report on a study which is examining empirically the interdependence of cognitive, metacognitive and motivational aspects of academic learning. The research focuses upon the developmental pattern of motivation and metacognition across years of schooling from a cross-sectional perspective. In this paper, the focus is on motivational constructs of Approaches to Learning (Biggs, 1987), and Causal Attributions (Elig & Frieze, 1979; Weiner, 1984). Additionally Strategic Knowledge is examined, all in the context of a specific subject domain, Social Studies.

### Subject Specificity

Indications of different motivational influences operating in different school subjects have been reported in two recent studies. Pintrich and De Groot (1990) studied the relationships among intrinsic beliefs and cognitive and self-regulatory strategies particularly in English, Social Studies and Science. While they reported very few differences in these subject domains, their interview data, which discussed all school subjects, showed perceived motivational and strategic differences in Mathematics. Young, Arbretton and Midgley (1992) also examined motivational orientation and cognitive strategy use in different subject domains. Their study of 6th and 7th graders included English, Social Studies, Mathematics and Science measures showing among other findings,

that Science and Mathematics were more learning focussed than English and Social Studies. On the other hand, ability-focussed orientations were highest in Social Studies. These findings show that students apparently have different motivational orientations for different school subjects. While it still leaves open the question of the relationship of the complex of variables to actual achievement, such research provides rather compelling evidence to move to subject-specific assessments as well as global assessments of motivation and strategic knowledge.

### Social Studies And Strategic Knowledge

The nature, scope and definition of Social Studies have been the subject of ongoing debate because it is a 'subject which does not have its own inherent structure' (Brady, 1983. p.9). For the purpose of this paper Social Studies is defined as a study of people as social beings, as they have existed and interacted with each other and the environment, in time and in place. The purpose of Social Studies is to help the student develop both sensitivity and objectivity in studying human behaviour, and to recognise the need for varied solutions to human problems. In New South Wales in the 1990's, Social Studies curricula are expressed in terms of outcomes for various stages of schooling. In this study, Social Studies is being examined from the interdisciplinary perspective of Primary School Social Studies, the interdisciplinary approach of Australian Studies (Geography and History) in Year Seven and Year Eight, and in Year Nine a selection of singledisciplinary subjects including Aboriginal Studies, Asian Social Studies, Commerce, Geography and History. The primary classes are referred to as junior and the secondary classes as senior in this paper.

The discipline of Social Studies comprises a structured knowledge of relevant facts, concepts and understandings (Banks, 1990).

Students are required to absorb relevant information, organise it for understanding and demonstrate their understanding. In selecting information, students are to recognise the purpose of an inquiry; recall relevant facts and concepts; locate resources; and, identify new information. In organising information to achieve understanding students translate information to clarify, relate abstract ideas to concrete or everyday terms, and condense information into a more useful form, for example, maps, graphs, summaries and time-lines. In analysing information students identify essential features, recognise causal relationships, take comprehensive notes and draw conclusions (Board of Studies, 1992). They are expected to look at the different perspectives of an issue, evaluate and be able to support a values position. Strategies are designed to promote investigation, communication and participation (Board of Studies, 1994).

Understanding in Social Studies is facilitated by the student's ability to actively construct meaning by regulating their own learning. General strategies which serve to improve students' self-regulation of their personal functioning, academic behavioural performance or learning have been identified by Zimmerman (1989). For example, the strategies of goal setting and planning, seeking information, organising and transforming, rehearsing and memorising, and reviewing records assist in optimising personal regulation. Strategies such as self-evaluation, keeping records and monitoring, and self-consequating aim at enhancing behavioural performance. The strategies of

environmental structuring and seeking assistance help to optimise the students' immediate learning environment. These and more specific strategies such as decision-making and problem-solving are associated with learning in Social Studies.

As much learning in Social Studies is done from textbooks and general reference sources, students require strategies which can target the verbal/visual nature of the materials. The ability to identify implicit or explicit main ideas, to follow the organisational structure of a passage (Pearson and Dole, 1986) or to write suitable summaries (Garner, 1987; Calfee and Drum, 1986) may be effective means for students to deepen their understanding of Social Studies. Vocabulary strategies are vital because students encounter numerous new words, and learning new words from expository texts is difficult (Nagy, Anderson & Herman 1987). Locating information (Guthrie & Kirsch, 1987; Dreher, 1993) is considered to require a different strategic approach than that for comprehension and is a strategy students will often utilise in Social Studies. The ability to use multiple sources of information (Spivey & King, 1989) enables a student to consider possible different perspectives

of an issue or event and evaluate objectively or support a particular values position.

Some researchers (e.g. Armbruster, Anderson & Osterag, 1987; Rinehart et.al., 1986) have examined methods for improving reading instruction in specific Social Studies domains by using prior knowledge, advance organisers and pre-reading discussions to help focus attention on and build connections among ideas to the central content of a text. Strategies to identify visual/text relationships have been identified by Mayer & Anderson, 1992; Moore, 1991; Moore & Scevak, 1993. Other strategies useful in dealing with Social Studies materials include: self-questioning (Brown & Palincsar, 1985), notetaking (Kirby & Pedwell, 1989), question-answer relationships (Raphael, 1984) and text structure knowledge (Cook & Mayer, 1988).

