Chew Meek Lin and Christopher Slatter



Raffles Girls' School (Sec.) Singapore



Presentation for the 11th Asia-Pacific Conference on Giftedness

Saturday 31st July 2010 – Sydney Convention Centre



The Qualities of Effective Teachers of High Ability Singaporean Female Secondary School Students: A Comparison of Teachers' and Students' Perspectives

Abstract

Literature Review

Research Questions

Methodology

Results

Conclusions and Implications

Slide

Transition

After CCA - memories of friendship & laughter Wong Chor Yee (Class of '67)

AE MELIORIS

1

Wordharfd 2007

Abstract





Abstract

A group of high ability students (n = 32) described the qualities of their most effective teachers through a written essay. Analysis of the essays identified 30 different themes within four domains. These themes were used to construct both a six-point Likert scale survey as well as an ipsative comparison which were both administered to 42 teachers and 300 students at a secondary school for high ability female students in Singapore. Results show that there are statistically significant differences between the qualities of effective teachers as perceived by teachers and students. In addition, the results also show that students demonstrate a preference for teachers' personality and socio-emotional qualities over their classroom management skills, thinking skills or moral and ethical qualities.

Entering the realm of wisdom Wong Chor Yee (Class of '67)

*

MELIC

Nemother fee

194

御

問題

Entering the realm of wisdom Wong Chor Yee (Class of '67)

"...the field of giftedness has been less blessed by strongly designed research than have some other fields in education..."

"If we want to strengthen the field of giftedness, one way to do it certainly is to have stronger research..."

Sternberg, 2010.

In his thought-provoking paper entitled Unthinkable Thoughts: Education of Gifted Students, Gallagher (2000) argues that gifted students, i.e. individuals who learn faster and produce more original ideas than their peers, exist within most classrooms (pp. 5-7).

Gallagher continues to argue that gifted students require a special education programme to ensure that their natural abilities are challenged and that their potential is fully developed, thus allowing them to make a positive contribution to their culture or society (pp. 7-8).

Gallagher concludes that gifted education programmes should be delivered by specially trained teachers who are able to identify and meet the particular requirements of gifted students, such as acceleration and differentiation (pp. 8-9).

After reviewing the literature and performing his own empirical research into the qualities of effective teachers, Stronge (2007) is adamant that the classroom teacher is the single most important factor in a child's academic development.

It can be concluded from the contributions of Gallagher and Stronge that gifted students require their own education programmes, which should be delivered by specially trained teachers. In addition, teachers of the gifted bear the responsibility of being the single most important factor in their students' academic, and possibly social / emotional, development.

Considering that today's gifted students have the greatest potential to develop into tomorrow's business leaders, research scientists and performing artists, their education should not be left to chance.

Considering that today's gifted students have the greatest potential to develop into tomorrow's business leaders, research scientists and performing artists, the peducation should not be

Personal Characteristics of the Ideal Teacher of the Gifted:

• Be intelligent and knowledgeable. • Have broad interests. • Be hard working and achievement orientated. • Be well organised. • Be highly enthusiastic about their work. • Possess a good sense of humour. • Be flexible. • Understand and accept gifted students. Cropley & McLeod, 1986, p. 128.

Knowledge, Skills and Competencies Needed by Teacher of the Exceptionally Able:

• Knowledge of the nature and needs of gifted students.

- Knowledge of new developments in education.
 - Knowledge of relevant current research.
 - Knowledge of the subject being taught.
 - Knowledge of psychological development.
 - Knowledge of special teaching methods.
 - Skill in devising learning experiences.
 - Skill in arousing affective conditions.

Cropley & McLeod, 1986, p. 129.

Summary:

• There is an urgent need to perform pertinent and high quality research in the field of gifted education.

• One such area is the qualities of effective teachers of high ability students:

 \rightarrow No recent studies performed.

 \rightarrow No significant studies performed in Asia.

 \rightarrow No significant studies performed on females.

→ Few studies comparing teachers' and students' perspectives.

 \rightarrow Studies tend to be in the field of general education.

Contemplation at Perian Fountain Wong Chor Yee (Class of 67)

and the

FILIAE MELIORIS AN

*

-80

TRA

YAT

PIERIA

R

NE

UN

Research

Questions





Qualities of Effective Teachers of High Ability Singaporean Female Secondary School Students



• From a student's perspective, what qualities do effective teachers of high ability Singaporean female secondary school students possess?

• From a student's perspective, what qualities do effective teachers of high ability Singaporean female secondary school students possess?

• From a teacher's perspective, what qualities do effective teachers of high ability Singaporean female secondary school students possess?

• From a student's perspective, what qualities do effective teachers of high ability Singaporean female secondary school students possess?

• From a teacher's perspective, what qualities do effective teachers of high ability Singaporean female secondary school students possess?

• When the perspectives of the students and teachers are compared, in what ways are they similar? In what ways are they different?

• How do the findings of this research compare to findings from similar studies?

• How do the findings of this research compare to findings from similar studies?

• What are the possible consequences / implications for teacher training programmes?

Forever Friends Wong Chor Yee (Class of '67)

Doylaiter

FILIAE MELIORIS A

*

Methodology



Forever Friends

Methodology

Sequential Exploratory Strategy (Creswell, 2009, p. 211).

A three phase mixed methods approach:

Gather and analyse qualitative data.
Use results to develop an instrument.
Use the instrument to gather quantitative data from a sample of a population.

