

Australian Students' Attitudes to Learning about Asia

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Abstract

This study aimed to measure Australian students' attitudes to learning about Asia, and to identify contextual factors related to development of positive attitudes. Participants were 3,359 Year 5 and 3,773 Year 8 students, and 107 Year 5 and 114 Year 8 teachers. Study area experts chose attitude statements, for the research instrument, to cover a range of expected attitudes (Bloom, 1964); students responded on dichotomous response scales. Item response modelling (Rasch, 1960, 1980) was used to map all items and students onto a single underpinning scale, and attitudes were described in profiles containing five levels. At the highest level, and for most students, there was keen interest in learning about Asia, but a minority of students expressed strongly negative attitudes. There were clear relationships between attitudes and student year and gender. Year 5 students were more positive than Year 8 students; girls were more positive than boys. Boys' attitudes were particularly sensitive to teachers' classroom practices and the variety of resources to which they were given access. Information provided by this study could thus prove of value to educators wishing to improve students', and especially boys', interest in learning.

Introduction

Australian schools in each state and territory have been implementing studies of Asia programs since 1993. This has reflected diverse and powerful motivations for including studies of Asia in the school curriculum, including recent economic, social and demographic trends that have seen Australia's relationships with Asia assume increasing importance (Asia Education Foundation, 2000). In general, studies of Asia have been defined in Australian schools as a form of area study and "an intensive multidisciplinary study, sensitive to cultural difference, of a society other than our own" (Reid, 1999, p. 43). Further, recent debate over the nature and scope of inclusion of studies of Asia has led to suggestions that these studies should, ideally, be "mainstreamed" into the curriculum of all students (Asian Studies Council, 1988, 1991; Fitzgerald, 1994). The purpose of this study was to examine differences in attitudes towards learning about Asia among Australian students in Years 5 and 8.

Attitude Measurement

An attitude is often defined in terms of an individual's feelings toward a particular object in different settings or situations (Allport, 1935; Fishbein & Azjen, 1975). Attitudes cannot be observed directly; rather, in the past they have been inferred from the things a person says or does. Thus, attitude measurement has traditionally relied upon either responses made to a set of statements or a series of adjectives, or behaviours exhibited in a specific situation or a variety of situations. However, the relationship between self-report and behavioral measures of attitudes has generally been weak (Fishbein & Azjen). For example, Kiesler, Collins and Miller (1969) provided a critical analysis of theoretical approaches to attitude change and examined the factors affecting the relationship between attitudes and behavior.

In general, attitude measurement has been influenced by three approaches other than direct behavioral observation. Likert (1932), Guttman (1944) and Thurstone (1927) differed in their assumptions underpinning approaches to measurement, but each has been fundamentally influential in developmental approaches to attitude measurement.

In many instances, the inability of attitude measurement to correlate behaviour observation to self-report responses may have been because of a tendency of scales to focus on a limited range of attitude strengths, and hence to restrict the range of attitude examined. The same may be true of observation studies. When Likert scales are analyzed with a Rasch model analysis using a partial credit model (Wright & Masters, 1982), for instance, the distribution of item thresholds tends to cluster the score categories (e.g., *strongly agree* to *strongly disagree*) in fixed homogeneous cluster positions along the underlying continuum. Adopting a rating scale model (Andrich, 1978) tends to cluster the item stems in a central location. The partial credit analysis tends to imply that the Likert scale approaches measure tendency to acquiesce, while the rating scale approach might indicate that the items do not discriminate unless deliberate attempts are made to define the dimension or variable in advance and then to write items that can be placed both logically and empirically along the scale. In addition, there is a problem, which Andrich recognized, that attitude scales might have two *limens* for people. Guilford (1956) outlines this by describing the region of transition between two positions on the scale. At the lower level, people will disagree because the statement is too weak. At another level, people will disagree because the statement is too strong. Simple summation of scores to the Likert scale items are likely to be misleading, then, and this may offer an explanation for the lack of correlation between self-report and behavioral observation approaches to attitude measurement.

Both Thurstone (1927) and Guttman (1944) adopted a linear scale approach. Guttman made the assumption that, if a person agreed with a statement, it was unlikely that there would be disagreement with milder or weaker statements. This approach assumed that there was an ordered continuum of intensity or difficulty of acceptance. Thurstone argued that attitudes could be measured by opinions that were endorsed and that the opinions could be calibrated. He defined a person's position on an attitude scale as the median of the calibrated statements that are endorsed.

Bloom (1964) also attempted to rationalize attitude measurement. He did not propose a model of measurement, but rather posited a taxonomy of attitude development and a continuum of developmental attitudes. This provided a framework for defining the variable and the underlying continuum to reflect levels, which Bloom identified as *reception*, *response*, *valuing*, *organization* and *characterization*. For the purposes of this study, a level was added to the lower end of the continuum and called *rejection* and there are numerous examples of changes in community attitudes that fit this progression. Thus, the Bloom taxonomy was used to develop an initial conceptualization of a development of attitudes to Asia, and then items were developed to reflect the levels of this continuum. Table 1 presents the definition of levels developed for this project.

