Montessori
Research
Australia

Montessori Keystones: 2023 Winter

Montessori said, *"What I want now is a body of colleagues, research workers, who will examine what I have already done, apply my principles as far as I have gone, not in a spirit of opposition or conviction, but as a matter of pure experiment."*

(Kramer, 1976, p. 262)

Australian Research Snapshots:

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ACARA via My School website & Sarah Beresford-Jones

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Contents

A spider web highlights how everything in Montessori interrelates and impacts on everything else.

Do Montessorians need to carry out research?

Montessori was keen on research yet Standing (1957) stated that "less than thirty per cent of her research have as yet found their way into print" (p. xix), although Montessori carried out a "continual stream of research… carried on during the rest of her life" (p. 64). Montessori's research "on the child's development in these earliest years have been published under the title of 'The Absorbent Mind' (p. 69). "For fully forty years, now in this country, now in that; in favourable circumstances or difficult; in peacetime or in war — ceaselessly, calmly, undeterred by calamities private or national—Dr. Montessori went on steadily with her research. There is no single person living who knows the extent of them. They have never been collected together in one place" (p. 67). Standing stated that "lavish care and expenditure, the long and patient scientific research has gone into the creation of this *new world* for the *new children*" (p. 186).

Kramer (1976) revealed Montessori carried out "anthropological research in the elementary school" (p. 94). Montessori "had discussed with McClure for establishing in America a training institute for research and teaching in her methods" (p. 172). She had "plans for establishing an international educational research institution" (p. 187). Montessori argued that her experiences, "far from being rigid, were logical conclusions corresponding to the application of an exact and positive method. The behaviour of the children, being uncontrolled by rigid research, gave new evidence, something living, which issued from my experiments as a spring of water gushes from a rock" (p. 305). When Montessori was almost 50 she said, *"I don't know what to do. There is so much of it, and nobody will ever collaborate. Either they accept what I say, and ask for more, or else they waste precious time in criticizing. What I want now is a body of colleagues, research workers, who will examine what I have already done, apply my principles as far as I have gone, not in a spirit of opposition or conviction, but as a matter of pure experiment. Then they can help me with constructive criticism, after, not before, the event. I have never yet had anyone-starting from my own previous body of knowledge-work shoulder to shoulder with me in a scientific independence. Now that doctors and psychologists are beginning to take an interest in normal children, perhaps some of them will help me. At present I am in a kind of isolation, which is the last thing I desire. Questo lavoro P troppo per una persone sola-sono troppo sola nel mondo"* (p. 262). Google translation – 'This job is too much for one person – I'm too alone in the world'.

Mario Montessori (1976) stated, *"Laboratory experimentation, however, has practical limitations. That is why ways are sought to retain the advantages of the experimental method in the systematic study of phenomena which cannot be studied in the laboratory. One of the most important ways of doing this is through field experiments, where field is a normal environment, e.g., a school. Even closer to everyday experience is so-called action-research in which a community (a school) cooperates with experts in research programme. These experts not only investigate existing conditions but seek to improve them. Such research therefore has a normative character. Another method of investigation outside of the laboratory is to make the observer or researcher a member of group under observation. However, making and recording observations, it should be remembered, is a very difficult task for most people. If teachers are required to do this, it is important to give considerable attention to such matters in the training… All the scientific methods described above are compatible with Montessori education"* (p. 42).

Need more inspiration to conduct Montessori research? "When she spoke of the child as the teacher rather than the taught, Montessori had in mind her own cognitive style as a researcher, which was to make intuitive conclusions from her observations" (Kramer, 1976, p. 365). When asked to sum up her educational philosophy, she did so in two words: "Attendere, osservando - watch and wait" (p. 365). Standing (1956) stated that "her research did, in fact, lead her in two directions: forward towards adolescence; and backward towards the newly born child" (p. 68). "The publication of certain research which he (Mario) and Dr. Montessori worked out together," (p. 72). Adding "scientifically tested plan of cosmic education… has already proved itself to be the only path on which our feet can firmly tread in further educational research" (p. 366).

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The benchmarks for acceptance of a study or article are twofold - has the research been conducted in Oceania and will the manuscript make a useful contribution to the knowledge base or understanding of the subject matter. Or perhaps you have not conducted a study but would like to do a Montessori book review. It need not be complete research, after all research is an incomplete, on-going project by its nature. The moral rights of the authors have been asserted. Montessori Keystones provides insights into ongoing Montessori trends, themes and developments impacting the global Montessori community. Maria Montessori considered herself a global citizen (Standing, 1967, p. 361). Montessori (1949) said, "in a word, contemporary people have citizenship in the great nation of humanity. It is absurd to believe that such people, endowed with powers superior to those of nature, should be Dutch or French or English or Italian. They are the new citizen of the new world - a citizen of the universe" (p. 25). Montessori stated that "To think and to wish is not enough. It is action which counts" (Montessori, 1913, p. 171). New Montessori researchers will be supported to conduct a Montessori Action Research Study which includes an abstract, introduction to their study, a literature review, ethical considerations, data collection through work and observations in the class and reflecting on the data gathered and findings they reveal. Or, if ready with projects, can submit their research to be peer reviewed and edited for possible inclusion.