#### Approaches to Learning

The construct of approaches to learning refers to the sets of motives and strategies that learners bring to any learning task. These have been categorised as surface, deep and achieving (Biggs, 1987; Biggs & Moore, 1993). A surface approach is characterised by attention to detail rather than to meaning, and putting in minimum effort in order to satisfy task demands. Often the learner follows a rote learning process. A deep approach, on the other hand, is characterised by attention to meaning, and putting in as much effort as is required in order to satisfy personal needs to understand the material. The essence of an achieving approach is ego enhancement and both temporal and spatial organisation for learning (Biggs, 1987).

The rather extensive literature on approaches to learning consistently shows the surface approach to be negatively related to performance (Cantwell & Moore, 1990; Moore & Telfer, 1992; Ramsden & Entwistle, 1981). When reading, students who use a surface approach usually memorise those parts of the article which they consider to be important in view of the exam questions they anticipate. Their focus of attention is often limited to the specific facts and pieces of disconnected information which they learn mechanically. Rote memorisation is an inappropriate technique for meaningful learning. It is a tedious

and unrewarding activity. Students who persist with the surface approach are likely to do less work, be anxious about their learning and are more likely to fail searching examinations. The factual overburdening of syllabuses and examinations, which encourage a low level of understanding, push students towards a surface approach

Deep approaches tend to lead to more complex responses (Biggs, 1989) and higher self-estimates of achievement (Watkins & Hattie, 1990). When reading, a student who has a deep approach usually has the intention of understanding the meaning of the article, questions the author's arguments and relates them both to previous knowledge and personal experience. Students using a deep approach usually study for longer, find the material interesting, and have a deeper level of understanding which is associated with better recall of detail. However, the benefits of a deep approach may not be achieved because of lack of previous knowledge or lack of attention or effort.

The achieving approach also relates positively to achievement and self perceptions (Watkins & Hattie, 1990). Students who adopt an achieving approach are motivated by the challenge of gaining mastery of the material, and or, a ranking higher than their peers. They usually have well-organised study methods, are sociable but may have disillusioned attitudes towards learning. While it is much easier to induce a surface approach to learning, consistent student approaches are unlikely. However, programmes that have attempted to change students' approaches to learning have generally shown that movements towards deep and achieving approaches are accompanied by increased academic performance (Biggs & Rilyn, 1984; Edwards, 1986; Moore, 1991).

#### Causal Attributions

The construct of causal attributions refers to what students perceive as the cause of their successes or failures in school, such as ability, effort, task difficulty and luck (Elig & Grieze, 1979; Weiner, 1991). These attributions can be classified along three dimensions: locus, stability, and controllability (Weiner, 1984). For example, ability attributions have an internal locus are stable but uncontrollable; whereas effort attributions have an internal locus, are unstable (can be changed) but are controllable. If students are to succeed, they must believe that when they expend effort -something they completely control - they will experience success (Bloom, 1985; Gardner, 1983). However, if students believe that success or failure is the result of a cause over which they have no control, they will consider it pointless in making the effort for that task (Greene, 1985).

Students who attribute success or failure to something which is unstable, such as luck, may not know what to expect about their future performance. However, if failure is attributed to a stable but uncontrollable factor, such as low ability, then expectations of future failure will become high. In extremes, such attributions may lead to "learned helplessness" (Miller & Norman, 1979; Reid & Borkowski, 1987). That is, they are unlikely to try

alternative ways of solving a problem when encountering difficulties in task completion, believing that there is nothing they themselves can do in such situations.

Students who perceive that they have control over school successes or failures are likely to have high expectations of

success and are motivated to work hard because they realise that success or failure will depend on their own effort and appropriate use of strategies (e.g. Borkowski, Carr, Rellinger & Pressley, 1990). Perceptions of internal control have also been shown to be positively related to achievement (Chan, 1992; Klein & Keller, 1990; Marsh, 1986; Skinner, Wellborn & Connell, 1990). Attributions and choice of learning strategies are inter-connected. Valuing learning and controlling their own thinking enables learners to select appropriate strategies and more often realise their expectations. Further, learning is situated in a particular context which can influence student motives and hence determine the strategy to be employed for a range of learning tasks. Correct use of strategies teaches students how to think, how to learn and take control over their thinking and learning processes.

The causal attribution of strategy is considered to involve two essential features of metacognition, self-appraisal and self-management of cognition (Paris and Winograd, 1990). Self-appraisal includes personal reflections about one's knowledge states and abilities, while self-management refers to executive cognitive actions that help guide and coordinate thinking. Metacognitive control and self-regulatory strategies include: planning, monitoring, regulating, persisting and maintaining effort. The strategies that students choose are dictated by their judgements of the appropriateness of different tactics for particular tasks.