Table 1

Adapted Taxonomy of Attitudes (Bloom, 1964)

Domain	Adapted Bloom (1964) levels
Avoidance	Rejection and denial of importance and even existence; does not want to listen; avoids contact.
Receiving	Willing to listen; shows awareness of importance; some sensitivity to social issues; attends to the classroom activities.
Responding	Completes assigned projects; participates in group discussion; volunteers for some routine tasks; shows surface interest in learning.
Valuing	Demonstrates belief in learning, appreciation, commitment.
Organization	Organises behaviour around beliefs; recognises the need for balance between freedom and responsibility; accepts responsibility for own behaviour; understands and accepts own strengths and limitations in understanding; formulates life plan in harmony with beliefs.
Characterisation	Displays awareness and consciousness; practices cooperation in group activities and encourages others likewise; demonstrates industry, punctuality and self-discipline in relation to the development of understanding.

The measurement approach adopted for this study used some of the assumptions of Thurstone and Guttman, but rejected the Likert style of self-report. However, rather than rely upon the Guttman assumption that acceptance of a statement automatically assumed agreement to all milder statements, a probabilistic model was adopted. A Rasch (1960, 1980) analysis assumes that there is a single underlying dimension to the construct being measured that is both developmental and continuous, and that statements of opinion can be placed on the continuum. Instead of taking the median of the agreed statements as the measure of attitude strength, however, this research assumed that the Bloom continuum allows agreements with statements at all points on the continuum up to and including the position of the person on the continuum or, to adopt Guilford's term, the limen.

It was further assumed that, if the statements of opinion are behaving in a Rasch-like manner, it is possible to identify the relationship between the attitude strength of the person (β) and the difficulty (likelihood) of endorsing an opinion statement (δ):

$$pr(x_i = 1 \mid \theta_v, \delta_i) = \frac{e^{(\theta_v - \delta_i)}}{1 + e^{(\theta_v - \delta_i)}}$$

This relationship then allowed a single continuum to be defined by a series of opinion statements, and also allowed the attitude strength of participants (β) to be located on that continuum.

Attitudes to Asia

The current study was initiated in 1999 by the Asia Education Foundation (AEF), which had by then established over 1800 Access Asia schools in all Australian states and territories to assist in the improvement of students' attitudes to learning about Asia and their knowledge and understanding of Asian countries, cultures, languages and people. The AEF was established in 1992, with part of its charter to assist schools to take up studies of Asia across the curriculum. In 1994, the Council of Australian Governments (COAG) endorsed the establishment of the National Asian Languages and Studies in Australian Schools (NALSAS)

Strategy to improve the profile of studies of Asia, but by 1999 Baumgart and Halse noted that there had been a movement away from a highly structured approach to achieving these priorities. Rather, school-based approaches to implementation of studies of Asia programs had become increasingly idiosyncratic and diverse.

The research initially targeted schools that had joined, or intended to join, the AEF's Access Asia program, but the study was later broadened to include schools not involved in the program. This decision was taken to allow the research to cover a diversity of school and teacher practices in teaching studies of Asia, ranging from those teachers and school principals who were highly motivated and committed, to those who showed little interest or involvement in these study areas or who had limited access to appropriate teaching materials and resources.

In addition, the broader project offered a range of benefits to schools and school systems. First, it provided an opportunity to assist in the monitoring of student outcomes in areas specifically related to studies of Asia, such as Studies of Society and Environment/Human Society and its Environment (SOSE/HSIE), English and the Arts. The standardised instruments developed as a result of the project were designed to help improve quality of assessment in these learning areas. Second, it was envisaged that assessment of attitudes could assist in the planning of programs and activities by comparing the impact of different teacher and school characteristics on students' enjoyment of their studies.

The primary goal of the overall project was to measure attitudinal and knowledge characteristics of students at two formative stages of development: Years 5 and 8 of schooling. This involved development of tests and attitude scales that were consistent with a generic content of studies of Asia. In particular, the broader project sought to identify factors related to the development of both knowledge and attitudes to learning, although this paper focuses on attitudes. As the study was cross-sectional in design, no specific conclusions could be drawn about change over time. No data were collected about the attitudes of the Year 8 students when they were in Year 5, and so longitudinal interpretations of the results have not been offered. Rather, the specific aims of the research were to collect and analyse national data on Year 5 and Year 8 students' attitudes to learning about Asia, and to provide the means for educators to extend beyond this project by identifying patterns of learning context that influence students' attitudes.

Method

Participants

Participants included 3,359 Year 5 students and 3,773 Year 8 students, drawn from over 300 Australian government and independent schools. A small majority (54%) of student participants were girls, while 20% of students had visited at least one country in Asia and 11% had at least one parent born in Asia.

