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INTERPERSONAL BEHAVIOURS OF THE SCHOOL ADMINISTRATORS THROUGH THEIR ADMINISTRATIONS IN THE BASIC EDUCATION SCHOOLS IN THAILAND

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Abstract:

Comparatively speaking, the performance of Thai administrators in international studies of Thailand's relatively weak human resource base has been pinpointed as one of the underlying factors in the cause of the economic and financial crisis that has hit the country over recent years very poor. This research reports on a study that investigated the role that Thai administrators' interpersonal relationships with their teachers play in enhancing the teachers' teaching plan and students' achievement in the subject and in forming or changing the teachers' attitudes to teaching arrangement. questionnaires were administered to a sample of 716 teachers in 80 schools under the Office of Basic Education Commission (OBEC) throughout of Thailand. Administratorteacher interactions were assessed with the 48-item Questionnaire on Administrator Interaction (QAI) which was adapted version from the Questionnaire on Teacher Interaction (QTI) (Wubbles & Levy, 1993). This questionnaire has an Actual and Preferred Forms. Teachers' attitudes were assessed with the Test of Administrator-Related Attitudes (TOARA) which was based on the Test of Science-Related Attitudes (TOSRA) (Fraser, 1981). Statistically significant differences were found between the teachers' perceptions of actual and preferred administrator interpersonal behaviours. It was found that administrator interpersonal behaviour was high on factors such as Leadership, Helping/Friendly, Understanding and Teacher Responsibility/Freedom behaviour, while factors such as *Uncertain*, *Dissatisfied*, *Admonishing*, and *Strict* behaviours were far less prominent. Significant differences were found between teachers' perceptions of

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actual and preferred administrator interpersonal behaviours, and a typology comparison of teachers' perceptions of Thai administrators could be classified as *Authoritative* in both the actual and preferred administrators' interpersonal behaviours. Associations between teachers' perceptions of their administrators' interpersonal behaviour with their attitudes to their school administration were found. The multiple correlations were significant for the Actual Form of the QAI and the TOARA, 39% of the variance in teacher's attitude to their schools was attributable to their perceptions. Based on the findings, suggestions for determining and effecting the school administrations by school's administrator interpersonal behaviour for improving sustainable educational development in school's administration in Thailand with teachers' perceptions are provided.

Keywords: interpersonal behaviours, school administrators, basic education schools, teachers' perceptions, Thailand, Office of Basic Education Commission (OBEC), leadership

1. Background

Thailand's relatively weak human resource base has been pinpointed as one of the underlying factors in the cause of the economic and financial crisis that has hit the country over recent years. Many have highlighted the lack of Thai graduates capable of independent analytical thought as one factor responsible for the country's economic downfall. The fact of the crisis has brought home the need for a thorough reexamination of the country's human resource development system and set the stage for across-the-board reform of Thai education. Recognizing the urgent need for education reform, the government, acting through the Office of the National Education Commission (ONEC) under the Prime Minister's Office, has formulated policies and plans to bring about necessary changes within the Thai system. The National Education Act is the country's master legislation on education which will provide the framework for education reforms: learning reform, administrative reform, reform in learning and teaching, learners as the Center of Learning, and teachers as agents of learning reform.

Regarding the Ministry of Education, the 1999 National Education Act and its 2002 Amendment as well as the 2003 Act for Streamlining of Ministries and Governmental Agencies mandate the amalgamation of the 3 ministries and agency responsible for education, namely, Ministry of Education, Ministry of University Affairs, and Office of the National Education Commission into a single Ministry of Education with a new administrative structure. The need for school reform can be

explained in both international and national contexts. Internationally, societies are changing from industrial to information-based societies in which the creation and dissemination of knowledge play critical roles in industrial to information-based societies in which the creation and dissemination of knowledge play critical roles in both individual and social development. However, that school reform does not simply happen within a classroom, but the whole system, within which education takes places, needs to change. Subsequently, the key elements for successful reform at the state, school and classroom levels are introduced. Inefficient management and administration of the education system, inequity of access to quality education, inadequately qualified teachers, and a rigid learning environment are identified as prime causes for the failure to address the private sector's human resource needs.