Instruments – Part One – Essay



Raffles Girls' School (Secondary)



Pedagogical Research Laboratory The Gualities of Effective Teachers of High Ability Singaporean Female Secondary School Students

Data Collection - Part One - Essay

 The purpose of this research is to collect information from students at Raffee Oricle School (Secondary) pertaining to the characteristics of their most effective bachers. The data will be analysed in an attempt to identify the essential qualities of effective

teachers of high ability Singaporean female secondary school students.

· Please take some time to reflect on the qualities of your most effective teachers, and then write a short essay that describes these

teachers in the space provided below. You may find the categories below useful for guidance.

. There are no 'right' or 'wrong' descriptions of effective teachers. Your comments are very valuable, so please be honest

Please do not mention any of your teachers specifically by name.

· Please do not discuss the questions or your answers with any other students.

 This data collection form is anonymous. Individual data will be kept confidential and will not be passed on to any external parties. This document will be destroyed once the data from it has been collabed and analysed.

. Thank you very much. Your time and help are greatly appreciated.

+ Classroom Management / Leadership:

+ Intelligence / Thinking Skills:

Data collected from 32 Secondary Three students.

Mean age = 15 years 1 month Standard Deviation = 9 months

Choice of Domains:

Maddux, Samples-Lachmann & Cummings, 1985.

Sternberg, 2000.

Instruments – Part One – Essay – Coding

• Hand written students' essays were typed into Microsoft Word.

• The responses were thoroughly read several times.

 Sentences containing the same or synonymous words / terms were grouped together. (Glaser & Strauss, 1967).
• The theme connecting the similar words / terms was identified, and the group of words / terms was given a descriptive label, thus generating a sub-scale within the domain. Some of the sub-scales that emerged were already anticipated based upon the literature review.

• The final product was reviewed several times. Some large sub-scales were divided into smaller sub-scales, while some small sub-scales were merged together. (Glaser & Strauss, 1967).

Collation of Students' Feedback with Regards to the **Qualities** of their "Students always look forward to, and enjoy "Lead us to explore, encourage up · Classroom Management / Leadership

→ Sub-Scale - Builds Relationships:

1. The teacher also needs to interact with students, even and aware of the students' needs. 2. Compassion allows students to relate more to teacher 3. The teacher needs to be interactive, interesting, fun-4. Recognises students as individuals with their own ne 5. A good relationship between teacher and student wil 6. Engages in conversations with students 7. A good listener, thus a good teacher 8. A teacher should maintain the relationship between students during the lesson in the classroom 9. Able to relate and talk to students 10. Communicates easily with their students 11 Good at speaking 12. Convincing 13. Speaks clearly, 14. Interactive

→ Sub-Scale - Disciplinarian

- 1. A teacher that is strict enough to control the class by own freedom 2. They usually lay out a few ground rules that will kee 3. He / she will definitely take into account the feelings 4 Does not condone wrong doings - able to discipline 5. To me, an effective teacher knows when, where and 6. Does not punish students too harshly 7. Does not deliberately embarrant a student. 8. Jovial, humorous, not too strict. 9. The teacher is strict, but not unnecessarily fierce.
- 10. She should be fun and strict at the correct times.
- 11. Strict, but not too fierce
- 12. Not too strict and serious
- 13. Not intimidating.
- 14. Not "mappy"
- 15 Not Germe

Collation of Students' Feedback with Regards to the

Qualities of their "Students always look forward to, and enjoy "Lead us to explore, encourage us • Intelligence / Thinking Skills:

→ Sub-Scale - Challenges Students to Think: 1. I feel that good teachers are clear about what they te 2. He / she needs"t "tell" us everything in the class, but 3. Besides the interactions with students, it is essential 4. The teacher would be able to motivate students to do 5. Lead us to explore, encourage us to think differently 6. Allow students to discover and develop their talents and character values. 7. Finds extra information for us to study [Challenges] 8. Explores interesting questions with us [Challenges 5 9. Adds in some extra information on the topic when the 10. Make us answer and interpret regularly. 11. Ask us to present if we want to [Challenges Studen

12. An effective teacher has high expectations of their r 13. Does not "read" from PowerPoint slides, does not r → Sub-Scale -- Clear Instruction 1. Able to teach in a logical way and help students com

irrelevant ways [Clear Instruction]. 2. He / she must be good at giving systematic guidance 3. Every time when he / she teaches he / she needs to e Instruction 4. The teacher doesn't contradict themselves or get con 5. Effective teachers should not say information that is 6. Effective teachers should have some level of intellig

communicate the information in a way that is easy for 7. No need to be particularly knowledgeable, but must 8. They tend to help us comprehend the knowledge with her. Every time we need to use the knowledge. 9. Able to teach in a logical way and help students com irrelevant ways.