A probability proportional to size sample of schools was designed to select student participants from schools that were representative of all states and territories, based on a national school sampling frame. Calculation of the sampling error associated with the study has been described by Griffin, Woods, Dulhunty and Coates (2002). In general, the sample was demographically representative of the broader Australian student community. For example, most students (72%) attended schools located in metropolitan areas. A majority of

students (63% of Year 5 students, 94% of Year 8 students) attended schools that included Asian language programs in the curriculum. Some (30%) of the students attended schools with significant representation of Asian ethnic groups in the student community. In addition, 39% of students attended schools with less than 10% of students receiving Education Maintenance Allowance (EMA), 43% attended schools with approximately 20% of students receiving EMA and 18% attended schools where more than 30% of students receive EMA. The proportion of students receiving EMA was adopted as a broad measure of the socioeconomic status of a school community.

It was envisaged that variation between teachers in classroom practices and access to appropriate teaching resources would contribute to differences in students' attitudes to learning. Therefore, questionnaires about teaching practices and use of studies of Asia resources were circulated to the classroom teachers of the student participants. These were completed by 107 teachers of Year 5 students and 114 Year 8 teachers. The majority of the teachers (91%) had been teaching for at least four years, although only 53% had been teaching about Asia for this period of time. Most Year 8 teachers (87%) were teaching in the SOSE/HSIE learning area.

Project Establishment and Instrumentation

Testing students' attitudes towards learning about Asia.

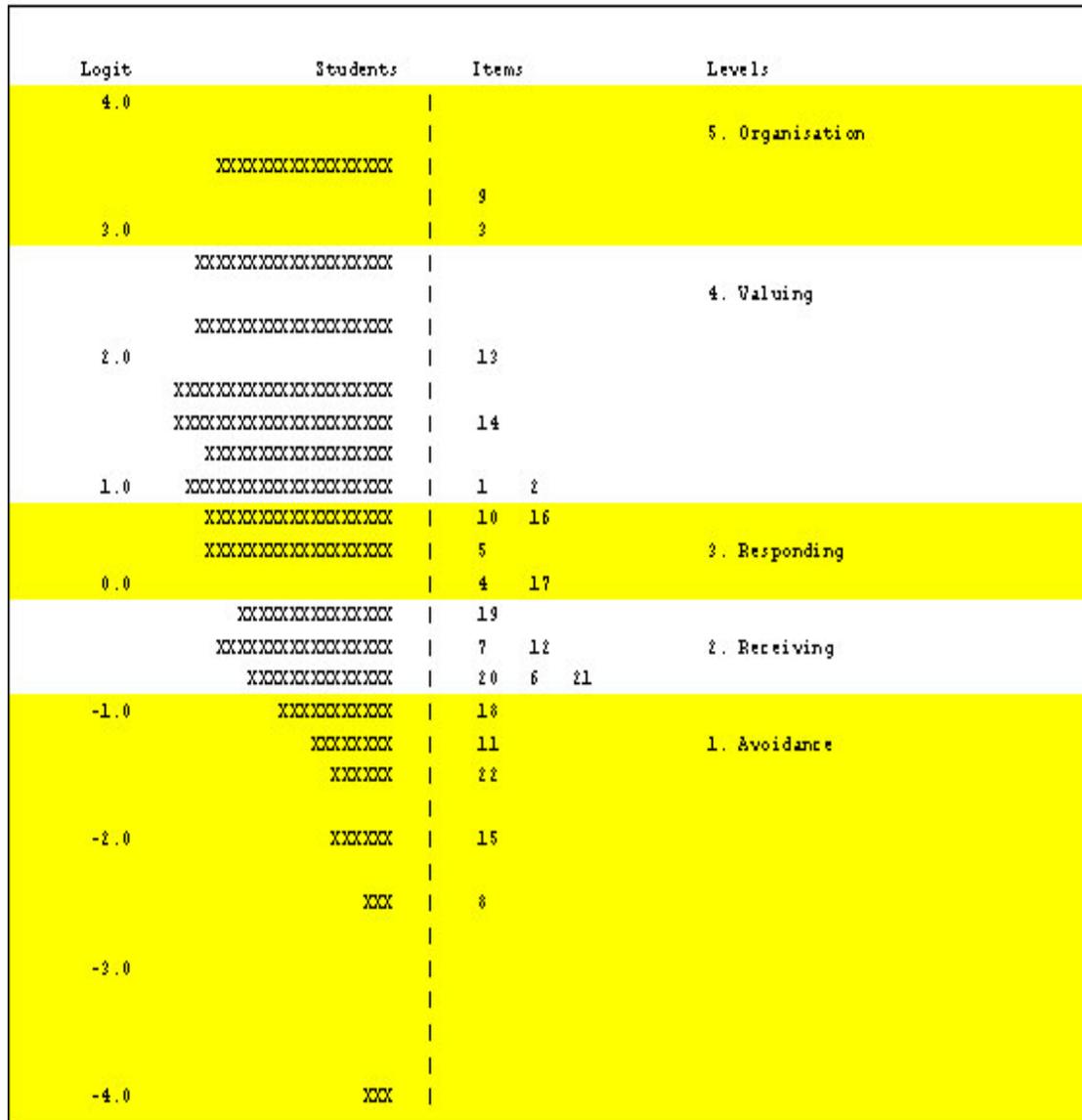
Attitude statements were specifically chosen by a panel of studies of Asia experts to cover a range of expected attitudes, from active avoidance to enthusiastic interest in studies of Asia, Asian cultures and materials. Examples of statements chosen to represent the most negative attitudes include "Asian cultures are of no interest to me" and "I have called kids names because of their Asian background". Examples of statements selected to represent positive attitudes include "I enjoy learning things about Asia", "Learning about Asia will help me later in life", and "I would like to visit a country in Asia". A complete list of attitude items is shown in Appendix A. Before their inclusion in the research materials, proposed attitude statements were piloted and trialled in four secondary schools and five primary schools in Victoria and New South Wales.