To successful implement school reform in Thailand, a number of key areas must be addressed including the approaches to learning and curriculum reforms, professionalization of teachers, appropriate assessment, use of technology, and considering unique Thai cultural aspects, especially, professionalization of Administrators. The professionalization of administrators requires the establishment of systematic support mechanisms including administrators licensing and administrator incentive schemes. Quality assurance of educational institutions is also an important tool for changing the way administrating is conducted by focusing on educational outputs consistent with schooling reform administrations.

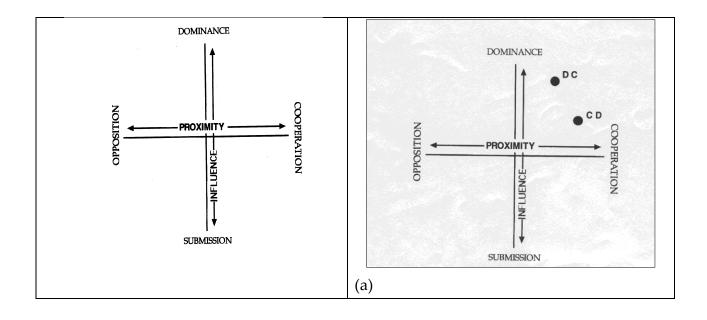
Administrators in school district central offices oversee public schools under their jurisdiction. This group includes those who direct subject-area programs, supervise instructional coordinators and curriculum specialists, and work with them to evaluate curriculums and teaching techniques and improve them. Administrators also may oversee career counseling programs and testing that measures students' abilities and helps to place them in appropriate classes. With site-based management, administrators have transferred primary responsibility for many of these programs to the principals, assistant principals, teachers, instructional coordinators, and other staff in the schools.

Focusing on administrators, unlike teachers, work a twelve-month year and are fairly busy most of that time. Whether running a small, private day-care center or an overcrowded public high school, an administrator's tasks are many and various, ranging from curriculum development to student discipline. The most familiar school administrator is the principal. Any one of these administrators may be responsible for infrastructure maintenance, the hiring and training of teachers, and student affairs.

International research efforts over the last 30 years have firmly established classroom environment as a thriving field of study (Fraser, 1994). Recent classroom

environment research has the teacher-student interactions that occur in the classroom (Wubbels & Levy, 1993). This study was to improve, adapt, and describe the determinants and effects of the actual and preferred of teachers' perceptions to extend this notion in order to obtain more comprehensive picture of administrator interpersonal behaviour within educational service area in school educational base environments in Thailand.

This study discusses the school environment instrument selected for use in this research. The rationale for the selection of the Questionnaire on Administrator Interaction (QAI) is followed by a discussion of the climate of school environments including how administrating is one of unique features of educational reform with in school environment and therefore, the selection of the Test Of Administration-Related Attitude (TOARA). Because teachers' perceptions of school environment have been favourably associated with teacher's attitude to school's administration, it was decided to select an appropriate measure of teachers' attitudes.



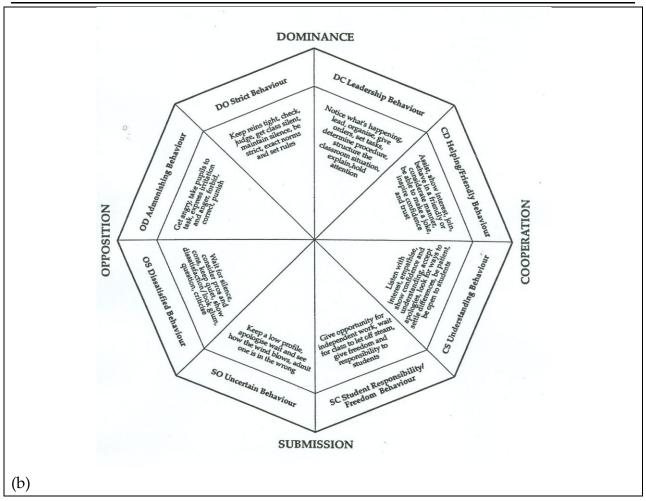


Figure 1: Leary model of interpersonal behaviour (Wubbels, Creton, Levy & Hooymayers, 1993, p.15) and Model for administrator interpersonal behaviour characteristics (Wubbels, 1993).