10. He / she should have a clear train of thought and be those who just confuse us like crazy). 11. Is able to answer questions in lavman terms and to 12. Able to explain the topics in a way that the student 13. Able to explain the topic from a different direction

Collation of Students' Feedback with Regards to the Qualities of their "Students always look forward to, and enjoy

"Lead us to explore, encourage us · Moral / Ethical Qualities

1. She needs to be understanding, empathising and cert which they want to share. 2. She should be understanding, compthising and place 3. The teacher should also respect the students' decision 4. Empathetic - willing to understand students (e.g. not 5. I also feel that very pool teachers can understand the 6. Try to understand their students [Empathetic]. 7. Empathy and sympathy towards students who are sa 8. He / she will definitely take into account the feelings 9. Sensitive to the students' feelings [Empathetic]. 10. Understanding of stress students go through [Empa 11. Semitive to students' needs [Empathetic] 12. Takes time to specially understand the quirks of eac

13. Understanding and makes an effort to know their st

14 Understanding 15. Understanding

-> Sub-Scale - Empathetic

16. Empathetic.

17. Empathetic

18. Empathy

-> Sub-Scale - Fair

- 1. The teacher should not be biased towards certain sta 2. Unbiased, no favouritism. 3 Most out he himsel
- 4. Fair, not biased towards a select few students.
- 5. She pays attention to all students and is not biased to
- 6 The teacher must not be biased. 7. Fair in judgement.
- 8. He / she mustn't discriminate against anyone in the c
- 9. Must be fair minded and not biased.
- 10. Effective teachers are honest and fair towards all st
- 11. Does not judge students based on race / appearance
- 12. You can never find any sense of discrimination in t
- 9. He / she cares about everyone in the class.
- 10. Good teachers are caring, and they know all of their students' names, or at least, can recognise them.
- 11. Caring and understanding (loving)
 - - 1

Collation of Students' Feedback with Regards to the Qualities of their Most Effective Teachery

"Students always look forward to, and enjoy, the effective teacher's lesson." Class 305, RGS, 2010. "Lead us to explore, encourage us to think differently." Class 305, RGS, 2010. Personality / Socio-emotional Characteristics;

-> Sub-Scale - Friendly and Approachable

1. She needs to be understanding, empathising and certainly approachable when students have questions or any trouble which they want to share.

2. It will be ideal if he / she can maintain a certain order in class but also make students feel close and free to approach 3. The effective teacher is caring and friendly, one that students do not hevitate to approach for assistance, or even just to say "hello."

4. Teachers must be amiable and easy for us to access because the interactions between teachers and students is significant.

5. The teacher should be approachable so that the student feels comfortable talking / sharing her feelings with her.

6. Open and receptive to advice (not isolating oneself from students just because of status). 7. He / she must be amiable and entry to access.

8. Friendly and approachable.

- 9. Friendly and approachable.
- 10. Friendly and not oaick tempered

-> Sub-Scale - Carine

1. The teacher also needs to interact with students, even outside of lessons and should be caring towards the students and aware of the students' needs 2. She cares for the needs of her students. When a student is sick, the teacher calls her up to ask how she is. 3. The effective teacher is caring and friendly, one that students do not hesitate to approach for assistance, or even just to say "helio." 4. Caring and concerned about students who are struggling. 5. Overall, a good teacher is supposed to be someone who always cares for his / her students 6. Patient and caring for every student's welfare. 7. Students all need love and care

- 8. Care for well-being of students
- 12. I like teachers who care for every student in class.

- 11. Annoachable
- 12. Annovachable
- 13. Friendly [Approachable].

- 15. Open [Approachable]. 16. Open.
- - 14. Friendly

- 19. Encouraging and forgiving. 20. Forgiving

Domain: Classroom Management and Leadership

- Builds Relationships (f = 14) e.g. Communicates, good listener.
- Disciplinarian (f = 15) e.g. Authority, discipline, punish, rules, strict.
- Engages Students (f = 36) e.g. Capture attention, increase interest.
- Leads Classroom (f = 16) e.g. Follow, leader, leadership, unite.
- Manages Classroom (f = 28) e.g. Control manage, maintain order.
- Students Respect Teacher (f = 8) e.g. Admire, respect, respectful.
- Well Organised (f = 16) e.g. Meticulous, organised, well planned.

Domain: Intelligence and Thinking Skills

- Challenges Students to Think (f = 13) e.g. Think differently.
- Clear Instruction (f = 17) e.g. Students fully understand.
- Creative (f = 11) e.g. Creative, flexible thinking, innovative.
- Intelligent (f = 10) e.g. High standard of education, smart.
- Knowledgeable (f = 22) e.g. Good grasp of the field, well read.
- Quick Thinking (f = 11) e.g. Quick thinking, thinks on their feet.
- Responds to Questions (f = 7) e.g. Responds well to questions.

Domain: Moral and Ethical Qualities

- Empathetic (f = 20) e.g. Empathising, sensitive, understanding.
- Fair (f = 22) e.g. Fair, not biased, reasonable.
- Honest (f = 13) e.g. Admits mistakes, honest, honesty, integrity.
- Moral Values (f = 14) e.g. Ethical, moral, sense of right and wrong.
- Professional (f = 13) e.g. Professional.
- Responsible (f = 10) e.g. Responsible, responsibility.
- Positive Role Model (f = 10) e.g. Role model, set a good example.
- Teacher Respects Students (f = 6) e.g. Must respect students.

Domain: Personality and Socio-emotional Qualities

- Friendly and Approachable (f = 16) e.g. Amiable, easy to access, open.
- Caring (f = 24) e.g. Care, caring, concerned, love.
- Cheerful Personality (f = 19) e.g. Fun-loving, happy, relaxed, smile.
- Enthusiastic (f = 9) e.g. Energy, energetic, enthusiasm, passion.
- Humorous (f = 20) e.g. Funny, jokes, jovial, sense of humour, witty.
- Passion for Teaching (f = 8) e.g. Dedicated to teaching.
- Patient (f = 10) e.g. Patient, patience.
- Tolerant of New Ideas (f = 11) e.g. Broad minded, open minded.