Students were given a dichotomous response scale on the attitude test that enabled them to agree or disagree with each statement. Teachers were asked to supervise the collection, and hence assure the quality, of data. All students responded to the same set of attitude test items, and separate knowledge tests were developed for students at Years 5 and 8 with a set of 15 items specified as an overlap between the two tests. Relationships between knowledge and attitudes were explored in the broader project, but details of these relationships and students' knowledge of Asia are reported elsewhere (Griffin, Woods, Dulhunty & Coates, 2002; Griffin, Woods & Dulhunty, in press).

Results and Discussion

Development of the Scale of Attitudes to Learning about Asia

Rasch analysis was used to calibrate the attitude scale and produce individual student scores. The attitude scale had an alpha reliability of 0.88, a Rasch case separation reliability of 0.84 and a Rasch item separation reliability of 0.99, indicating that it provides a reliable estimate of students' attitudes towards learning about Asia. Figure 1 presents a variable map and interpretation of the scale.



Note: Each X represents 30 students.

Figure 1. Variable map of attitudes to learning about Asia.

Items and students located towards the top of the variable map are associated with more positive attitudes than those lower down on the scale. To be more precise, the probabilistic logic of the Rasch model suggests that, where students and attitude items are located at the same level on the variable map, students have a 50:50 likelihood of assenting to those attitudes. This means that students are more likely than not to agree with items located lower than their own level on the map, and have less than 50% probability of agreeing with items located higher on the map. In general, the variable map shows that the distribution of students was negatively skewed, with a majority of students located towards the positive end of the scale.

Items were ordered according to the stringency of attitude they demanded, and an audit of the items was undertaken to identify the underpinning intention or meaning of

clusters of items that were located at similar points along the continuum. A number of items were reverse-coded during analysis to increase interpretability of the scale. These analyses indicated that five attitude levels were recognisable. The relationship between observed attitudes and Bloom's taxonomy of the affective domain, as adapted for this study, is shown in Table 2.

Table 2

Relationship between Theoretical and Observed Attitude Levels

Domain	Adapted Bloom (1964) levels	Observed attitude levels
Avoidance	Rejection and denial of importance and even existence; does not want to listen; avoids contact.	Negative reaction and avoidance of Asian culture and people.
Receiving	Willing to listen; shows awareness of importance; some sensitivity to social issues; attends to the classroom activities.	Personal response to Asia; willingness to receive information and to participate in basic activities.
Responding	Completes assigned projects; participates in group discussion; volunteers for some routine tasks; shows surface interest in learning.	Recognises possible benefits of learning about Asia as well as possible differences related to a lack of involvement.
Valuing	Demonstrates belief in learning, appreciation, commitment.	Can see benefits; has a positive approach to learning about Asia; personal involvement and caring approach emerging.
Organization	Organises behaviour around beliefs; recognises the need for balance between freedom and responsibility; accepts responsibility for own behaviour; understands and accepts own strengths and limitations in understanding; formulates life plan in harmony with beliefs.	Keen to learn about Asia and develop relationships; personal involvement and commitment to learn.
Characterisation	Displays awareness and consciousness; practices cooperation in group activities and encourages others likewise; demonstrates industry, punctuality and self discipline in relation to the development of understanding.	Unable to measure at this level

Table 2 indicates that the progression of attitude levels aligned with Bloom's (1964) affective domain progression. This lends support to the construct validity of the scale. The theoretical scale does not address the negative end of the scale (*avoidance*), and in this case the survey instrument did not encompass the upper end (*characterisation*). *Characterisation*

involves a thorough change of behaviour and a tendency to steer the behaviour of others. This concept was not addressed in the attitude items presented to students. However, a comparison of the interpretations gives an opportunity to generalise the attitude scale beyond the items used, and to see the implications of the attitude levels.