Montessori Keystones needs your research contributions to take action that counts!

How you can contribute

Academic writing is the formal writing style used to write scholarly materials. There are many types of academic writing to present your work:

- Article layout: abstract, introduction, methods, results, discussion, and references
- Montessori Action Research Study layout: abstract, why do I need to research this issue, what others have said, ethical considerations, data collection, findings, changed my practice in x way.
- Book report/review: short summary of book, background info about author and topic, and an evaluation of the content.
- Conference paper: abstract, introduction, methods, results, discussion, conclusion, and acknowledgments.
- Essay: layout is generally main idea, evidence, conclusion.
- Literary criticism: comparison, analysis, interpretation/evaluation of works of literature.
- Synopsis of an experience/knowledge: introduction, main points, reflections, changed my practice

Helpful hints if you would like to write a little more clearly and academically.
Paragraphs: 150 to 200 words per paragraph (never below 50 words) │ Topic sentence — body (argument/detailed explanation) │ Tokens — evidence, examples, supporting main argument │ Final sentence — Sums up paragraph conclusion/signal implication of findings.
Sentences: Average of 20 words per sentence but with a variety of sentence lengths/structures │ Use active verbs with real subjects │ Keep the subject, verb, and object (SVO) close together and clearly linked │ Qualifying clauses placed at the beginning or end of sentences.
Does a paragraph or sentence do the BBC: *Build* your argument, advance readers' understanding, strike right tone │ *Blur* your argument, repeat material/waffle │ *Corrode* text, include irrelevant/wrong material.
Overall: Use a formal tone (no slang, cliches) │ Use precise language to convey meaning │ Use third person point of view/facts rather than give advice │ Research focus by answering a specific question │ Organise info logically in a linear fashion using headings │ Properly cite all sources/include reference section │ Stand back and ask — Is this text attractive, involving, varied and interesting.

✍ **Australian Research Snapshot** ✎

Some background information from the Australian Bureau of Statistics (ABS) (2023) reveals in 2022 there were 9,614 schools in Australia, of which Montessori schools comprised 0.32%. ABS found that the average student to teaching staff ratio for schools was 13.1 students to one teacher. They state that the annual growth rate for school enrolments was 0.3% (11,795 students) the lowest growth rate since 1995. Additionally, ABS categorised student enrolments by school affiliation from 2018 to 2022 (Table 1).

	2022	**2021**	**2020**	**2019**	**2018**
Independent	**641,318**	**620,781**	**599,226**	**584,262**	**569,930**
Government	2,605,826	2,622,755	2,629,143	2,594,830	2,558,169
Catholic	795,368	787,181	778,605	769,719	765,735
Total	4,042,512	4,030,717	4,006,974	3,948,811	3,893,834

Table 1: Australian student enrolments by school affiliation from 2018 to 2022

NAPLAN (National Assessment Program – Literacy and Numeracy) is the only national testing that all Australian children undertake from 8 to 9 years of age and provides data about student performance and knowledge in literacy and numeracy every two years until 14 to 15 years old. The test has been conducted each year since 2008, and results are available for parents, educators, and principals. Since 2010 results have been available publicly on the My School website at an individual school level. Examples of NAPLAN questions are provided at end of this article. The results for each school very much depends on the cohort of students sitting the tests that particular year.

Montessori (1946/2012) said, "you must not bother with tests, all you need to do is observe and study children from nature… watch what a child does when they are following their natural urges" (p. 40). There is a myriad of reasons for not testing children as tests are an incomplete measure of learning, but it must be acknowledged that every Montessori school (31 in Australia) participates in NAPLAN testing. Therefore, it is imperative that the information gained from children going through the process MUST be utilised by every school to enhance that child's progression. This standardised test could be viewed as providing a useful benchmark and evaluative tool.

Two recent research studies have supported the statement that it does not matter whether you attend a public or private school as NAPLAN results are at similar levels. Both studies came to the

same basic conclusion but used different approaches. Larsen, Little and Coventry (2021) from the University of New England, reviewed 1500 student's years 3, 5, 7 and 9 NAPLAN results from both private and public schools. The data concluded that the average achievement in primary school highlighted there was no marked differences for the students. One exception was year 5 students in public school did perform in numeracy slightly better. In addition, Goss & Emslie (2018) analysis discovered that the school attended by a student had little impact on NAPLAN results.

A study (Beresford-Jones, 2016) was undertaken to analyse all the NAPLAN results and information from one Montessori School (MS). An overview of Year 3 and 5 students from 2008 to 2016 revealed results that MS students obtained lower student outcomes than the national average in three of those years, but with an average of 34 points above the national average in the other five years. [MS 2022 results reveal an average of 21 points above]. The data gathered also clearly demonstrated where Montessori children need more explicit instruction (Table 2).