Instruments – Part Two – Likert Scale Survey



81

1

The Qualities of Effective Teachers of High Ability Singap 70 tary School Students Survey for Teachers Raffles Girls' School (Secondary) in an attempt female secondary school students bink carefully about your unur annuer to each a newers to this survey. Your answer so please be honest in your ential and will not be passed on to any rom is has been collated and analysed. ing statements, tick one box (2) that best describes your answer Slightly Disagree 44 Slightly Agree 44 Agree 44 Strongly Agree Agree Agree ieve that the most effective teachers of high ability students are I believe that the most effective teachers of high ability students are I believe that the most effective teachers of high ability students can

30 Questions.

6 Point Likert Scale from Strongly Disagree to Strongly Agree.

No "Neutral" option is given.

← ← ← Please turn over. → → →

I believe that the most effective teachers of high ability students

make difficult topics clear for their students to understand

1

Instruments – Part Two – Likert Scale Survey

Directions: For <u>each one</u> of the following statements, tick <u>one</u> box (☑) that <u>best</u> describes your answer.												
Strong	Strongly Disagree \leftrightarrow Disagree \leftrightarrow Slightly Disagree \leftrightarrow Slightly Agree \leftrightarrow Agree \leftrightarrow Strongly Agree											
		1 Strongly Disagree	2 Disagree	3 Slightly Disagree	4 Slightly Agree	5 Agree	6 Strongly Agree					
1)	My most effective teachers are passionate about teaching.	1	2	3	4	5	6					
2)	My most effective teachers admit their mistakes.	1	2	3	4	5	6					
3)	My most effective teachers are very knowledgeable about their subject.	1	2	3	4	5	6					
4)	My most effective teachers can answer all of the questions that I ask.	1	2	3	4	5	6					
5)	My most effective teachers are respectful towards me.	1	2	3	4	5	6					
6)	My most effective teachers are professional in their conduct.	1	2	3	4	5	6					
7)	My most effective teachers work on building positive relationships with me.	1	2	3	4	5	6					
8)	My most effective teachers make difficult topics clear for me to understand.	1	2	3	4	5	6					

tesearch Laboratory

to please be honest in you

Ranking:

Ranking:

chool Students



← ← ← Please turn over. →-

1

Seven groups of four questions.

One question from each domain within a group. Questions are not repeated.

Teachers / students indicate priority from High (1) to low (4).

+++ Please turn over. ->->

	Statements:	Ranking:					
÷	a) I believe that the most effective teachers of high ability students challenge their students to think.						
tion	b) I believe that the most effective teachers of high ability students are friendly towards their students.						
Sec	c) I believe that the most effective teachers of high ability students are able to engage their students' attention.						
	d) I believe that the most effective teachers of high ability students are fair in the way that they treat their students.						
	Statements:	Ranking:					
Section 2:	a) I believe that the most effective teachers of high ability students are strong disciplinarians.						
	b) I believe that the most effective teachers of high ability students have strong moral values.						
	c) I believe that the most effective teachers of high ability students are very intelligent.						
	d) I believe that the most effective teachers of high ability students are tolerant of new ideas from their students.						

	Statements:	Ranking:					
÷	a) I believe that the most effective teachers of high ability students challenge their students to think.						
ction	b) I believe that the most effective teachers of high ability students are friendly towards their students.						
Sec	c) I believe that the most effective teachers of high ability students are able to engage their students' attention.						
	d) I believe that the most effective teachers of high ability students are fair in the way that they treat their students.						
	Statements:	Ranking:					
Section 2:	a) I believe that the most effective teachers of high ability students are strong disciplinarians.						
	b) I believe that the most effective teachers of high ability students have strong moral values.						
	c) I believe that the most effective teachers of high ability students are very intelligent.						
	d) I believe that the most effective teachers of high ability students are tolerant of new ideas from their students.						

Questions from the "Classroom Management and Leadership" domain.

	Statements:	Ranking:				
÷	a) I believe that the most effective teachers of high ability students challenge their students to think.					
ction	b) I believe that the most effective teachers of high ability students are friendly towards their students.					
Sec	c) I believe that the most effective teachers of high ability students are able to engage their students' attention.					
	d) I believe that the most effective teachers of high ability students are fair in the way that they treat their students.					
_						
	Statements:					
2:	a) I believe that the most effective teachers of high ability students are strong disciplinarians.					
Section	b) I believe that the most effective teachers of high ability students have strong moral values.					
	c) I believe that the most effective teachers of high ability students are very intelligent.					
	d) I believe that the most effective teachers of high ability students are tolerant of new ideas from their students.					

Questions from the "Intelligence and Thinking Skills" domain.

	Statements:	Ranking:			
tion 1:	a) I believe that the most effective teachers of high ability students challenge their students to think.				
	b) I believe that the most effective teachers of high ability students are friendly towards their students.				
Sec	c) I believe that the most effective teachers of high ability students are able to engage their students' attention.				
	d) I believe that the most effective teachers of high ability students are fair in the way that they treat their students.				
	Statements:	Ranking:			
Section 2:	a) I believe that the most effective teachers of high ability students are strong disciplinarians.				
	b) I believe that the most effective teachers of high ability students have strong moral values.				
	c) I believe that the most effective teachers of high ability students are very intelligent.				
	d) I believe that the most effective teachers of high ability students are tolerant of new ideas from their students.				

Questions from the "Moral and Ethical Qualities" domain.