2. Using the School Environment Instruments

In the last decade, many countries have used learning environment instruments in conducting research studies. In addition to a form, which measures perceptions of actual environment, the instruments have an additional form, which measures preferred environment. The preferred form is concerned with goals and value orientations as it measures perceptions of the environment ideally liked or preferred. Although item wording is almost identical for actual and preferred forms, the directions for answering the two forms instruct student clearly as to whether they are rating what their class is actually like or what they would preferred it to be like.

2.1 The Questionnaire on Administrator Interaction (QAI)

The Questionnaire on Administrator Interaction (QAI) was adapted version from the Questionnaire on Teacher Interaction (QTI). Historically, the QTI, classroom environment research grew out of the studies of Moos and Walberg in the late 1960s and early 1970s. Since then, a number of instruments have been developed with which it is possible to conduct research focusing on the classroom environment. Wubbels, Creton and Hoomayers (1985) focused on the teacher variable for improving the learning environment, and developed a model to map administrator interpersonal behaviour. It was based on the model for interpersonal behaviour of Leary (1957). Wubbels et al. (1985) adapted the Leary model and developed a model for interpersonal teacher behaviours. They mapped the behaviours of teacher with a proximity dimension (Cooperation, C - Opposition, O) and an influence dimension (Dominance, D - Submission, S). These dimensions can be represented in a coordinate system divided into eight equal sections as shown in Figure 1. Each sector of the diagram represented the following typical interpersonal behaviours of the teacher: Leadership, Helping/Friendly, Understanding, Student Responsibility/ Freedom, Uncertain, Dissatisfied, Admonishing, and Strict behaviours. The Leary model of the two original dimensions of dominance-submission and hostility-affection was used in clinical psychology and psychology settings to describe interpersonal behavior. Leary used the model for developing a checklist of directly observable interaction to be called the Interpersonal Adjective Checklist (ICL) that had 128 items.

The QTI, which measures students' perceptions of teacher interpersonal behaviour, is based on this model (Wubbels & Levy, 1993). The Australia version of the QTI containing 48 items was used in studies involving science classes in Western Australia and Tasmania. The Thai version was translated of the QAI containing 48 items that it was intended this shorter Australian version would be used and adapted measures teachers' perceptions of administrator interpersonal behaviour of the typical interpersonal behaviours of administrator into Leadership, Helping/Friendly, Understanding, Teacher Responsibility/ Freedom, Certain, Satisfied, Monishing, and Strict behaviours in this study.

The 16 categories of interpersonal behaviour developed by Leary were later reduced to eight categories (Wubbels, Creton, Levy, & Hooymayers, 1993). These eight can be presented in a two-dimensional system as represented in Figure 1(b). Wubbels (1993) further divided each of the four quadrants of the Leary model into two sections, making a total of eight (Figure 1-b). The sections in the model for interpersonal administrator behaviours are labeled DC, CD, CS, SC, SO, OS, OD and DO according to their position in the coordinate x-y system. These behavioural aspects were labeled

respectively Leadership, Helping/Friendly, Understanding, Student Responsibility and Freedom, Uncertain, Dissatisfied, Admonishing and Strict Behaviours. Characteristics of these behaviours appear in the sections of Figure 1.

3. Research Aims

- 1. To assess comparisons between the teachers' perceptions of their actual and preferred administrator interpersonal behaviours to their administrations under the Office of Basic Education Commission in school's administration environments in Thailand.
- 2. To assess associations between teachers' perceptions of their administrators' interpersonal behaviours under the Office of Basic Education Commission in school's administration environments in Thailand.

4. Research Procedures

4.1 Research Instruments

In addition to the main questionnaires QAI, and the Test of Administration-Related Attitudes (TOARA), this adapted version from the Test of Science-Related Attitudes (TOSRA) (Fraser, 1981a). The TOARA questionnaire was selected to use with the aim of investigating any possible relationships with teachers' perceptions about their administrator's interpersonal behaviour in administrations in the basic education of school's administration environments. The TOARA consists of eight scales.