Several factors have been shown to relate to different attributions. Females tend more than males to attribute their success to luck rather than to ability, and to rate their ability lower (Bar-tal, 1978). Individuals with low self-esteem tend to make more internal attributions following failure (Marsh, 1986). As might be expected, high need achievers attribute their success to internal factors - ability and effort. Alternatively, low need achievers attribute their failure to lack of ability and their success to luck or an easy task (Scapinello, 1988). The attributional data in the Clayton-Jones (1992) study showed that, as students developed and were subjected to more schooling they were more likely to attribute their success to the use of strategies, and failure to lack of effort. The findings further showed that, as students progress through school, they perceive more control over their

learning.

#### Aim of the Study

The general aim of this study was to examine some cognitive, metacognitive and motivational aspects of learning in Social Studies. This was done by considering the developmental pattern across years 5-9 of schooling, of the constructs of approaches to learning, causal attributions and strategic learning.

Specifically the projects objectives wereto:

- a) develop and refine sets of Social Studies oriented scales for approaches to learning, causal attributions andstrategic learning; and
- b) investigate if primary students differ from secondary students in motivation and strategic knowledge.

#### Subjects

Five schools from the Hunter Region of New South Wales took part in this study. Two high schools and three primary schools were included in the sample. A total of 421 students were involved

in the study, 185 junior and 236 high. Table 1 shows the composition of the sample by grade and sex.

TABLE 1: The Sample Population by Grade and Sex.

Grade	Male	Female	Total
Grade 5	50	47	97
Grade 6	34	54	88
Total Primary	84	101	185
Grade 7	38	45	83
Grade 8	43	40	83
Grade 9	36	34	70
Total Secondary	117	119	236
Sample Total	201	220	421

#### Materials

Scales for assessing approaches to learning, causal attributions and the knowledge and use of learning strategies in the generalised context have been developed for use in both the junior and high school years in previous research eg. Clayton-Jones et al (1992); Chan (1992); Youlden (1993). Items in the earlier scales were adapted for use. Where necessary new, similar scales were created for assessing these constructs in the specific subject domain of Social Science. Fidelity to the original wording of items ensured that the reliability of the items was well maintained. However, for each of the scales, the wording of the items in the junior

and high school versions were slightly altered to match the respective contexts, but the content and intent of the items were the same for both versions. Although the subject discipline is increasingly being referred to as Human Society And Its Environment, this study uses Social Studies for junior students and the more familiar Social Science for the senior students.

#### Procedure

Each student completed three Social Studies oriented questionnaires - Learning Process, Causal Attribution Scales and a Self Regulated Learning Strategies Scale. The questionnaires were administered separately in sessions extending over a period of three weeks during Term Three, 1994. Procedures were standardised for administering the questionnaires. Students were read the instructions and then completed practice items. The items were read to years 5, 6 and 7, while they were completed by years 8 and 9 at their own pace. Each of the questionnaires provided a line marked with both the numerical and verbal response categories.

#### Development of the Approaches to Learning Questionnaire for Social Sciences A Learning Process Questionnaire

with three subscales, each with six items, assessing deep, surface and achieving motives for learning Social Studies was employed in this part of the study. An 18 item general version questionnaire developed by Clayton-Jones et al (1992), from the original 36 item Learning Processes Questionnaire developed by Biggs (1987), was adapted for Social Studies. Only the 18 motive items were used in this study as learning strategies are measured by the Self-Regulated Learning Strategies Scale. The Clayton-Jones general version had been developed for both junior and high school students. The intent of the items was the same, but words were altered to ensure that the items were relevant and the meaning readily

understood by fifth and sixth grade students. In responding to the questionnaire, the students were required to complete a five-point Likert scale for each question.

Several examples of the Clayton-Jones et al General Scales and the adapted Social Studies Scales are given below:

Gi I am put off by a poor mark in a test and worry about how I will do on the next test.

SSi I am put off by a poor mark in a Social Science test and worry about how I will do on the next test.

Gii I find that studying some topics can be really exciting

SSii I find that Social Science can be very interesting when you get into

it.

Giii I find that studying some subjects can be really exciting.

SSiii I find that studying some Social Science topics can be really exciting.

The results of the pilot

study indicated that the reliabilities of the senior subscales could be improved by deleting items. However, only the deep motive subscale for the junior version improved while both other subscales reliabilities were marginally reduced. The results of removing these items are shown in Table 2. The most substantial improvement in reliability occurred with the senior students' surface sub-scale, from 0.5 to 0.6. The items and their subscales which were deleted were:-

a) "I think that teachers shouldn't expect students to study Social Science topics which aren't taught in class."  
(Surface)

b) "In Social Science lessons, I feel I have to say what I think is right even though others may know better than I."  
(Deep)

c) "I like to know other students' Social Science results so that I can see by how much I beat them." (Achieving)

The decision to delete the above items was supported by their weak face validity. In schools today, competition between students is discouraged, especially at the junior school level. Consequently test and exam results are seldom publicly displayed and scholastic progress is increasingly being reported in the form of individual profiles or outcomes-based statements.

Refinements were also made to the wording of items based on experience gained during the pilot study. Amendments were made to clarify some items and to ensure that they explicitly fitted the subscale e.g.