Comparison of Students' Attitudes

At the highest level on the attitude scale, students showed a keen interest in learning about Asia, including personal involvement and commitment to increasing knowledge. Those at the lowest attitude level, however, displayed an emphatically negative reaction. These were students who agreed that they had, at times, called other students names because of their Asian background, and who were likely to agree with statements such as "I try and avoid Asian people and customs" and "Asian cultures are a problem for Australia". Most students expressed positive attitudes to learning about Asia, although comparisons between Year 5 and Year 8 students indicated fewer Year 8 students with highly positive attitudes, and more with negative attitudes ($X^2(4, N = 7133) = 144.82, p < .001$). As shown in Figures 2 and 3 girls tended to express more positive attitudes than boys ($X^2(4, N = 7103) = 253.98, p < .001$).

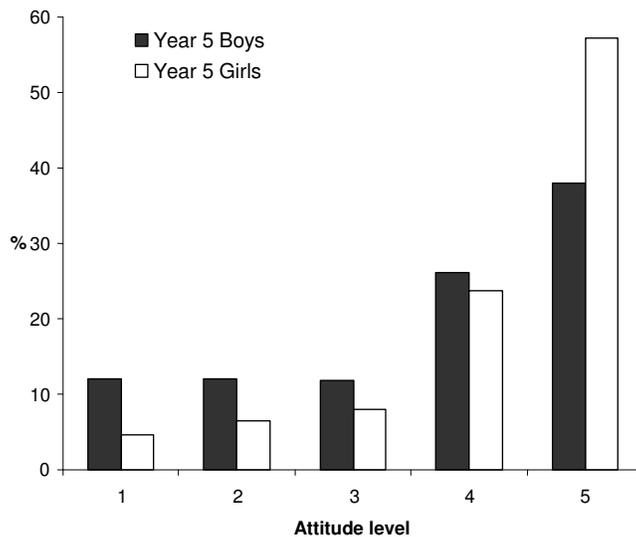


Figure 2. Attitudes to learning about Asia for Year 5 boys and girls.

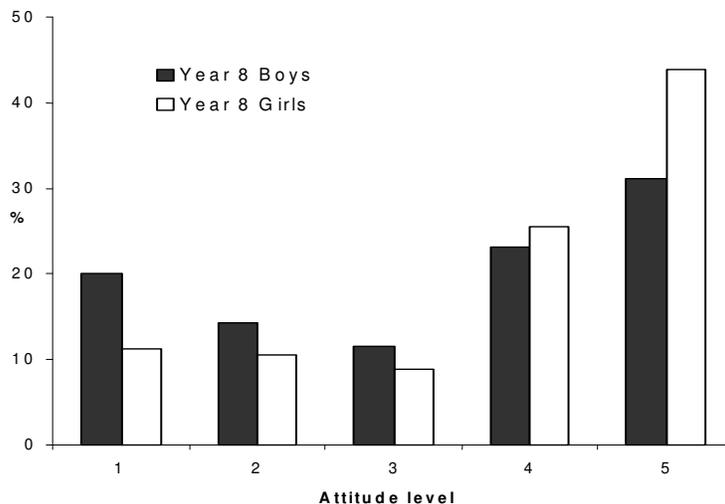


Figure 3. Attitudes to learning about Asia for Year 8 boys and girls.

In general, students were more likely to express positive attitudes if they had an Asian-born parent, or had visited an Asian country, or attended schools with higher proportions of Asian students. However, students' attitudes to learning about Asia were not differentiated by the socioeconomic status of their school community. Thus, contrary to stereotype, students from schools with a high proportion of students receiving EMA were not more strongly represented among the lower levels of attitudes to learning.

Impact of Teachers' Use of Resources and Classroom Practice on Student Attitudes

Teachers were asked to indicate how frequently they included a range of resources and practices related to studies of Asia in their teaching, and were provided with four response options (*never, rarely, sometimes* and *often*). Hierarchical agglomerative cluster analysis (Ward's method) was used to examine patterns of similarity and difference between teachers. Examination of the dendrogram and comparison of mean ratings suggested teachers' responses could be separated into three groups, and that teachers were spread quite evenly across groups.

One group (comprising 33% of teachers) indicated frequent use of a wide range of teaching resources, including both school-based teaching materials (such as text books and audiovisual materials) and a wide range of professional development, specialist advice and community resources. For example, these teachers made frequent use of advice from consultants about studies of Asia, high quality curriculum materials, professional development opportunities, excursions, presenters or teachers with specialised knowledge of Asia, and community groups with an interest in Asia. A second group (26% of teachers) made regular use of school-based resources, but their range of materials and resources was comparatively limited. In particular, they were much less likely to draw upon either professional networks, advice from consultants or community groups, and also less likely to organise excursions or use specialist curriculum materials. This group of teachers relied most frequently upon teaching materials they had produced themselves and audiovisual aids to support their classroom teaching. By contrast, a third group (40% of teachers) indicated that they rarely used any studies of Asia resources, although they sometimes drew upon students' pre-existing knowledge about Asia. The relationship between cluster membership and patterns of specific resource use is shown in Figure 4.