4.2 Sample

The main study involved the teachers who are teaching at the schooling educational base of the office of The Basic Education Schools under the Office of Basic Education Commission (OBEC) of Thailand. The study was conducted at 40 school environments. Overall, data were collected using the Thai versions of the QAI, and TOARA from a sample of 716 teachers in The Basic Education Schools under the Office of Basic Education Commission (OBEC) throughout in Thailand.

5. Results

5.1 Validation and Reliability of the QAI and the TOARA

The results given in Table 1 shows that on average item means for each of the eight QAI scales, that they contain six items, score from 0 to 4, so that the minimum and maximum

score possible on each of these scales is 0 and 24, respectively. Because of this difference in the number of items in the eight scales, the average item mean for each scale was calculated so that there is a fair basis for comparison between different scales. These means were used as a basis for constructing the simplified plots of significant differences between forms of the QAI shown in Figure 1. For the remaining eight scales, Leadership, Helping/Friendly, Understanding, Teacher Responsibility/Freedom, Certainty, Satisfied, Monishing and Strict behaviours, there were significant differences between students' perceptions of their actual and preferred teachers' interpersonal behaviour.

Table 1: Scale Internal Consistency (Cronbach Alpha Reliability) and Ability to Differentiate Between Classrooms (ANOVA) for the QAI

Scale	Form	Scale	Scale	Alpha	Discrim.	Mean	<i>t</i> -test	ANOVA
		Mean	Std.	Reliability	Validity	Differ.		(Eta²)
			Dev.					
Leadership	Actual	18.86	3.45	0.80	0.41	2.37*	16.43*	0.15*
	Preferred	21.59	2.54	0.74	0.59			
Helping/Friendly	Actual	18.16	3.99	0.77	0.48	2.94*	29.29*	0.90*
	Preferred	21.10	2.70	0.73	0.56			
Understanding	Actual	18.67	3.50	0.81	0.40	2.64*	15.90*	0.13*
	Preferred	21.31	2.72	0.76	0.52			
Teacher	Actual	17.62	3.59	0.71	0.43	3.00*	28.15*	0.84*
Responsibility/	Preferred	20.62	2.76	0.78	0.60			
Freedom								
Certainty	Actual	16.31	4.14	0.82	0.41	4.68*	25.31*	0.18*
	Preferred	20.99	3.58	0.74	0.59			
Satisfied	Actual	16.04	4.40	0.72	0.33	3.97*	65.86*	0.79*
	Preferred	20.01	3.15	0.77	0.52			
Monishing	Actual	15.71	3.99	0.76	0.42	5.17*	28.55*	0.18*
	Preferred	20.88	2.95	0.73	0.61			
Strict	Actual	16.41	3.68	0.71	0.49	3.43*	35.39*	0.89*
	Preferred	19.84	2.85	0.79	0.46			

 $^{^{*}}$ Correlation is significant at the 0.001 level (2-tailed)

The internal consistency reliability of the version QAI used in this study was determined by calculating Cronbach alpha coefficient for the 48 items of the QTI using both actual and preferred teachers' perceptions scores. Table 1 reports the internal consistency of the QAI, which ranged from 0.71 to 0.82 when using the teachers' actual scores and from 0.73 to 0.79 when using the teachers' preferred scores. This characteristic was explored using a series of one-way analyses of variance on the scales of the QAI, which suggests that each scale of the QAI was able to differentiate

significantly (p <0.001) between teachers' perceptions in actual and preferred school administration environments by the administrator in the same school; environments. The eta2 statistic which is the ratio of "between" to "total" sums of squares and represents the proportion of variance in scale scores accounted for class by membership, ranged from 0.13 to 0.90 for different scales. In term of the TOARA, internal consistency (Cronbach alpha coefficient) was obtained for the sample in this present study as indices of scale reliability is 0.74.

5.2 Comparison of teachers' perceptions of their actual and preferred administrator interpersonal behaviours in the basic school administration environments in Thailand

On comparing differences between the teachers' perceptions of their actual and preferred administrator interpersonal behaviour in basic school administration environments in Figure 1, it was found that teachers' preferred perceptions an environment with upper levels of Leadership, Helping/Friendly Understanding, Teacher Responsibility/Freedom Certainty, Satisfied, Monishing, and Strict behaviours than teachers' actual perceptions.