"Whether I like it or not, studying Social Science is a way to get a good job" was amended to:

"Whether I like it or not, I can see that Social Science is for me a good way to get a well-paid or secure job."

The final form of the Social Studies Learning Process Questionnaire had 15 items, five on each subscale.

TABLE 2: ScaleReliabilities

	Junior	Senior
L.P.Q.	N = 143	N = 184
Surface	0.69 - 0.68	0.5 - 0.6
Deep	0.76 - 0.78	0.73 - 0.74
Achieving	0.79 - 0.78	0.78 - 0.78

The scales statistics for the Social Studies Learning Process Questionnaire are shown in Table 3.

TABLE 3: Learning Process Questionnaire for Social Science Scale statistics for junior and senior students.

	Junior n = 85			Senior n = 236		
	Surface	Deep	Achieving	Surface	Deep	Achieving
Mean	3.37	3.26	3.59	3.18	2.63	3.19
SD	0.89	0.98	1.0	0.81	0.94	0.98
No. of Items	6	6	6	6	6	6
Reliability	0.69	0.76	0.79	0.5	0.73	0.78

#### Comparison of Junior and Senior Students --- Approaches to Learning

For the junior students, the average response for Surface and Deep motive was true half the time, with the Surface motive being dominant. For the Achieving motive the average response from the junior students was often true. For the senior students Surface and Achieving motives were similarly ranked, true half the time, so too was the Deep motive but clearly, more lowly rated. There was a statistically significant difference (multivariate  $F=12.58$ ,  $p<0.01$ ) between the junior and senior motives. Univariate statistics indicated that on both the Deep and Achieving motives, junior students had significantly stronger - Deep motives ( $F=36.94$ ,  $p<0.01$ ) and Achieving motives ( $F=13.80$ ,  $p<0.01$ ) than the senior students. Results are shown in Figure 1. The pattern of declining Deep motive in these Social Science data is consistent with the general approaches to learning referred to above.

Development of the Causal Attribution Scale for Social Science  
 A Causal Attributions Scale which assesses ability, effort, strategy and luck attributions for successes and failures in Social Studies was developed. It was based on Chan's (1992) Causal Attribution Questionnaire which is a ten item instrument designed to assess students' general attributions for learning. The four basic attributions are examined in the context of both success and failure, yielding eight causal attribution measures. In this study,

six items describing success incidents and six describing failure incidents were originally developed. Later, in refining the instrument a success and a failure incident were deleted. In the scales, for each item, the four different attributions were listed and students were required to rate each on a four point scale to indicate how true they considered that particular item to be for them. By inserting the words "Social Studies" (junior version) or "Social Science" (senior version), or substituting them for "schoolwork" the general version was adapted for Social Studies. Parallel forms of the scale were developed for junior and senior students ensuring that the wording was

appropriate for the student level. For example:

Junior: When you got high marks for your Social Studies homework, it was probably because...

Senior: When you got high marks for your Social Science assignment, it was probably because...

Examples of the General scale and the adapted Social Studies scale are given below:

Gi) Suppose your class was given a very difficult worksheet to do and you got most of the answers right. This was likely because:

- a) you were lucky that day
- b) you had useful methods for working out the answers
- c) you usually do well at schoolwork
- d) you tried very hard to work out the answers

SSi) Suppose your class was given a very difficult Social Studies worksheet to do and you got most of the answers right. This was likely because:

- a) you were lucky that day
- b) you had useful methods for working out the answers
- c) you usually do well at Social Studies
- d) you tried very hard to work out the answers.

Gii) Suppose you were asked to be the team leader on a class project. It was probably because:

- a) you had useful methods for doing projects.
- b) everyone knew you would work hard on the projects.
- c) you were just lucky to be chosen.
- d) you are always good at schoolwork.

SSii) Suppose you were asked to be the team leader on a class project for Social Studies. It was probably because:

- a) you had useful methods for doing Social Studies projects.
- b) everyone knew you would work hard on the project.

- c) you were lucky to be chosen.
- d) you are always good at Social Studies.

Apart from these slight variations in language, the junior and senior students' items were the same and presented in the same order.

The experience of the pilot study suggested that the scales should be shortened to ten items - five success and five failure items. The decision as to which items to delete was based on scale reliability, factor analysis and how students had related to the items during the pilot study, that is their face validity. It was learnt from talking with students during the pilot study, that to be selected as a team leader is considered to be unlucky, or a job that is volunteered for, because no one else would do it. So the item, Suppose you were asked to be the team leader on a class project. It was probably because..., had little face validity. Its removal improved the success-luck subscale for the senior students and the success-effort subscale for junior students. Further, the factor pattern became clearer by deleting the second item because of its cross-loading. For the failure scales two items were consistently cross-loading. Scale reliabilities were run, deleting each in turn. Excluding the item "If you had trouble understanding what had been taught in a Social Studies lesson,

it was probably because..., consistently gave higher scale reliabilities than deleting the item, "If you were tested at the end of a Social Studies lesson on what had just been taught and you knew most of the answers, it would probably be because.... Deletion of the latter would improve the reliability of the success-ability subscale for both senior and junior responses. Nevertheless, when the former item was deleted from the factor analysis in conjunction with the success item previously deleted, a better and clearer factor pattern resulted. The final scale reliabilities are set out in Table 4, below.