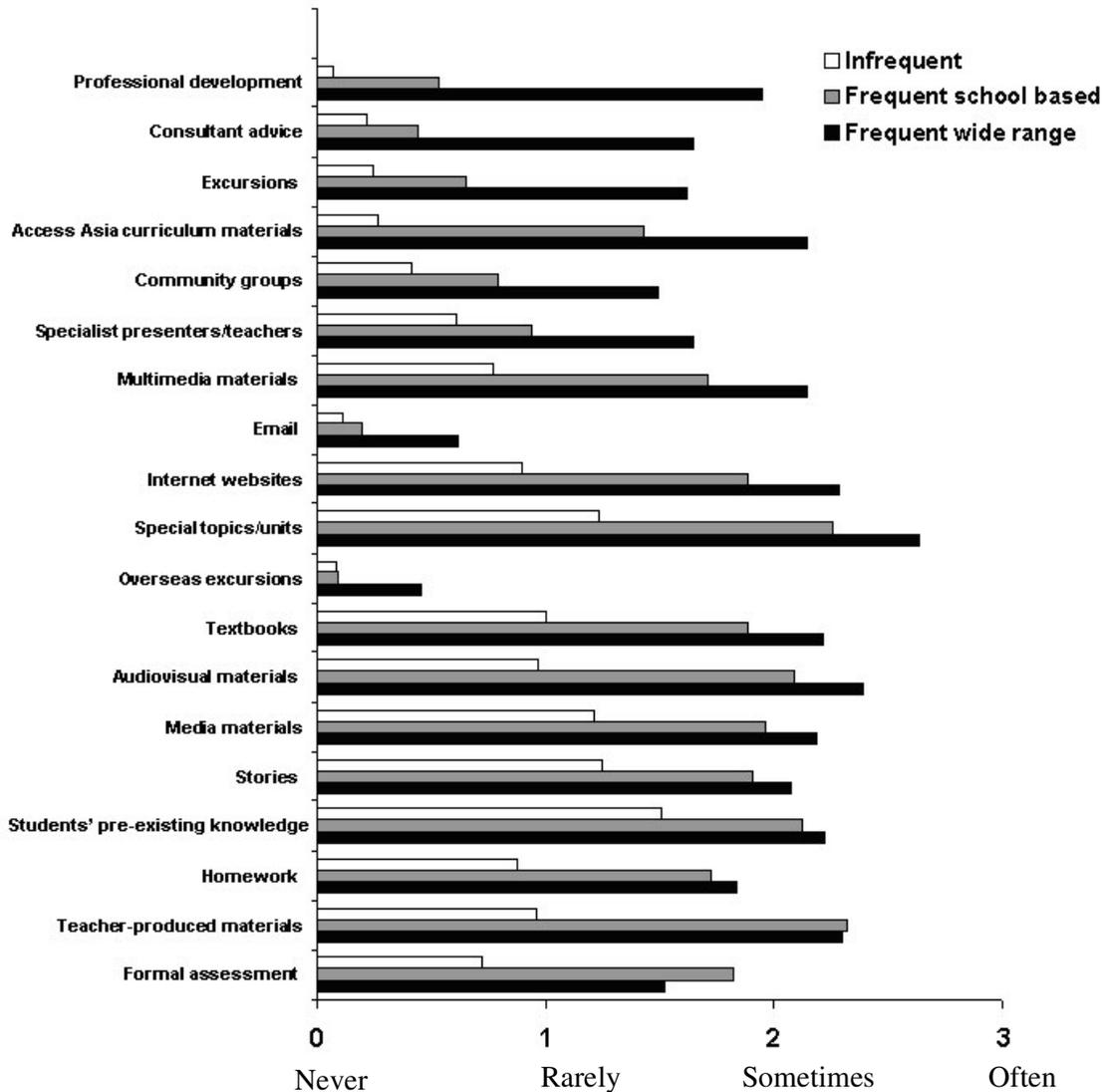


Figure 4. Patterns of resource use for three groups of teachers.

There are, of course, several factors that may contribute to differences between teachers in the deployment of resources in the classroom. The most obvious of these is restricted access to appropriate materials and facilities. Certainly, teachers in urban schools were more strongly represented than teachers from rural or remote areas in the group making frequent use of a wide range of resources ($X^2(4, N = 4268) = 102.30, p < .001$). Further, Year 5 teachers were more likely than teachers of the Year 8 students to be incorporating a wide range of resources in their teaching ($X^2(2, N = 6159) = 96.57, p < .001$).