The researcher produced an analysis of each educator's class and each individual student to support each child's progress. Each class had a table illuminating the child's scores and a class table highlighted where that child needed assistance. Each child had their own test scores highlighted to go in their individual files in the class. Highlighted areas that children revealed in NAPLAN results that needed more clarification (in fact every child received 0% for paragraphs) for understanding were:

- Writing: character & setting, paragraphs, punctuation
- Reading: locating, interprets, inference
- Spelling: common words, grammar usage
- Numeracy: patterns, volume, mass, money and chance

Writing:	
Character & setting	3-6: story writing, 6-9: explicit lessons, 9-12: explicit lessons
Paragraphs	3-6: creative writing/letter writing, 6-9: explicit lessons, 9-12: explicit lessons
Punctuation	3-6: full stops, capital letters, speech marks, question marks, writing sentences, stories 6-9: explicit lessons, 9-12: explicit lessons
Reading:	
Locating	3-6: pre-reading & reading activities 6-9: discussions & research, 9-12: discussions & research
Interprets	3-6: pre-reading & reading activities 6-9: SRA's & explicit lessons on reviewing books 9-12: specific lessons on skills on main idea
Inference	3-6: : pre-reading & reading activities, research 6-9: explicit lessons, 9-12: explicit lessons
Spelling:	
Common words	3-6: action words, word building (moveable alphabet), high frequency words, phonetic word boxes, object boxes, 6-9: diagraph booklets, word study material, spelling lists & individual dictionaries 9-12: clause analysis, sentence analysis & specific lessons

Grammar usage	3-6: grammar games 6-9: lessons, grammar box, sentence analysis, class dictionaries 9-12: clause analysis, sentence analysis & specific lessons
Numeracy:	
Patterns	3-6: tessellations, square of Pythagoras, constructive triangles, odds/evens 6-9: simple material & command cards, 9-12: tessellations & geometry
Volume	3-6: cylinder blocks, pouring 6-9: material & command cards, 9-12: volume materials & command cards
Mass	3-6: golden beads 6-9: scales, material & command cards, 9-12: scales & command cards
Money	3-6: golden beads, money chart (recognising & adding) 6-9: money games material, 9-12: explicit lessons & various fundraisers
Chance	3-6: predictions before the results of experiments 6-9: coin work, 9-12: explicit lesson & command cards

Table 2: Montessori materials or explicit lessons required for child to reach their full potential in NAPLAN tests

Feedback was provided to the educators with ideas of which materials that may directly assist the child with aspects of the curriculum correlating with NAPLAN areas (Table 3).

6-9 class	Writing	Reading	Numeracy	Spelling Grammar
Child 1	**17/30** Character & setting Paragraphs	**24/37** Inference Question marks Conjunction & Pronoun Article & Verb	**22/36** Multiplication Patterns Volume Fractions/decimals Place value	**8/24** **17/26** Bread, dry, teaspoon, corner, whales, growl, machine, stain, mouths, untied, biscuits, sensible. Use of exclamation & quotation marks
Child 2	**16/30** Character & setting Paragraphs Punctuation	**20/37** Identifying locating inference	**15/36** Tally marks Patterns Mass Map & graphs Fractions/decimals	**2/24** **10/26** Black, dry, teaspoon, corner, whales, nice, growl, machine, stain, mouths, untied, gentle, biscuits, sensible, supermarket, button, departments, limbs, probably, forest, splashes. Use of ALL grammar

Table 3: Some NAPLAN student analysis MS Year 3, 2016

The 2022 NAPLAN results for Montessori students (Table 4) will have been affected by the withdrawal of some students. This can be observed in the participating rates outlined in the table (Table 4). There are a variety of factors that can lead to a child withdrawing from the testing. Montessori educators would have discussions with parents and caregivers about the child's abilities and well-being as top priority. A decision to withdraw a student is the responsibility of the student's parent/carer, and not the school.

In 2022 the 31 Montessori schools in Australia demonstrate that reading between 81-89% of schools score above national average in all year levels. Writing has its highest levels in Year 3 and Year 5. Spelling's highest levels are in Year 7 and Year 3. Grammar highest levels are in Year 5 and Year 3. Finally, numeracy highest levels are in Year 5 and Year 7 (Table 4).