Table 4: Scale Reliabilities - Causal Attributions, Social Studies

	Junior n=134	Senior n=172
CAS:		
Luck S	0.78	0.85
Luck F	0.84	0.76
Ability S	0.85	0.83
Ability F	0.80	0.87
Effort S	0.79	0.85
Effort F	0.84	0.9
Strategy S	0.76	0.86

Strategy F                      0.72                      0.84

The scale statistics for the Causal Attribution Scale for Social Studies are shown below in Tables 5 and 6.

TABLE 5: Causal Attribution Scale For Social Studies  
 Scale Statistics for Senior Students  
 n = 236

Strategies	Success				Failure			
	Luck	Ability	Effort	Strategies	Luck	Ability	Effort	
Mean	1.76	2.44	3.04	2.47	1.68	2.12	2.44	2.13
SD	0.72	0.75	0.79	0.74	0.56	0.81	0.94	0.68
NoItems	6	6	6	6	6	6	6	6
Rel	0.85	0.86	0.87	0.87	0.75	0.9	0.91	0.85

TABLE 6: Causal Attribution for social Studies  
 Scale Statistics for Junior Students  
 n = 185

Strategies	Success				Failure			
	Luck	Ability	Effort	Strategies	Luck	Ability	Effort	
Mean	2.02	2.51	3.06	2.48	1.89	1.9	2.03	1.96
SD	0.83	0.8	0.78	0.69	0.76	0.77	0.82	0.66
NoItems	6	6	6	6	6	6	6	6
Rel	0.79	0.86	0.78	0.79	0.84	0.84	0.85	0.76

Comparison of Junior and Senior Students --- CausalAttributions

Senior and junior students responded that while it was "sometimes true" that they attributed success to luck in Social Studies, it was "often true" that they attributed success to effort. Success attributed to ability and use of strategies was rated between the values for luck and effort. The junior students rated all success scales more highly than the senior students. All students perceived lack of luck, ability,

effort and use of strategies as contributing less to their failure than to their success, responding that it was only "sometimes true" that these attributions contributed to failure. Overall, luck was the weakest attribution indicating that students felt that their success and failure in Social Studies were less likely to be attributable to luck, relative to the other internal factors.

The only statistically significant difference between the senior and junior responses on the success subscales was in the luck attribution. Junior students perceived that luck would more often contribute to their success than the senior students (univariate  $F = 10.05$ ,  $p < 0.01$ ). For the failure subscales there were statistically significant differences on all items. Junior students perceived lack of luck to be contributing more often to their failure than the senior students (univariate  $F = 8.13$ ,  $p < 0.01$ ). Whereas senior students responded that lack of effort and ability and use of strategies contributed more often to their failure than did the junior students. ( $F = 18.57$ ,  $7.02$  and  $5.52$  respectively,  $p < 0.01$ ).

The results for the success attributions are shown in Figure 2, while those for failure attributions are illustrated in Figure 3. As students move through school and study more Social Studies, it seems that luck plays less of a role in the students causal attributions about their success. On the other hand, the failure pattern shows quite marked differences between the juniors and seniors. Effort is raised in significance as the students mature and luck reduces in intensity. While there is clear differentiation for failure in the senior sample, there is less discrimination among the likely causes of failure for the younger students.

#### Development of the Learning Strategies Scale

A Self-Regulated Learning Strategies Scale for Social Studies was created for this study. The rating scale was designed to assess students awareness and regulation of learning strategies. Previously, Chan and Youlden (1994) had developed a 24 item, general version which proved a basis for the development of this domain specific scale. The Chan and Youlden approach had drawn upon the work of Martinez-Pons and Zimmerman (1986) and Zimmerman (1989) who had produced a list of common self-regulated learning strategies that students use to improve their academic achievement. These strategies included: self-evaluating, organising and transforming, goal-setting and planning, seeking information, keeping records and monitoring, environmental structuring, self-consequating, rehearsing and memorising, seeking social assistance and reviewing records.

Using the general version of the Self-Regulated Learning Strategies Scale as a model, a scale was created to measure students' knowledge and use of Social Studies strategies. As indicated above, the literature was searched to find learning strategies that were particularly applicable to the enquiry, verbal, visual nature of learning Social Studies. A selection of items and reference to their origin are given below.

i When working on a Social Studies project, Tom gets the important information from a number of books before he writes his project.

(Seeking information, Multiple Sources - Spivey & King, 1989).

ii. When Jill is learning something new in Social Studies, she tries to fit it in with things she already knows.

(Organising and transforming information - Prior Knowledge and Main Ideas - Afflerbach, 1990).

iii When Robert studies tables and graphics in Social Studies books, he always tries to get an overall idea of the information from them first.

(Locating Specific information - Diagrams, Tables, Graphic Organisers - Guthrie, Weber & Kimmerly, 1993).

iv When Carol reads Social Studies materials, she always looks to see if it is written like other text that she knows.