Students' levels of attitude to learning about Asia could be differentiated by their teachers' patterns of resource use and classroom practice ($X^2(8, N = 5642) = 117.73, p < .001$), but examination of adjusted standardised residuals indicated that the impact of teaching styles varied somewhat for boys and girls, and across year levels. For example, as shown in Figures 5 and 6, Year 5 boys whose teachers were making infrequent use of studies of Asia resources were more strongly represented among those students at the lowest level on the attitude scale and this relationship was amplified among Year 8 boys. Indeed, 28% of Year 8

boys whose teachers were making infrequent use of teaching resources expressed negative attitudes to learning about Asia, in comparison with only 13% of Year 8 boys whose teachers were drawing upon a wide range of resources. A similar disparity can be observed among boys with highly positive attitudes. At Year 8, only 25% of boys whose teachers made infrequent use of resources expressed very positive attitudes, compared with 37% of boys whose teachers were using a wide range of teaching resources.

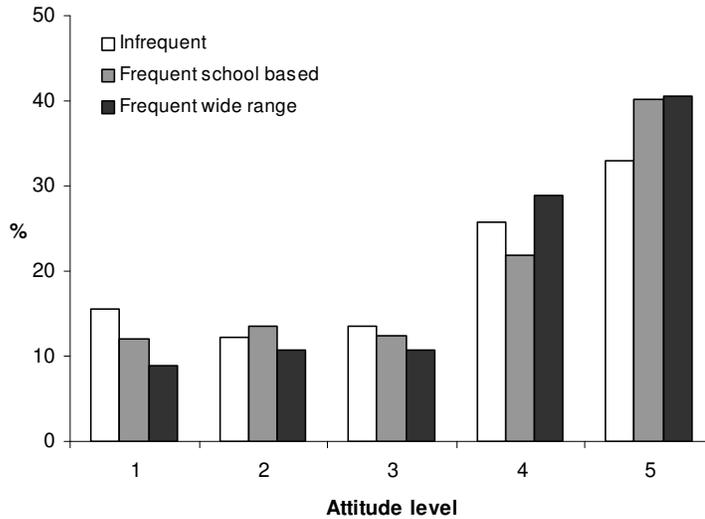


Figure 5. Relationship between teachers' use of resources and Year 5 boys' attitudes.

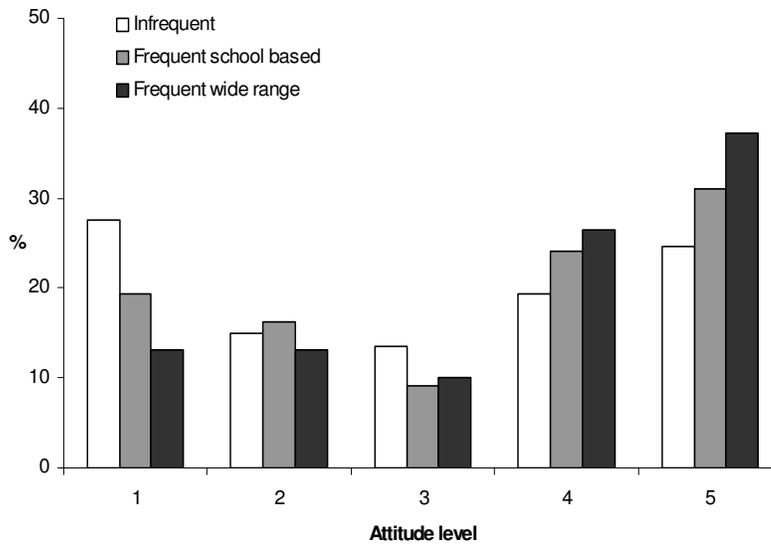


Figure 6. Relationship between teachers' use of resources and Year 8 boys' attitudes.

For girls, the relationship between teachers' classroom practice and student attitudes was similar to that of the boys, although the effect was less pronounced. As shown in Figures 7 and 8, for girls in both Years 5 and 8 the most important factor was the overall frequency with which teachers used resources rather than the nature or diversity of the resources used, and the impact was mainly observed among students expressing very positive attitudes. That is, relatively more girls whose

teachers frequently used studies of Asia resources were located at the highest level on the attitude scale.

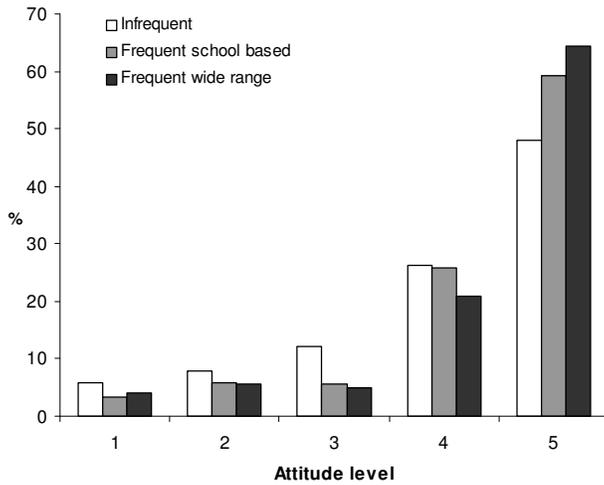


Figure 7. Relationship between teachers' use of resources and Year 5 girls' attitudes.