	School/State	Reading	Writing	Spelling	Grammar	Numeracy	# sat test
	NATIONAL AVERAGE Y3	**438**	**422**	**418**	**433**	**400**	**95%**
1	CMS/ACT	469	426	436	447	440	89%
2	BMS/QLD	467	414	424	449	404	87%
3	CMS/QLD	473	386	407	483	424	98%
4	MIC/QLD	461	425	408	427	385	91%
5	MN/QLD	381	395	373	341	376	82%
6	SM/SA	472	453	443	487	421	98%
7	HM/SA	458	407	394	434	384	81%
8	BGM/WA	494	452	479	484	454	100%
9	CMM/WA	450	413	441	437	392	83%
10	CM/WA	554	497	474	528	498	100%
11	MRM/WA	469	436	431	443	410	93%
12	PM/WA	382	387	422	408	349	95%
13	RM/WA	454	418	425	464	415	96%
14	BMS/WA	493	436	442	450	448	84%
15	MS/WA	406	416	389	402	378	98%
16	TMS/WA	479	437	466	434	405	95%
17	BMS/VIC	477	429	432	453	419	78%
18	GMS/VIC	394	368	354	369	352	79%
19	MMS/VIC	495	441	447	509	437	86%
20	NEM/VIC	464	435	463	400	372	100%
21	BMS/NSW	428	404	379	418	354	81%
22	EMS/NSW	480	453	448	479	453	97%
23	FaMS/NSW	446	389	427	457	413	86%
24	FoMS/NSW	492	379	478	523	413	58%
25	ISMS/NSW	512	467	471	500	424	95%
26	ME/NSW	539	490	467	526	473	92%
27	NMS/NSW	517	415	475	503	494	88%
28	SyMS/NSW	419	428	403	416	388	86%
29	CMS/NSW	504	436	452	464	444	80%
30	TMS/NSW	444	438	429	468	393	90%
	Above Av for Montessori Y3	**81%**	**58%**	**74%**	**78%**	**65%**	
	NATIONAL AVERAGE Y5	**510**	**484**	**505**	**499**	**488**	
1	CMS/ACT	566	441	550	510	510	

2	BMS/QLD	535	460	516	537	505	
3	CMS/QLD	555	514	551	566	510	
4	MIC/QLD	528	428	475	477	463	
5	MN/QLD	530	473	481	546	-----	
6	SM/SA	553	527	529	560	521	
7	HM/SA	552	522	534	522	518	
8	BGM/WA	547	504	513	526	519	
9	CM/WA	586	550	563	535	546	
10	MRM/WA	508	440	480	467	475	
11	PM/WA	526	449	476	489	450	
12	RM/WA	520	464	468	501	478	
13	BMS/WA	574	481	474	552	530	
14	MS/WA	551	485	502	525	486	
15	TMS/WA	495	460	461	472	490	
16	BMS/VIC	541	486	453	511	471	
17	GMS/VIC	538	314	465	505	482	
18	MMS/VIC	573	521	532	539	533	
19	NEM/VIC	548	479	511	521	502	
20	BMS/NSW	555	417	494	505	500	
21	EMS/NSW	587	519	563	547	520	
22	FoMS/NSW	611	457	534	550	543	
23	ISMS/NSW	575	529	549	550	523	
24	ME/NSW	565	529	554	585	540	
25	NMS/NSW	562	502	559	581	540	
26	SMS/NSW	492	421	479	550	472	100%
27	SyMS/NSW	523	478	505	514	480	
	Above Av for Montessori Y5	**89%**	**48%**	**56%**	**100%**	**100%**	
	NATIONAL AVERAGE Y7	**543**	**530**	**547**	**533**	**546**	
1	MIC/QLD	569	517	532	549	562	
2	SM/SA	588	570	572	574	577	
3	HM/SA	572	522	556	541	549	
4	PM/WA	567	514	599	514	534	
5	RM/WA	495	463	478	484	458	
6	BMS/WA	603	582	596	576	625	
7	MS/WA	580	540	582	582	579	
8	TMS/WA	550	516	545	552	532	
9	GMS/VIC	528	477	549	477	546	
10	MMS/VIC	595	565	574	574	524	

#							
11	SyMS/NSW	613	445	584	587	588	
	Above Av for Montessori Y7	**82%**	**36%**	**82%**	**72%**	**72%**	
	NATIONAL AVERAGE Y9	**578**	**560**	**577**	**573**	**584**	
1	MIC/QLD	586	538	571	548	568	
2	SM/SA	624	601	597	635	625	
3	HM/SA	593	610	591	601	592	
4	RM/WA	568	581	550	546	555	
5	TMS/WA	590	540	580	576	586	
6	MMS/VIC	596	537	534	572	586	
7	EMS/NSW	591	507	550	565	568	
	Above Av for Montessori Y9	**85%**	**43%**	**43%**	**57%**	**57%**	

Table 4: Australian Montessori schools 2022 NAPLAN results compared with national average.

Montessori schools 2022 NAPLAN results highlight where Montessori schools are above the national average (Table 5).

# Montessori schools above national average	Reading	Writing	Spelling	Grammar	Numeracy
31 / Y3	81%	58%	74%	78%	65%
27 / Y 5	89%	48%	56%	100%	100%
11 / Y7	82%	36%	82%	72%	72%
7 / Y9	85%	43%	43%	57%	57%

Table 5: Australian Montessori schools 2022 NAPLAN results highlighting where they are above the national average.

Year 3 example questions 2016
from [acara.edu.au/assessment/naplan/naplan-2012-2016-test-papers]

Numeracy: Paul has 6 ten-cent coins in his hands. How much money does Paul have in his hands? *Choice:* 33 cents 16 cents 60 cents 50 cents

Writing: Imagine if a character found an object that made something amazing happen. Write a narrative (story) about the adventure. You can use characters and objects on this page OR you can make up your own. Think about: characters/where they are; complication or problem to be solved; how story will end. Remember to: plan your story before you start; choose your words carefully; write in sentences; pay attention to your spelling, punctuation and paragraphs; check and edit your writing.