(Text structure knowledge - Cook and Mayer, 1988).

Initially, a scale of 32 items was developed comprising mostly strategies specific to Social Studies, and some which could be classed as general strategies. The proposed items were discussed with experienced teachers to ensure their face validity, and with a group of students to ensure that the language and phrasing used were appropriate for the range of subjects in the sample, and that the intent of the questions was clear. Two parallel versions of the scale were developed, a junior version for primary students and a senior version for high school students. While the aim was to make the items as relevant and meaningful as possible for each group, the only flexibility possible was with item wording as the actual strategies described had to be consistent between the two forms. This was to ensure that valid comparisons could be made between the junior and senior scales. After each description, students were required to rate the strategy on two separate, four point scales in terms of how helpful they considered that strategy to be and how often they employed that strategy. Ratings on the two questions were then averaged separately, giving a "Knowledge" mean score and a "Reported Usage" mean score, both ranging from zero to four.

The pilot study revealed that the scale was cumbersome. It was decided that a more manageable scale for students should contain 20 items. The general strategies questions were the first to be deleted. Then those items which tended to repeat enquiries about a strategy were excluded. Finally, those items which were heavily rated towards the upper end of the ratingscales were deleted. Examples of the items deleted included:

i. Before Helen starts work on a Social Studies project, she goes to the library to get as much information as possible.

ii. Adam always uses the index or content page of a Social Studies reference book when he needs to find information quickly.

By deleting some of the more highly rated items and reducing the number of

items the scale reliabilities tended to be marginally reduced. Nevertheless, they were well above the accepted level of 0.80 (Oppenheim, 1992), and the items within each sub-scale were uniformly reliable with virtually no variation between items. The reliabilities are shown in Table 7.

TABLE 7: Scale Reliabilities - Self-Regulated Learning Strategies

	Junior N = 136	Senior N = 136
Useful	0.95 - 0.93	0.94 - 0.91
Frequency	0.93 - 0.88	0.92 - 0.88

Subsequently, the scale was reduced to 20 items. Table 8 (below) shows the sources for each of the final items in the Self Regulated Learning Strategies Scale for Social Studies.

The scale statistics for the final 20 items, for junior and senior students are shown in Table 9

TABLE 9: Scale Statistics for Junior and Senior Students - Final Items

	Junior n = 185		Senior n = 236	
	Knowledge	Usage	Knowledge	Usage
Mean	2.9	2.35	3.06	2.39
SD	0.59	0.55	0.52	0.53
No. of Items	20	20	20	20

While both junior and senior students reported that the strategies were, on average, "quite helpful", the mean of the senior Knowledge subscale (3.04) was significantly higher than that of the junior students (2.90) (univariate  $F = 5.82$ ,  $p < 0.05$ ). Since the strategies were the same on both forms of the scale, it is expected that senior students would have a greater knowledge of Social Studies strategies, even if they did not make more use of them as the results indicate. Both the junior and senior students reported using the strategies, on average, "sometimes", there being no statistically significant difference between the means, which were 2.35 and 2.39 respectively. The findings are graphically represented in Figure 4.

Consistent with previous research in the general field, subjects overall indicated they knew about strategies and their utility but were less likely to use them themselves. Senior students, not surprisingly, knew more Social Studies strategies than the junior students, but did not appear to make greater use of that information.

### Conclusion

In order to examine both the ways in which students in primary

and secondary school are motivated towards Social Studies, and the knowledge they have and use in Social Studies, a number of new scales were developed. These included Social Studies oriented Approaches to Learning Scales, Causal Attribution Scales and Strategic Learning Scales. Reliability and validity analysis indicated reasonable success in that endeavour. The comparisons across junior and senior grades showed several interesting features with junior students more deeply motivated to Social Studies than senior students. Junior students were less discriminatory in their attributions for Social Studies failures, while also being more reliant upon luck for success than their senior counterparts. Senior students showed superior knowledge of Social Studies strategies than the juniors, but both seniors and juniors showed less of an inclination to use such strategies. These data suggest that further research is likely to confirm that motivation and strategic knowledge are subject specific, at least for Social Studies.

#### REFERENCES

- Afflerbach, P.P. 1990 The Influence of prior knowledge on expert readers main idea construction strategies. *Reading Research Quarterly*, 25,1.
- Armbruster, B.B., Anderson, T.H. and Osterag, J. 1987 Does text structure/summarization instruction facilitate learning from expository text? *Reading Research Quarterly*, 22, 331-346.
- Banks, J.A. 1990 *Teaching Strategies For The Social Studies*, Third Edition. Reading, Massachusetts: Addison-Wesley.
- Bar-tal, D. 1978 Attributional analysis of achievement related behaviour. *Review of Educational Research*, 48, 259-271.
- Biggs, J.B. 1987 *Student approaches to learning and studying*. Hawthorn: ACER.
- Biggs, J.B. 1989 Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development*, 8, 7-25.
- Biggs, J.B. & Moore, P.J. 1993 *Process of Learning* (3rd Edition). Sydney: Australia: Prentice-Hall.
- Biggs, J.B. & Rihn, B. 1984 The effects of intervention on deep and surface approaches to learning. In J. R. Kirby (Ed.) *Cognitive strategies and educational performance*. New York: Academic Press.