It is clear from a comparison of the preferred people for Thai administrators with the actual that Thai administrators would preferred their teachers to be friendlier, more understanding, more teacher responsibility and freedom, and demonstrate leadership behaviours. They would also prefer their administrators to be more admonishing, satisfied, certain, and strict behaviours.

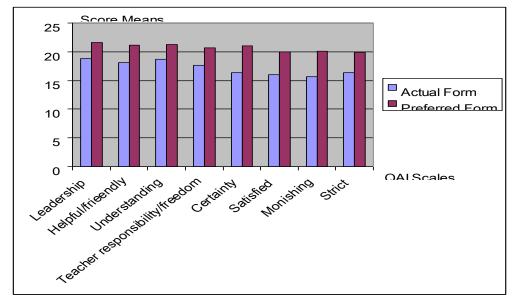


Figure 3: Simplified plot of significant differences between teachers' perceptions of their actual and preferred scores of the QA

Associations between teachers' perceptions of their administrators' interpersonal behaviour in school administration environments and their attitudes toward school administration:

The simple correlation values (r) are reported in Table 2 which show significant correlations (p<0.01) between teachers' attitudinal outcomes and administrators' interpersonal behaviour on all of eight scales. These associations are positive for the scales of Leadership, Helping/Friendly, Understanding, Certain, Monishing, Satisfied and Strict. That is, in school administration environment where the administrators perceived greater leadership, helping/friendly and understanding behaviours in their teachers, there was a more favourable attitude towards their school administration environment. The second type of analysis consisted of the more conservative standardized regression coefficient (β) which measures the association between teachers' perceptions on each scale of the QAI and their attitudes towards school administration when the effect of relationships between the scales is controlled.

The multiple correlation R is significant for Actual Forms of the QAI and shows that when the scales are considered together there is a significant (p<0.001) association with the TOARA. The R2 value indicates that 39% of the variance in teacher's attitude to their school administration environment was attributable to their perceptions of their administrators' interpersonal behaviour. The beta weights (β) show that in school administration environments where the administrators perceived greater leadership, helping/friendly, understanding, teacher responsibility/freedom, certain, monishing, satisfied and strict behaviours in their administrators, there was a more favorable attitude towards their school administration environments.

Table 2: Associations between QTI Scales and Attitudes to Physics Classes in Terms of Simple and Multiple Correlations (R) and Standardized Regression Coefficient (β)

	Simple Correlation	Standardized Regression Weight
Scale	Attitude (r)	Attitude (β)
Leadership	0.25*	0.21*
Helping/Friendly	0.27*	0.20*
Understanding	0.26*	0.21*
Teacher Responsibility/Freedom	0.22*	0.30*
Uncertain	0.25*	0.31*
Dissatisfied	0.33*	0.32*
Admonishing	0.26*	0.21*
Strict	0.21*	0.26*
Multiple Correlation (R)		0.63*
R ²		0.39

n = 716, *p<0.05, **p<0.01

6. Conclusions

In this study, appropriate statistical procedures were used in order to follow the two research aims, regarding the validation of the questionnaires. The procedures included Cronbach alpha coefficient, discriminant validity; compare means (t-test) and one-way ANOVA. The two instruments, namely, the Questionnaire on Teacher Interaction (QAI), and the Test Of Administration-Related Attitude (TOARA), are valid and reliable for use in schools of the office of the base educational service in Thailand.

Overall, Thai base educational service area of schools' administrators show relatively favourable perceptions of their school administration environments. However, the actual and preferred perceptions of 716 teachers of their administrators' interpersonal behaviour in school administration environments were measured with the QAI. The comparisons of the Actual Form with the Preferred Form indicated that administrators' roles would prefer more leadership, helping/friendly certain, satisfied, monishing and strict behaviours in understanding, administrators in school administration environments tended to be greater than what they actually perceive to be provided.