Reading: Read Boots the cat on page 2 of the magazine and answer questions 1 to 6.
1. What colour is the cat's ball? *Choice:* green white orange black.
2. What does Boots have a lot of? *Choice:* boxes cats carrots toys.

Spelling: The spelling mistake in this sentence has been bolded. Write the correct spelling of the circled word in the box. I go to school on a **buss**.
Which word completes this sentence correctly? I like going ___ the city. *Choice:* as so to of

Grammar: Which word in this sentence is a noun? The playground is noisy.

At the time of Montessori Keystones being published (August 2023) the 2023 NAPLAN results have been released to individual families and schools, but only general information has been released to date. Duffy and Young (2023) found that about a third of Indigenous students 'need additional support'; overall ten per cent of students need additional support; average NAPLAN scores for all year levels and all domains for students from the highest socio-educational background were substantially above those from the lowest; half as many students in very remote schools were rated as 'strong' or 'exceeding' in any domain or year level (30%) compared to those in major city schools (60%). One in three school students throughout Australia are not meeting minimum numeracy and literacy expectations.

The 2023 NAPLAN results have been assessed under a new set of criteria against four levels of proficiency based on previous years of schooling: 'exceeding', 'strong', 'developing' and 'needs additional support'. It is revealed that approximately 65% of students fell into the 'exceeding' and 'strong' categories, 23% were in the 'developing' and 10% 'needs additional support'.

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NAPLAN to stop reporting students' progress
(Geoff Masters, 2023)

Geoff Masters, Chief Executive of the Australian Council for Educational Research wrote in Teachers Magazine (May 2023) about NAPLAN. Below is some of his article.

Occasionally, governments make bewildering decisions. An example is the recent decision of education ministers to stop providing teachers and parents with information about a student's progress in literacy and numeracy through the years of school. Under this decision, key stakeholders will no longer be able to use NAPLAN to track a student's growth in these crucial areas of learning from year 3 to year 9, or to evaluate the adequacy of that growth.

To understand what has been decided, consider a student who made steady progress in reading from year 3 to year 9. In year 3 they had a NAPLAN reading score of 355, placing them in reading band 3. By year 9, they had a score of 505, placing them in reading band 6:

	Student's Score	Current Report	Future Report
Year 9	505	band 6	developing
Year 7	465	band 5	developing
Year 5	415	band 4	developing
Year 3	355	band 3	developing

Under the ministerial decision, progress through the NAPLAN bands will no longer be reported. Instead, the teacher and parent/s of this particular student will simply be told at each year level that their reading is 'developing'. The explanation for this change, given by an ACARA spokesperson, is that parents found bands 'confusing'.

The original designers of NAPLAN saw value in teachers and parents being able to monitor a student's long-term reading development. They broke with the tradition of using assessments simply to grade students on each year-level curriculum, recognising that grades are incapable of providing information about progress over time.

The recent decision turns back the clock to year-specific grades – not labelled A to E, but Exceeding, Strong, Developing, and Needs Additional Support.

Another perceived advantage of NAPLAN bands was that they would provide a basis for communicating and illustrating the nature of progress in key aspects of literacy and numeracy. For example, it would be possible to describe and provide examples of band 4 reading skills and of the kinds of texts that students at that level of reading development were likely to be able to read and understand. Bands would represent absolute levels of proficiency, independent of age or year level – a little like Australian Music Examinations Board grades or levels of swimming proficiency.

ACARA never fully capitalised on this potential. If parents found bands 'confusing', perhaps it was because they were never adequately explained.

Instead, a parent who is now told that their child's reading is 'developing' in each of years 3, 5, 7 and 9 is never likely to know what that means; 'developing' will have a different meaning at each year level. And, given the lack of progress in explaining bands, it seems highly unlikely that ACARA will develop substantive explanations of its 16 new year-specific grades.

Fortunately, there are widely used assessment materials available to Australian schools that provide information about long-term student progress. These materials are designed not to grade students at each year level, but to establish and describe the points individuals have reached in their ongoing learning and development; to identify best next steps for teaching; and to monitor student growth across the years of school. Unfortunately, NAPLAN will no longer be one of these.

Find full article here: https://www.teachermagazine.com/au_en/articles/naplan-to-stop-reporting-students-progress

✄   Australian Research Snapshot   ✄

NAPLAN discourses: a systematic review after the first decade
Rose, J., Low-Choya, S., Singh, P., & Vascob, D. (2018).

Researchers recently reviewed NAPLAN's 10-year legacy and below are snippets from their research.

In 2018 NAPLAN (National Assessment Program – Literacy and Numeracy) reached a 10-year milestone. Introduced in 2008 by the Australian Curriculum, Assessment and Reporting Authority (ACARA), NAPLAN assesses student literacy and numeracy in Years 3, 5, 7 and 9. Launched by the Rudd/Gillard Labor government, the NAPLAN school reform initiative received bi-partisan political support from inception. Thus, as a signatory to the Melbourne Declaration on the Educational Goals for Young Australia, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) committed to promote an international standard of curriculum and testing by collecting 'good quality' data that would be 'world class' to meet accountability goals (MCEETYA, 2008).