Bloom, B.S. 1985 Developing talent in young people. New York: Ballantine Books.

Board of Studies. 1992 Geography Syllabus Years 7-10. Sydney: NSW Board of Studies.

Board of Studies. 1994 Human Society And Its Environment K-6 Syllabus and Support Document Formal Consultation Draft. Sydney: NSW Board of Studies.

Borkowski, J.G., Carr, M., Rellinger, L. & Pressley, M. 1990 Self-regulated cognition: Interdependence of metacognition, attributions and self-esteem. In B.J. Jones & L. Idol (Eds.). Dimensions of thinking and cognitive instruction, (p.53-92). Hillsdale: Lawrence Erlbaum.

Brady, L. 1983 Curriculum Development in Australia Sydney: Prentice Hall.

Brown, A.L. & Palincsar, A.S. 1984 Reciprocal teaching of comprehension fostering and monitoring activities. Cognition and Instruction, 1, 117-175.

Brown, A.L. & Palincsar, A.S. 1985 Reciprocal teaching of comprehension strategies. A natural history of one programme for enhancing learning. Urbana: University of Illinois.

Calfee, R. & Drum, P. 1986 Research on teaching reading. In M.C. Wittrock (Ed.), Handbook of research on teaching (3rd Ed), 80a 4-839. New York. Macmillan.

Cantwell, R.H. & Moore, P.J. 1990 Flexibility and learning. Paper presented at the annual Australian Association for Research in Education Conference, Sydney, December.

Chan, L.K.S. 1992 Causal attributions, strategy usage and reading competence, presented at the AARE/NZARE Joint Conference, Deakin University, Geelong, November.

Chan, L.K.S. & Youlden 1994 Motivation, self-regulated learning and achievement in Years 7 and 9 Students. Paper presented at AARE Annual Conference. The University of Newcastle.

Clayton-Jones, L., Rodwell, K., Skehan, J., Archer, J., Chan, L.K.S. & Moore, P.J. 1992 Approaches to learning, attributions,

goal orientations and achievement: developmental perspective. Paper presented at the 1992 Australian Association for Research in Education Conference, Geelong, November.

Cook, L.K. & Mayer, R.E. 1988 Teaching readers about the structure of scientific texts. *Journal of Educational Psychology*, 80(4), 448-456.

Dreher, M.J. 1993 Reading to locate information: Societal and Educational Perspectives. *Contemporary Educational Psychology*, 18, 129-138.

Edwards, J. 1986 The effects of a metacognitvely orientated study skills course on students approaches to learning and on examination performance. Master of Psychology (Education) thesis, University of Newcastle.

Elig, T.W. & Frieze, I.H. 1979 Measuring Casual Attributions for Success and Failure. *Journal of Personality and Social Psychology*, 37(4), 621-634.

Fantuzzo, J.W., Riggio, R.E., Connelly, S. & Dimeff, L.A. 1989 Effects of Reciprocal Peer Tutoring on Academic Achievement and Psychological Adjustment: A Componont Analysis. *Journal of Educational Psychology*, 81(2), 173-177.

Gardner, H. 1983 *Frames of mind: The theory of multiple intelligence*. New York: Basic Books, Inc.

Garner, R. 1987 *Metacognition and reading comprehension*. Norwood, N.J. Ablex.

Greene, J.C. 1985 Relationships among learning and attribution theory motivational variables. *American Educational Research Journal*, 22(1), 65-78.

Guthrie, J.T., Britten, T. & Barker, K.G. 1991 Roles of document structure, cognitive strategy, and awareness in searching for information. *Reading Research Quarterly*, 26(3), 300-323.

Guthrie, J.T. & Kirsch, I.S. 1987 Distinctions between reading comprehension and locating information in text. *Journal of Educational Psychology*, 79(3), 220-227.

Hamaker, C. 1986 The effects of adjunct questions on prose learning. *Review of Educational Research*, 56, 212-42.

King, A . 1990 Enhancing peer interaction and learning in the classroom through reciprocal questioning. *American Educational Research Journal*, 27, 664-687.

King, A. 1992 Comparisons of self-questioning, summarising and note-taking review as strategies for learning from lectures.

American Educational Research Journal, 29, 303-323.

Klein, J.D. & Keller, J.M. 1990 Influence of student ability, locus of control, and type of Instructional control on performance, and confidence. Journal of Educational Research, 83(3), 140-146.

Mayer, R.E. & Anderson, R.B. 1992 The instructive animation: Helping students build connections between words and pictures in

multimedia learning. Journal of Educational Psychology, 84, 444-452.

McGinley, W. 1992 The role of reading and writing while composing from sources. Reading Research Quarterly, 27(3) 226-248.

Miller, K.W. & Norman, W.H. 1979 Learned helplessness in humans: A review and attribution theory model. Psychological Bulletin 86,93-118.