This study is very important because it is one of only a handful of studies in the field of school administration environments in Thailand, and it represents one of only a few studies worldwide that has focused on the school administration environment at the office of educational service area in Thailand.. This study is significant in that, by translating, field-testing, refining, validating, and using the two modified versions of the QAI and the TOARA. Overall, the findings of the present study have made several distinctive contributions to the field of school administration environments that were studies to be carried out in Thailand.

6.1 Implications for Improving School Administration Environments for Sustainable Educational Development

This study still has several tentative implications for school's administrators, and educational researchers in Thailand. Two generally applicable instruments were used: the Questionnaire on Administrator Interaction (QAI), and the Test Of Administration-Related Attitude (TOARA), and were found valid and reliable for use in Thailand's schools. The availability of these instruments provides a means by which teachers' perceptions can be monitored for administrators to attempt to improve their administration roles; To successful implement school reform in Thailand, a number of key areas must be addressed including the approaches to learning and curriculum

reforms, appropriate assessment, use of technology, and considering unique Thai cultural aspects, especially, professionalization of Administrators.

Based on the findings, suggestions for improving the school environment are needed. Administrators have to give administrations' roles which promote school cohesion, give teachers practical activities related to what students learn in school classes, give ideas related to teachers' prior knowledge, previews to connect to future school environments, make a clearly organizational plan for advising, and vary the rate of delivery where appropriate. Administrators should change and use more effective body movements and gestures, introduce a stated organization of school administration environments, give sufficient variety in supporting information, promote higher order thinking, and should give feedback that is informative and incorporates teachers' and students' responses, or provider of outlines and handout of the reader roles of school's administrator.

Although Thailand's administrator interpersonal behaviours were perceived by teachers as favourable, evidence from research on administrator-teacher relationships indicated widely differing teachers' perceptions of their actual and preferred administrator interpersonal behaviors in school administration environments. Teachers preferred their administrators to exhibit more positive leadership, helping/friendly, and understanding, and student responsibility/freedom, certainty, satisfied, monishing and strict behaviours. However, the administrators' interpersonal behaviours showed a gap between the actual and preferred administrators' interpersonal behaviour in all of the behaviours measured. Therefore, it is important for school's administrators to improve their interpersonal behaviour towards teachers so that this gap between teachers' actual and preferred administrator interpersonal behaviour will decrease. Thus, school's administrators should develop the reader roles of administrating activities in school environments that will enable them to exhibit more cooperatives to achieve behaviours and less oppositional ones.

6.2 Suggestions for Tomorrow Research in Thailand

School environment research in Thailand is one of the reforms the Thai government has been providing in accordance with the Ninth National Education Development Plan (2002-2006). Most of the administrators who are administrating in primary and secondary education, must improve their administrating by using the findings of school administration environment research. This present study is one of the first school administration environment studies in Thailand involving two separate measures, the Questionnaire on Administrator Interaction (QAI), as well as the Test Of Administration-Related Attitude (TOARA). These instruments have been shown to be

reliable and valid for use in future studies in Thailand. By using these instruments, a number of school administration environment research directions can be pursued in Thailand.

References

- 1. Creton, H., Hermans, H. A., & Wubbels, T. (1990). Improvement interpersonal teacher behaviour in the classroom: A systems communication perspective. South Pacific Journal of Teacher Education, 18, 54-49.
- 2. Fisher, D. L., & Fraser, B., & Rickards, T. (1996). Assessing teacher-teacher interpersonal relationships in science classes. Australian Science Teachers Journal, 42(3), 28-33.
- 3. Fisher, D. L., Henderson, D. & Fraser, B. J. (1995). Interpersonal behaviour in senior high school biology classes. Research in Science Education, 25, 125-133.
- 4. Fisher, D. L., Rickards, T. W., Goh, S.C., & Wong, A. F. L. (1997b). Perceptions of interpersonal teacher behaviour in secondary science classrooms in Singapore and Australia. Journal of Applied Research in Education, 1, 2-13.
- 5. Fraser, B. J. (1981). Test of Science-Related Attitudes (TOSRA). Melbourne: Australian Council for Education Research.
- 6. Henderson, D., Fisher, D. L., & Fraser, B. J. (2000). Interpersonal behaviour, laboratory learning environments and teacher outcomes in senior biology classes. Journal of Research in Science Teaching, 37, 26-43.
- 7. Khine, M. S., & Fisher, D. L. (2001, December). Classroom environment and teachers' cultural background and secondary science classes in an Asian context. Paper presented at annual conference of Australian Association for Research in Education, Perth.
- 8. Kim, H. B., Fisher, D. L., & Fraser, B. J. (2000). Classroom environment and administrator interpersonal behaviour in secondary science classes in Korea. Evaluation and Research in Education, 14, 3-12.
- 9. Koul, R., & Fisher, D. l. (2003, December). Science classroom environments in India. Paper presented at annual conference of Australian Association for Research in Education, Brisbane.
- 10. Leary, T. (1957). An interpersonal diagnosis of personality. New York: Ronald Press.