The main design aim of NAPLAN is to provide standardised and hence comparable measures of student achievement in English literacy (with four main tests: reading, writing, spelling, grammar /punctuation) and in numeracy (with one test covering algebra, geometry, measurement, and problem solving) (ACARA, 2011). Standardisation allows the students in a particular year to be compared with other years (Marks, 2015, p. 128).

The dominant discussions unite around 'datafication', 'social justice', 'affect and emotion', and 'accountability and performativity'. Large-scale standardised testing is reconstituting the purposes of education, the professionalism, and professional identities of educators, and affecting parents and students' engagement in schooling.

NAPLAN can be conceived as an Australian manifestation of an international trend to institute national testing. As noted by Sahlberg (2006), the Global Education Reform Movement (GERM), has included centralised proscription of assessment as well as the attendant curriculum; central monitoring of assessment; and competitive reporting about school performance.

The 'utopian' promise is that measurement of learning through standardised testing at different scalar levels (national and international) 'will help to improve efficiency and quality (for example system, school, teacher and student performance) and that more and better data will give

insights into the often-opaque world of the classroom' (Lingard, Thompson & Sellar, 2016, p. 1). In turn, this stance is driving change globally so that the 'purposes of education are now narrowly conceived as the production of a certain quantity and quality of human capital … leading to the "economisation" of education policy' (p. 1).

The researchers concluded:

- NAPLAN's approach to national educational testing is at once subject to international trends whilst remaining highly specific to the Australian context.
- New questions and discussions regarding NAPLAN's meaning and adequacy of comparisons and ranking among students, and indeed schools, continue to emerge.
- Challenges of adaptive testing have brought forth fresh concerns in regard to validity / reliability of data generated (Ladwig, 2018) and renewed consideration of assessment alternatives (Gonski, Arcus, Boston, Gould, Johnson, O'Brien, & Roberts 2018)
- Of concern is that this move to online testing will be accompanied by intensified performativity and accountability pressures.

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Full report can be found at: https://doi.org/10.1080/01596306.2018.1557111

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✂ Australian Research Snapshot ✂
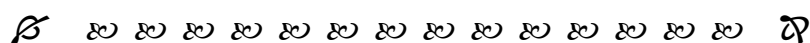
Writing development: what does a decade of NAPLAN data reveal?
Jackson, C., Lu, L., Knapp, P., & Yin Wan, W. (2022).

Australian Education Research Organisation researchers analysed more than 10 million NAPLAN writing results, spanning 2011 to 2021, and 366 samples of students' NAPLAN writing. Below is some of their findings.

In 2022 the Australian Education Research Organisation (AERO) analysed student NAPLAN writing data, the most extensive investigation in this area ever conducted. This report primarily focuses on analyses of students' Persuasive writing from 2011 to 2018 (excluding 2016) and found:

- Student achievement in Persuasive writing skills has declined since 2011 with average (mean) scores for Persuasive writing declining with the trend more pronounced in Years 7 and 9. Those at risk of falling behind has increased by 6%.
- The writing performance of high-achieving students in Persuasive writing performance has declined for all criteria except Spelling, Years 5, 7 and 9 students who achieve a high score has decreased from 21% in 2011 to 9% in 2018 (Year 9 sentence structure results).
- The gap between low- and high-achieving students has widened across learning stages as students progressed from primary to secondary.
- There is misalignment between expected performance standards in curriculum documents and actual student achievements. Students are struggling to write engagingly or clearly organise and articulate an argument supported by reasoning and evidence.

Overview of results of individual criteria findings

Sentence structure: students generally do not have control over a range of different sentence structures, which affects their ability to express meaning with precision.

Punctuation: many students are applying punctuation to their writing at a Year 3 level.

Spelling: many students were able to demonstrate the ability to spell difficult words consistently.

Vocabulary: many students indicated the ability to write 4 or more precise words or word groups, although the majority are unable to sustain the consistent use of precise words and word groups to enhance meaning.

Paragraphing: over half of students indicate the ability to focus on one idea or set of like ideas and demonstrate some logic in the text.

Audience: over one-third of students achieved a score indicating that they have not developed a broad understanding of how to support, engage and persuade the reader through writing.

Text structure: many students find it challenging to demonstrate their control over text

structure and an ability to clearly articulate a position with reasons, supported by evidence and a reinforced conclusion.

Ideas: many students writing demonstrated some elaboration and development of ideas, but those ideas are not generated, selected and crafted to be highly persuasive. Few students demonstrate growth in this skill over time.

Persuasive Devices: half of students used 3 or more instances of Persuasive Devices in their writing, although Year 9 students results indicate that effective use of Persuasive Devices is not sustained through their writing.

Cohesion: Most students demonstrate some correct links between sentences and some control of cohesion in their writing, although results suggest there is minimal progression occurring.

Online and paper assessments produce different results, when writing on a computer:

- Students' punctuation was worse.
- Better at using paragraphs.