Moore, P.J. 1991 Effective learning in text and spatial organizer contexts. Paper presented at the Comprehension of Graphics and Text Symposium, Fourth European Conference for Research on Learning and Instruction, Turku, Finland, August, 1991.

Moore, P.J. 1993 Metacognitive Processing of Diagrams, Maps and Graphs. Learning and Instruction, 3, 215-226.

Moore, P.J. & Scevak, J.J. 1993 The effects of strategy training on high school students learning from science texts. Paper presented at the Fifth European Conference for Research on Learning and Instruction, Aix-en Provence, September.

Moore, P.J. & Telfer, R.A. 1990 Approaches to learning: Relationships with pilot performance Journal of aviation/Aerospace Education and Research, Vol. 1 pp44-58.

Nagy, W.E., Anderson, R.C. & Herman, P.A. 1987 Learning word meanings from context during normal reading. American Educational Research Journal, 24, 237-270.

Oppenheim, A. N. 1992 Questionnaire Design, Interviewing and Attitude Measurement. Great Britain: Printer Publishers Limited.

Paris, S.G. & Winograd, P. 1990 How metacognition can promote learning and instruction. In B.J. Jones & L. Idol (Eds.). Dimensions of thinking and cognitive instruction (p.15-51). Hillsdale: Lawrence Erlbaum.

- Pearson, P.D. & Dole, J.A. 1987 Explicit comprehension instruction: A review of research and new conceptualization of instruction *Elementary School Journal*, 88, 151-165.
- Pearson, P.D. & Johnson, D. 1984 *Teaching Reading Comprehension*. New York: Holt, Rinehart & Winston.
- Pintrich, P.R. & De Groot, E.V. 1990 Quantitative and qualitative perspectives on student motivational beliefs and self-regulated learning. Paper presented at the annual American Educational Research Association Conference, Boston, April. Limited.
- Ramsden, P. & Entwistle, N. 1981 Effects of academic departments on students approaches to studying. *British Journal of Educational Psychology*, 51, 368-383.
- Reid, M.K. & Borkowski, J.G. 1987 Causal attributions of hyperactive children: Implications for teaching strategies and self-control. *Journal of Educational Psychology*, 79(3), 296-307.
- Richgels, D.J., McGee, L.M., Lomax, R.G. & Sheard, C. 1987 Awareness of four text structure: Effects on recall of expository text. *Reading Research Quarterly*, 22(2), 177-195.
- Rinehart, S.D., Stahl, S.A. & Erickson, L.G. 1986 Some effects of summarization training on reading and studying. *Research Quarterly*, 21, 422-438.
- Scapinello, K.F. 1988 Enhancing Differences in the Achievement Attributions of High-and Low-Motivation Groups. *Journal of Social Psychology*, 129(3), 357-363.
- Scevak, J.J. 1994 *High School Students Processing of Texts and Maps*. Unpublished doctoral dissertation: The University of Newcastle.
- Scavak, J.J., Moore, P.J. & Kirby, J.R. 1993 Training students to use maps to increase text recall. *Contemporary Educational Psychology*, 18, 401-403.
- Spivey, M.M. & King, J.R. 1989 Readers as writers composing from sources. *Reading Research Quarterly* XXIV/1 Winter, 7-25.
- Stevens, R.J. 1988 Effects of Strategy Training on the Identification of the Main Idea of Expository Passages. *Journal of Educational Psychology*, 80(1), 21-26.
- Stevens, R.J., Slavin, R.E., & Farnish, A.M. 1991 *The Effects of*

Cooperative Learning and Direct Instruction in Reading Comprehension Strategies on Main Idea Identification. *Journal of Educational Psychology*, 83(1), 8-16.

Wade, S., Trathen, W.C. & Schraw, G. 1990 An Analysis of spontaneous study strategies. *Reading Research Quarterly*. 25, 147-166.

Watkins, D. & Hattie, J. 1990 Individual and contextual differences in the approaches to learning of Australian secondary school students. *Educational Psychology*, 10, 333-342.

Weiner, B. 1984 Principles for a theory of student motivation and their application within an attributional framework. In R.E. Ames & C. Ames (eds.), *Research on motivation in education*, vol 1 (pp.15-38). Orlando: Academic Press.

Woloshyn, V.E., Pressley, M. & Schneider, W. 1992 Elaborative-interrogation and prior knowledge effects on learning of facts. *Journal of Educational Psychology*, 84,115-124.

Youlden, A.M. 1993 Motivation, self-regulated learning and academic achievement in Years 7 and 9 students. Unpublished Masters thesis, University of Newcastle.

Young, A.J., Arbretton, A.M. & Midgley, C. 1992 All content areas may not be created equal: Motivational orientation and cognitive strategy use in four academic domains. Paper presented at the American Educational research Association Conference, San Francisco.

Zimmerman, B.J. 1986 Development of Self-regulated learning: Which are the key sub-processes? *Contemporary Educational Psychology*, 16, 307-313.

Zimmerman, B.J. 1989 A social cognitive view of self-regulated academic learning, *Journal of Educational Psychology* , 81(3),

329-339.

Zimmerman, B.J. & Martinez-Pons, M. 1990 Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82(1), 51-59.