- 11. McRobbie, C., Fraser, B. J., & Giddings, G. J. (1991). Comparison of personal and class forms of the science laboratory environment inventory. Research in Science Education, 21, 244-252.
- 12. Nair, C. S., & Fisher (2001). Learning environments and teacher attitudes to science at the senior secondary and tertiary levels. Issue In Education Research, vol. 11.
- 13. Quek, C.L., Fraser, B., & Wong, A.F. (2001, December), Determinants and effects of perceptions of chemistry classroom learning environments in secondary school gifted education classes in Singapore. Paper presented at annual conference of Australian Association for Research in Education, Perth, WA.
- 14. Rickards, T., & Fisher, D. L. (1996). Associations between teacher-teacher interpersonal behaviour, gender, cultural background and achievement. Proceedings Western Australian Institute for Educational Research Forum 1996.
- 15. Scott, R. H., & Fisher, D. L. (2001, December). The impact of teachers' interpersonal on examination results in Brunei. Paper presented at annual conference of Australian Association for Research in Education, Perth.
- 16. Santiboon, T., & Fisher, D. (2004, September). Actual and preferred learning environments in physics classes in Thailand. Paper presented at the International Conference on Science and Technology of Thailand. Bangkok, Thailand.
- 17. Santiboon, T., & Fisher, D. (2005, August). Learning environments and teacher-student interactions in physics classes in Thailand. Sustainable communities and sustainable environments: Envisioning a role for science, mathematics and technology education: Proceeding of the 4th international conference on science, mathematics and technology education (pp. 511-520). British Columbia, Canada: Curtin University of Technology, Western Australia.
- 18. Soerjaningsih, W., & Nusantara, B. (2001, December). Learning environment teacher-teacher interpersonal behaviour and achievement among university teachers in Indonesia. Paper presented at annual conference of Australian Association for Research in Education, Perth.
- 19. Waldrip, B., & Fisher, D. L. (2001, December). Perceptions of teacher-teacher interactions in exemplary science teachers' classroom. Paper presented at annual conference of the Australian Association for Research in Education, Perth.
- 20. Wong, A. F. L., & Fraser, B. J. (1996). Environment-attitude associations in the chemistry laboratory classroom. Research in Science & Technological Education, 1, 12-22.
- 21. Wubbels, T., Brekelmans, M., & Hooymayers, H. (1991). Interpersonal teacher behaviour in the classroom. In B. J. Fraser & H. J. Wallerg (Eds.), Educational

- Environments: Evaluation, antecedents and consequences (pp. 141-161). Oxford: Pergamon Press.
- 22. Wubbels, T., Brekelmans, M., & Hooymayers, H. (1993a). Comparison of students' and teachers' perceptions of interpersonal teacher behaviour. In T. Wubbels & J. Levy (Eds.), Do you know what do look like? International relationships in education (pp. 64-68). London: Falmer Press.
- 23. Wubbels, T., Creton, H., Levy, J., Hooymayers, H. (1993c). The model for interpersonal teacher behaviour. In T. Wubbels & J. Levy (Eds.), Do you know what do look like? International relationships in education (pp. 13-28). London: Falmer Press.
- 24. Wubbels, T., & Levy, J. (1993). Do you know what do look like? International relationships in education (pp. 146-162). London: Falmer Press.

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