	Statements:	Ranking:				
tion 1:	a) I believe that the most effective teachers of high ability students challenge their students to think.					
	b) I believe that the most effective teachers of high ability students are friendly towards their students.					
Sec	c) I believe that the most effective teachers of high ability students are able to engage their students' attention.					
	d) I believe that the most effective teachers of high ability students are fair in the way that they treat their students.					
	Statements:	Ranking:				
Section 2:	a) I believe that the most effective teachers of high ability students are strong disciplinarians.					
	b) I believe that the most effective teachers of high ability students have strong moral values.					
	c) I believe that the most effective teachers of high ability students are very intelligent.					
	d) I believe that the most effective teachers of high ability students are tolerant of new ideas from their students.					

Questions from the "Personality and Socio-emotional Qualities" domain.

Demographic Data

• Number of teachers surveyed = 50(Teachers of Secondary 3 Students) • Number of responses = 42 (84.0%) • Years teaching: \rightarrow Minimum = 3 months \rightarrow Maximum = 30 years \rightarrow Mean = 5 years 8 months \rightarrow Standard deviation = 6 years 5 months \rightarrow Missing data = 3

Demographic Data

 Number of students surveyed = 300 (Sec. 3 / Centre for the Gifted and Talented)

• Age:

→ Mean = 14 years 10 months
→ Standard deviation = 6 months

 \rightarrow Missing data = 6

• Race:

- \rightarrow Chinese = 266 (88.7%)
- \rightarrow Malay = 9 (3%)
- \rightarrow Indian = 13 (4.3%)
- \rightarrow Other = 5 (1.7%)
- \rightarrow Missing Data = 7 (2.3%)

Methodology

Note: Students who were involved in first stage of data collection – Essay Writing – were excluded from the second stage of data collection – the Likert Scale Survey and Ipsative Comparison.





Survey Data Analysis for MMM800 v2.sav [DataSet1] - PASW Statistics Data Editor

File Transform Analyze Graphs Utilities View Edit Data

Add-ons



Window Help # 🍇 🔛 5 3

1 : Identifier	1												Vis	sible: 40 of 40 V	ariables
	Identifier	T_or_S	Race	Age_Yrs	Teach_Yrs	Question_1	Question_2	Question_3	Question_4	Question_5	Question_6	Question_7	Question_8	Question_9	Que
25	25	Teacher	99	99.00	1.25	6	3	6	3	5	6	6	6	3	4
26	26	Teacher	99	99.00	6.25	5	5	5	4	5	6	6	6	3	
27	27	Teacher	99	99.00	.75	6	5	5	2	6	6	6	6	5	
28	28	Teacher	99	99.00	99.00	6	6	6	2	6	6	6	6	6	
29	29	Teacher	99	99.00	1.25	6	6	5	5	6	6	6	6	5	
30	30	Teacher	99	99.00	30.00	5	5	5	4	5	5	5	5	4	
31	31	Teacher	99	99.00	.25	6	6	5	5	6	6	6	6	6	
32	32	Teacher	99	99.00	.58	6	5	5	3	6	6	6	6	5	
33	33	Teacher	99	99.00	6.25	5	4	6	5	5	5	6	6	5	
34	34	Teacher	99	99.00	3.17	6	6	6	3	6	6	6	6	5	
35	35	Teacher	99	99.00	5.25	6	6	4	3	6	6	6	5	5	
36	36	Teacher	99	99.00	1.17	6	6	6	2	6	6	6	6	6	
37	37	Teacher	99	99.00	3.58	5	5	4	4	5	5	5	5	5	
38	38	Student	Chinese	14.75	99.00	6	6	6	5	6	5	6	6	6	
39	39	Student	Chinese	15.08	99.00	5	5	4	6	5	5	5	5	4	
40	40	Student	Chinese	15.17	99.00	6	6	6	5	6	6	6	6	6	
41	41	Student	Chinese	15.00	99.00	6	5	5	5	6	5	6	6	6	
42	42	Student	Chinese	14.67	99.00	5	6	6	5	5	6	6	6	6	
43	43	Student	Indian	14.33	99.00	6	5	5	4	6	6	6	6	3	
44	44	Student	Chinese	14.42	99.00	6	5	6	5	5	6	5	6	4	
45	45	Student	Chinese	14.75	99.00	6	6	5	4	4	4	5	6	4	
46	46	Student	Chinese	14.92	99.00	4	4	4	4	4	4	4	4	5	
47	47	Student	Chinese	14.33	99.00	6	6	6	6	6	4	6	6	6	
48	48	Student	Chinese	14 50	99.00	6	6	6	5	6	6	6	5	3	7
Data View	Variable View	F	ield,	, 200)9 ar	nd G	eorg	ge &	: Ma	aller	y, 20	09.			

ABS

🖻 💪 🔜 🚺

PASW Statistics Processor is ready

EN 🕐 🌷 😯 🛠 🎒 🛯 🏶 🔛 🐨 🛍 🖓 🌜 10:18 PM

👔 Statistical Analysis f... 🍯 CorelDRAW 10 - [Gr...

Results – Cronbach's Alpha

• Cronbach's Alpha can be used to measure the internal consistency of a survey. In the case of this research, do the sub-scales within each domain measure the same thing? $\alpha > .9$ is excellent $\alpha > .8$ is good $\alpha > .7$ is acceptable $\alpha > .6$ is questionable $\alpha > .5$ is poor α < .5 is unacceptable (George and Mallery, 2009, p.231)

Results – Cronbach's Alpha

- Likert Scale Survey for Teachers:
- \rightarrow Classroom Management and Leadership = .785
- \rightarrow Intelligence and Thinking Skills = .686
- \rightarrow Moral and Ethical Qualities = .828
- \rightarrow Personality and Socio-emotional Qualities = .809
- Likert Scale Survey for Students:
- \rightarrow Classroom Management and Leadership = .776
- \rightarrow Intelligence and Thinking Skills = .810
- \rightarrow Moral and Ethical Qualities = .854
- \rightarrow Personality and Socio-emotional Qualities = .858

File Edit View Data Transform Insert Format Analyze Graphs Utilities Add-ons Window Help

+ - 0 0 1 1 0 0

+ T-Test

🖻 💪 🔜 🚺

👔 Output for ...