Implications for students:

- Writing well is a crucial skill for achieving success during the final years of school across all subjects, and in working life. Requires effective, evidence-based and explicit teaching.

Implications for policymakers and teachers

- Increased focus on teaching and learning writing can help reverse the decline
- Existing syllabus and curriculum expect students to write at levels beyond what the data shows they can demonstrate.
- Investigating decline in performance of high-achieving students can help identify strategies to reverse this trend.
- Examining differences in performance between online and paper tests will provide valuable teaching and assessment information.
- Providing targeted and intensive support for low-achieving students can stop them from falling further behind on their learning trajectories.

To cite this research: Jackson, C., Lu, L., Knapp, P., & Yin Wan, W. (2022). Writing development: what does a decade of NAPLAN data reveal? Australian Education Research Organisation. [contributions from Groves, O., Lee, E., De Silva, L., & McCormick, M.]

Full summary of report can be found at: https://www.edresearch.edu.au/sites/default/files/2022-10/writing-development-summary-aa.pdf

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✑ Australian Research Snapshot ✒
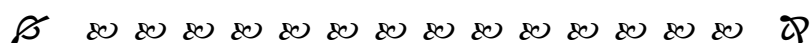
Australian students who are behind in primary school can catch up by high school
Larsen, S (June, 2023).

The research found that we have an advantage in Australia as our national NAPLAN tests are designed to track students' progress over time. Results on one test can be directly compared to the next or the previous one which is rare internationally, and very powerful for answering questions about development.

Larsen's research examined patterns growth in literacy and numeracy in two states. Looking at results of 88,958 New South Wales students (who were in Year 3 in 2012), and 65,984 students in Victoria (who were in Year 3 in 2011). They matched NAPLAN reading comprehension and numeracy results for each student from Year 3 through to Year 9. Larsen examined reading and numeracy, as these two skills form the basis of learning in many other areas of the curriculum.

The study found that students starting with below average NAPLAN results are making more progress from Year 3 to Year 9 compared with students starting above average. This compensatory growth pattern was seen in both reading and numeracy but was particularly strong in reading. The study stated that the fact struggling students can make good progress over time rather than falling further behind should be a cause for optimism among educators and the community.

The findings also indicated that the highest achieving students do not make as much growth in NAPLAN as their lower performing peers and are not making the amount of progress to Year 9 they are capable of.

Reference:

Larsen, S. (June 2023). *Australian students who are behind in primary school can catch up by high school*. The Conversation.

Full article can be found at: https://theconversation.com/our-research-shows-australian-students-who-are-behind-in-primary-school-can-catch-up-by-high-school-208364

✂ **Inspiration Place** ✂

The common sense of Montessori pedagogy
(Renilde Montessori, 2008)

> *"...year after year, decade after decade, the sane and sensible principles and practices of Montessori education have blossomed here and there, now and again - frequently partially, rarely totally - allowing a glimpse of their immense potential."*
> Renilde Montessori

Since the beginning Montessori pedagogy has been appropriated, interpreted, misinterpreted, exploited, propagated, torn to shreds and the shreds magnified into systems, reconstituted, used, abused, and disabused, gone into oblivion, and undergone multiple renaissances. Followers have lamented, detractors have vociferated.

Throughout all the furore, year after year, decade after decade, the sane and sensible principles and practices of Montessori education have blossomed here and there, now and again - frequently partially, rarely totally - allowing a glimpse of their immense potential. Mostly, their vitality has remained dormant as wheat in the pyramids, ready to germinate in fertile ground when the time is ripe, when the moment arrives that humanity as a whole, and not in isolated pockets, becomes adequate to perceive the wholesomeness and common sense which underlies Montessori education as an aid to life.

"Help me to do it by myself" is not a marketing slogan, it is a phrase well-known amongst Montessori teachers and parents. Another phrase, equally significant, is voiced by students in Montessori training courses as they listen to the theory lectures and as they work with the materials and little by little enlightenment dawns: "This is all pure common sense."

The underlying principles of Montessori pedagogy are rooted in the common essence of our species. Maria Montessori was a scientist and as such a master in the art of observation. Observation is a cyclical phenomenon. Interest, contemplation, study, knowledge, understanding - ergo, awareness. Each point of awareness reached awakens new dimensions of interest and the cycle is repeated. The premise for interest to be awakened in the first place is that vital energy called love.

In Education and Peace Dr. Montessori writes:
"*The child has given us striking revelations of different kinds of love, all of them directly related to work. Most of us experience the kind of love that causes us to be deeply attached to*

others; but this is a passing love. There is ample reason, however, to believe that the human spirit is inherently capable of another kind of love that is not transitory, that does not change, that does not die.

This love is the essential fire in humans, without which they cannot live. It is not simply tender affection. I assure you that I have seen this love; I have been amazed by it; I have called it 'love for one's environment'.

The love of one's environment is the secret of all man's progress and the secret of social evolution.

Love spurs man to learn. It leads to intimate contact between the thing that is loved and the human spirit, which in turn leads to production. Labour, life, and normal human development result. Love leads human beings to study things.