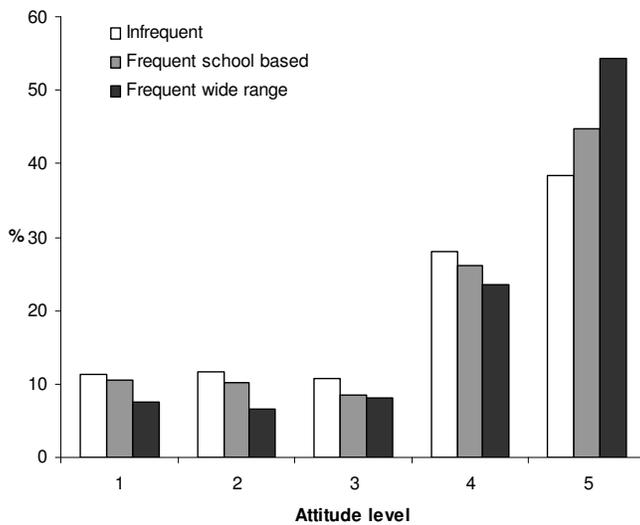


Figure 8. Relationship between teachers' use of resources and Year 8 girls' attitudes.

Conclusion

The attitudes of Year 5 and Year 8 Australian students towards learning about Asia were described in profiles that contained five levels. At the highest level, and for the majority of students, there was a keen interest in studies of Asia; students showed personal involvement and commitment to increasing their understanding. Those at the least positive attitude level, however, displayed a strong antipathy to learning about Asia and were likely to indicate that they had engaged in negative actions towards fellow students from an Asian ethnic background. Although a minority of students expressed these negative attitudes, there were clear relationships between negative attitudes to learning about Asia and the gender and year level of students and, of particular interest, the teaching style, resource use and

classroom practices of teachers. Students whose teachers were least likely to make use of professional development opportunities and other studies of Asia resources, for a range of reasons that could include lack of opportunity or access, were disproportionately represented among students with the lowest attitude level on the scale.

Gender differences emerged at the extremes of *avoidance* and *organisation*. Boys were more likely than girls to avoid Asian experiences and girls were more likely than boys to organise their behaviour around Asian themes. Resources did not appear to make a substantial difference at Year 5, but at Year 8 the more widespread the range of resources used by teachers, the more likely Year 8 students were to report that they responded and reorganised their behaviour accordingly. When this trend was examined with respect to gender a more detailed picture emerged. In particular, Year 8 boys responded to a variety of resources and the more varied the resources and frequently they were exposed to Asian stimuli, the more likely they were to report interest, engagement and positive attitudes. The information provided by this study could thus prove of great value to educators wishing to improve students' enjoyment of learning about Asia or, indeed, of their attitudes to learning in general.

In a period when boys' education is causing concern and debate in Australia, this study has identified an area of intervention that could improve boys' attitudes to learning about Asia. Clearly, teachers can be given access to, and encouraged to use, a varied range of resources, to draw upon expert guidance and professional development, and to link these to positive experiences with regard to Asia for the development of boys' attitudes. The research could be interpreted as an indication that, when compared to girl students, boys' enthusiasm for studies of Asia is more difficult to arouse and that a greater effort is required to maintain their interest. However, the study does illustrate that arousing and maintaining interest, and development towards more positive attitudes, is more likely with relevant and varied experiences and the frequent use of high quality teaching resources. This, alone, is a useful and encouraging observation.

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Appendix A

Item	Attitude statement
1	I enjoy learning things about Asia
2	Learning about Asia is valuable
3	Learning about Asia is a good thing
4	I would like people from Asia to visit my home
5	Learning about Asia is fun
6	People from countries of Asia contribute little to the world
7	Reading books about Asia is fun
8	I have called kids names because of their Asian background
9	I would like to visit a country in Asia
10	It would be better if Australia had closer relations with Asian countries
11	I try and avoid Asian people or customs
12	I avoid Asian festivals
13	Learning about Asia will help me later in life
14	Studying things about Asia is important
15	Australia has nothing to learn from countries like Japan
16	It is important that Australians know lots about Asia
17	Asian people should all speak English in Australia
18	Asian cultures are a problem for Australia
19	Asian cultures are of no interest to me
20	I do not need to learn about Asia
21	All Asian people are the same
22	Australia has nothing to learn from countries like Indonesia