👩 Microsoft ...

🖻 📒 Output

[DataSet1] C:\Users\Chris Slatter\Desktop\MMM800\Assignment for MMM800\Data Analysis for MMM800\Statistical Analysis for MMM800\

🚼 t Test for M... 🧉 CorelDRA...

F

or oup statistics											
	Teacher or Student	N	Mean	Std. Deviation	Std. Error Mean						
Passion for Teaching	Teacher	42	5.52	.594	.092						
	Student	300	5.22	.710	.041						
Honest	Teacher	42	5.33	.754	.116						
	Student	300	5.11	.822	.047						
Knowledgeable	Teacher	42	5.38	.697	.108						
	Student	300	5.41	.645	.037						
Responds to Questions	Teacher	42	3.24	1.226	.189						
	Student	300	4.96	.807	.047						
Teacher Respects	Teacher	42	5.26	.857	.132						
Sludenis	Student	300	5.30	.672	.039						
Professional	Teacher	42	5.45	.633	.098						
	Student	300	5.24	.699	.040						
Builds Relationships	Teacher	42	5.55	.550	.085						
	Student	300	5.10	.793	.046						
Clear Instruction	Teacher	42	5.50	.595	.092						
	Student	300	5.34	.734	.042						
Humorous	Teacher	42	4.86	.783	.121						
	Student	300	5.24	.812	.047						
Challenges Students	Teacher	42	5.62	.539	.083						
	Student	300	5.16	.732	.042						

🔄 Outline of ... 🚺 Untitled1 [...

Group Statistics

=

PASW Statistics Processor is ready

EN 📀 🚆

💐 🖎 🚮 🔜 🕸 🤣 🐼 🛒 👘 🙀 🌜 11:26 AM

1

File Edit View Data Transform Insert Format Analyze Graphs Utilities Add-ons Window Help



_ 0 <u>X</u>

utput		Independent Samples Test												
Elog T-Test					Levene's Test Varia	for Equality of nces				t-test for Equality	of Means			
Notes				ľ								95% Confidenci Differi		
Group Statistics					F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower		
ndependent Samples Test	Pas	ssion for Teaching	Equal variances assumed		.140	.708	2.673	340	.008	.307	.115	.081		
			Equal variances not assumed	t			3.058	58.731	.003	.307	.100	.106		
	Hor	nest	Equal variances assumed		.054	.817	1.640	340	.102	.220	.134	044		
			Equal variances not assumed	t			1.750	55.561	.086	.220	.126	032		
	Kno	owledgeable	Equal variances assumed		.992	.320	240	340	.811	026	.107	237		
			Equal variances not assumed	t			226	51.326	.822	026	.114	254		
	Res	sponds to Question	s Equal variances assumed		21.268	.000	-12.063	340	.000	-1.725	.143	-2.007		
			Equal variances not assumed	t			-8.856	46.099	.000	-1.725	.195	-2.117		
	Tea Stu	acher Respects dents	Equal variances assumed		5.090	.025	332	340	.740	038	.115	264		
			Equal variances not assumed	t			276	48.310	.783	038	.138	315		
	Pro	fessional	Equal variances assumed		.003	.953	1.893	340	.059	.216	.114	008		
			Equal variances not assumed	t			2.042	56.004	.046	.216	.106	.004		
	Bui	lds Relationships	Equal variances assumed		.835	.361	3.514	340	.001	.444	.126	.196		
4	4		Equal variances not	t			4.608	67.513	.000	.444	.096	.252		
									PASW Statis	tics Processor is I	ready	H: 2073, W: 1130 pt		
		Jutput1 (Docu	📅 Survey Data Ana	🔡 t Test	for Means	👔 Output for Like	er 🧉 (CorelDRAW 1	0 🗮 EN (2 🕄 😯 🕺 🚺	1	10:20 PM		

Results – Means – Likert Scale Survey

Teachers

Challenges Students = 5.62Engages Students = 5.60Builds Relationships = 5.55Enthusiastic = 5.52Passion for Teaching = 5.52Clear Instruction = 5.50Professional = 5.45Knowledgeable = 5.38Tolerant of New Ideas = 5.36Honest = 5.33

Students

Students Respect Teacher = 5.51Engages Students = 5.42Knowledgeable = 5.41Enthusiastic = 5.38Approachable = 5.37Responsible = 5.36Clear Instruction = 5.34Teacher Respects Student = 5.30Cheerful = 5.30Patient = 5.28

Strongly Disagree = 1 Strongly Agree = 6

Results – Means – Ipsative Comparison

Teachers

Clear Instruction = 1.50Challenge Students = 1.52Passion for Teaching = 1.64Tolerant of New Ideas = 1.67Responsible = 1.74Engages Students = 1.76Knowledgeable = 1.79Enthusiastic = 1.79Manages Classroom = 1.81Role Model = 2.36

Students

Clear Instruction = 1.72Passion for Teaching = 1.86Engages Students = 1.88Knowledgeable = 1.89Tolerant of New Ideas = 1.92Humorous = 2.01Enthusiastic = 2.10Students Respect Teacher = 2.11Intelligent = 2.26Cheerful Personality = 2.26

High Ranking / Popular = 1 Low Ranking / Unpopular = 4

Results Bar Graphs Likert Scale Survey



Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Classroom Management and Leadership" Domain (Survey)

Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores within the "Classroom Management and Leadership" Domain (Survey)





Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Intelligence and Thinking Skills" Domain (Survey)

Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores within the "Intelligence and Thinking Skills" Domain (Survey)





Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the ''Moral and Ethical Qualities'' Domain (Survey)

Teacher or Student 6.0-Teacher Two Tailed t Test for Means (Independent Samples) Student 5.0p < .054.0-Mean **Question:** 20 5.04 3.0-4.76 2.0-1.0 Moral Values

Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores within the "Moral and Ethical Qualities" Domain (Survey)



Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Personality and Socio-emotional Qualities" Domain (Survey)

Bar Graph to Compare Statistically Significant Teachers' and Students' Mean Scores within the "Personality and Socio-emotional Qualities" Domain (Survey)





Bar Graph Comparing Teachers' and Students' Mean Scores in Each of the Four Domains (Survey)


















Results Bar Graphs Ipsative Comparison



Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Classroom Management and Leadership" Domain (Ipsative Comparison - Revised Scale)



Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores on the "Classroom Management and Leadership" Domain (Ipsative Comparison - Revised Scale)



Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Intelligence and Thinking Skills" Domain (Ipsative Comparison - Revised Scale)

Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores on the "Intelligence and Thinking Skills" Domain (Ipsative Comparison - Revised Scale)





Bar Chart Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Moral and Ethical Qualities" Domain (Ipsative Comparison - Revised Scale)

Teacher Two Tailed t Test for Means (Independent Samples) or 3.5-Student *p* < .001 Teacher Student 3.0*p* < .001 *p* < .05 *p* < .001 Mean 2.5-3.26 2.0-2.64 2.48 2.48 2.43 2.17 2.07 1.5-1.76 Rositive Role Model 1.0 Fesponsible Ceacher spects Enpathetic

Bar Graph of Statistically Significant Teachers' and Students' Mean Scores on the ''Moral and Ethical Qualities'' Domain (Ipsative Comparison - Revised Scale)



Bar Graph Comparing Teachers' and Students' Mean Scores on the Different Sub-scales within the "Personality and Socio-emotional Qualities" Domain (Ipsative Comparison - Revised Scale)

Bar Graph Comparing Statistically Significant Teachers' and Students' Mean Scores on the "Personality and Socio-emotional Qualities" Domain (Ipsative Comparison - Revised Scale)



Bar Graph Comparing Teachers' and Students' Mean Scores in Each of the Four Domains (Ipsative Comparison - Revised Scale)















With Pride and Ardour Burning Wong Chor Yee (Class of '67)

2000

and the

100

Wangetraffic

*

STREET, STREET, ST

E MELIORIS

H

H

Conclusions

Implications

With Pride and Ardour Burning Wong Chor Yee (Class of '67)

Conclusions and Implications

• The research was successful in obtaining qualitative feedback from the students with regards to the qualities of their most effective teachers. Similarities were observed between the results obtained from this research when compared to the results obtained from similar types of research (Schulte & Slate, 2008).

• The qualitative data was used to construct a 30 item, six point Likert scale survey that had a "good" internal consistency as reflected by the values for Cronbach's Alpha. Conclusions and Implications Likert Scale Survey

Similarities:

Teacher 2nd Engages 2nd Student Teacher 4th Enthusiastic 4th Student Teacher 6th Clear Instruction 7th Student Teacher 8th Knowledgeable 3rd Student

Conclusions and Implications Likert Scale Survey

• There are statistically significant differences between certain teachers' and students' responses to the Likert scale survey.

 The most striking differences (difference in means > 1) exist between:
Responds to Questions p < .001.
(mean teachers = 3.24 mean students = 4.96) Cheerful Personality p < .001.
(mean teachers = 4.29 mean students = 5.30)

Conclusions and Implications Likert Scale Survey

• Statistically significant differences between domains exist:

Intelligence and Thinking Skills p < .001. (mean teachers = 4.86 mean students = 5.18) Personality and Socio-emotional Qualities p < 0.05. (mean teachers = 5.09 mean students = 5.26)

For both domains, students placed more importance on these qualities than the teachers!

Conclusions and Implications Ipsative Comparison

Similarities:

Teacher 1st Clear Instruction 1st Student Teacher 3rd Passion for Teaching 2nd Student Teacher 4th Tolerant of New Ideas 5th Student Teacher 6th Engages Students 3rd Student Teacher 7th Knowledgeable 4th Student Teacher 8th Enthusiastic 7th Student

Conclusions and Implications Ipsative Comparison

• There are statistically significant differences between certain teachers' and students' responses to the ipsative comparison.

 The most striking differences (difference in means > 1) exist between:
Challenges Students to Think p < .001.
(mean teachers = 3.48 mean students = 2.25) Approachable p < .001.
(mean teachers = 1.26 mean students = 2.70)

Conclusions and Implications Ipsative Comparison

- The results to the ipsative comparison show that high ability Singaporean secondary school students value teacher qualities in the Personality / Socio-effective Qualities domain over the other three domains Classroom Management and Leadership, Intelligence and Thinking Skills, Moral and Ethical Qualities. These differences are all statistically significant at the *p* < .01 level (most are significant at *p* < .001).
- This finding agrees with a similar study performed in America by Maddux *et al* (1985).

Conclusions and Implications Recognised Limitations

• Some differences between teachers' and students' perceptions may be due to pedagogy and "best practice" in gifted education. For example, whether or not a teacher answers their students' questions. Students may value a direct answer, while teachers may use critical thinking skills, such as Socratic Questioning, to elicit the answer from the class itself.

Conclusions and Implications Recognised Limitations

• Students value the moral and ethical domain least out of the four domains that were investigated. This does not necessarily mean that the students do not value their teachers as moral and ethical role models. However, it is possible that the students look more towards their family, friends and the media when searching for a moral compass to follow.
• From the results of the study, it would appear that teachers value classroom management over classroom leadership. This may be because the teachers want their high ability students to lead the classroom in thinking, questioning, discussion and debate - the teacher taking on the role of classroom manager to facilitate the student centred activities.

• It may be possible to train teachers to enhance their skills in the domains of Classroom Management and Leadership, Intelligence and Thinking Skills. But, is it possible for a teacher to enhance their qualities in the domains of Moral and Ethical Qualities, Personality and Socioemotional Qualities? Can an individual learn to be more cheerful or more approachable?

• The sample size for teachers (n = 42) was relatively small (these teachers were chosen due to their close interaction with the individuals in the student sample).

• Only female students were involved in the study (this is in alignment with the area of study and the research questions). The results cannot be generalised to high ability male secondary school students.

 Students from a relatively narrow age range were involved in the study (14 years and 10 months, standard deviation = 6 months). The results cannot be generalised to high ability primary school or junior college students.

• Issues associated with the collection and analysis of survey data:

→ How does each student interpret each question?
 → Ordinal data interpreted as interval data (a quasi-interval scale).

• This research does not explain the reasons for the statistically significant difference between the mean responses of teachers and students on certain sub-scales / domains.

• This research does not determine whether the identified teacher qualities are unique to teachers of high ability students.

Conclusions and Implications Suggested Future Studies

 Extend the research to include Secondary One, Two and Four girls from the same school. In what ways are their perspectives similar / different?

 Extend the research to include high ability
 Singaporean male secondary school students. In what ways are their perspectives similar / different to the females? **Conclusions and Implications Suggested Future Studies**

• Perform a longitudinal study to determine how students' preferences for certain teacher qualities change over time.

 Compare the perspectives of high ability students with those of ordinary students. This study would identify qualities that are unique to the teachers of high ability students. **Conclusions and Implications Suggested Future Studies**

 Conduct individual / focus group interviews with teachers and students to determine why statistically significant differences exist between mean responses of teachers and students on certain sub-scales / domains.

"Lead us to explore, encourage us to think differently."

"Students always look forward to, and enjoy, the effective teacher's lesson."

Class 305, Raffles Girls' School (Secondary), 2010.

References

- Cattell, R. B. (1944). Psychological measurement: Normative, ipsative, interactive. *Psychological Review*, *51*, 292-303.
- Creswell, J. W. (2009). Research design (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Cropley, A., & McLeod, J. (1986). Preparing teachers of the gifted. International Review of Education, 32(2), 125-136.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Gallagher, J. J. (2000). Unthinkable thoughts: Education of gifted students. *Gifted Child Quarterly*, 44(1), 5-12.
- George, D., & Mallery, P. (2009). SPSS for Windows step by step (9th ed.). Boston, MA: Allyn and Bacon.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Piscataway, NJ: Aldine Transaction.
- Maddux, C. D., Samples-Lachmann, I., & Cummings, R. E. (1985). Preferences of gifted students for selected teacher characteristics. *Gifted Child Quarterly*, 29(4), 160-163.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.

References

- Milgram, J. (1979). Perception of teacher behaviour in gifted and non-gifted children. Journal of Educational Psychology, 71(1), 125-128.
- Punch, K. F. (2003). Survey research: The basics. Thousand Oaks, CA: Sage Publications.
- Punch, K. F. (2009). *Introduction to research methods in education*. Thousand Oaks, CA: Sage Publications.
- Rea, L. M., & Parker, R. A. (2005). *Designing and conducting survey research: A comprehensive guide* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Robinson, A. (2008). Teacher characteristics. In J. A. Plucker, & C. M. Callahan (Eds.), *Critical issues and practices in gifted education* (pp. 669-680). Waco, TX: Prufrock Press.
- Robson, C. (2002). Real world research (2nd ed.). Malden, MA: Blackwell Publishing.
- Schulte, D. P., & Slate, J. R. (2008). Effective high school teachers: A mixed investigation. *International Journal of Educational Research*, 47, 351-361.
- Sternberg, R. J. (2000). Wisdom as a form of giftedness. *Gifted Child Quarterly*, 44(4), 252-260.
- Sternberg, R. J. (2010). Foreword. In B. Thompson, & R. F. Subotnik (Eds.), Methodologies for conducting research on giftedness (p. X). Washington, DC: American Psychological Association.



Stronge, J. H. (2007). *Qualities of effective teachers* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
Winner, E. (2000). Giftedness: Current theory and research. *Current Directions in Psychological Science*, 9(5), 153-156.

Thank you for your attention.

What questions do you have to ask?

Chew Meek Lin – RGS PeRL

meeklin.chew@rgs.edu.sg

• Chris Slatter – RGS PeRL

christopher.slatter@rgs.edu.sg