Love is the instinct that guides our actions."

Truth and reality are the essence of Montessori pedagogy, the common sense necessary for education to indeed be an aid to life.

The common sense of Montessori pedagogy springs from a scientifically inseparable trinity - love, perception, and awareness.

Some of the concepts in Montessori pedagogy that best illustrate this common sense. The primary one is the Prepared Environment. Every living thing can only thrive in an environment which responds to its vital exigencies. Children come into the world with unlimited potential for delight and immediately commence the awe-inspiring task of self-construction. The prime matter for this great work they find in their environment. Therefore, common sense dictates that from the moment of conception environments have to be provided for every stage of the child's development, responding to the physical, intellectual and spiritual characteristics appropriate to each.

Further environments will be more or less appropriate depending on the adequacy of parents and educators to perceive and be enchanted by the phenomena typical of each plane of development, on the companionableness between the adults in charge and the children in their care. In our schools, the environments are clearly delineated and prepared for each stage of development. Montessori once said, "If we have done nothing else, we have at least introduced mixed age groups in our classrooms". And it is indeed an outstanding example of common sense. Beyond the more obvious reasons why it is sensible to group the ages three by three years, such as "the little ones learn from the older children

and the older ones learn by teaching the younger", "every child can work at their own pace and rhythm eliminating the bane of competition" there is the matter of order and discipline easily maintained even in very large classes with only one adult in charge. This is due to the sophisticated balance between liberty and discipline prevalent in Montessori classrooms, established at the very inception of a class. Children who have acquired the fine art of working freely in a structured environment, joyfully assume responsibility for upholding this structure, contributing to the cohesion of their social unit. Tenderness, compassion, and respect for each other's work flourish in a mixed age group, delight in one another's achievements, particularly in classes where children with difficulties are admitted.

Another consequence is the comfort of remaining in one environment throughout a cycle of development. There is a perspective both toward the future and toward the past. The young children see what work awaits them, the older ones can contemplate the path they have completed and by the time they have outgrown this first environment, before the restlessness sets in of confinement in a space become too small, they go on to become the younger ones again in an environment where they can explore new dimensions of what they have made their own.

If a three-to-six environment is furnished with enlightenment, the Practical Life area will be a place of beauty and, again, explicit common sense. The phrase "children learn through spontaneous, meaningful activity" is not merely a statement of fact, it contains an instruction for the choice of appropriate material. The very first consideration when creating Practical Life exercises is that they should have a clear and lucid, purpose. The beauty of the materials is not merely to attract the children's attention, it is a courteous response to their tendency to find beauty in all that surrounds them, a tendency which springs from the passionate love of the environment that is part of their human condition. The deliberate creation of beauty is a call to aesthetic awareness, which, to paraphrase Maria Montessori, goes hand in hand with moral awareness. Another kind of awareness is called forth by the fragility of the materials. The need for delicate handling is one of the many subtle means in the area of Practical Life that help the child to develop and strengthen their will.

In the Sensorial Materials there are again many silent and powerful teachers, introduced with elegance through the control of error inherent in the materials. There are obvious advantages to allowing the child to become aware of their mistakes and to be allowed to correct them without interference. The materials judge not, nor do they condemn. They do not praise, nor do they punish. They mutely demonstrate that any action has consequences. This raises errors to a level of benevolence.

The independence gained leads also to an awareness of one's solitude as beneficial rather than as a source of loneliness, and therefore evokes respect for the solitude of others. This makes possible an interdependent society based on the dignity of the individual rather than on the need to cling to others for security and support.

Another eminently sensible tenet in a Montessori environment is that everything within it, including the adults in charge, should be limited in scope and quantity. Adults are one trained person and perhaps one assistant are sufficient for a class of thirty-five to forty-three to six-year-old children. The reason for this ratio is precisely so that the teacher will not 'get at' all the children, who are therefore free from unsolicited help and can learn at their own pace and rhythm, in their own fashion. Benefits are that it allows the children to develop respect and courtesy towards others, and that if a child finds the material of their choice in use, they have other options.

The materials keys to the environment, to provide possibilities for work and exploration and no more. Once these possibilities are exhausted, the child is able to go forth into their world with a wealth of new awareness and capabilities. The simplicity and beauty of the purposes Maria Montessori gives for the Sensorial Materials are to be pondered: refinement of the senses, and classification of sense impressions. They become a scientist of their own experience.

Children are sensible creatures, who must of necessity follow the instruction of the most sensible of teachers - nature itself. Children are disposed from birth to follow nature's commands with joyful obedience.

The most sensible advice Maria Montessori gives is 'Follow the Child'. It will take many generations for humanity to understand the common sense of this injunction. When it does, and only then, humanity itself will begin to fulfil its potential.

About the author: Renilde Montessori (1929-2012) was the youngest granddaughter of Maria Montessori. She was deeply committed to the growth and development of AMI, the organisation that shares its birth year with her. Renilde inspired the Montessori movement to reconnect to its roots in San Lorenzo and be re-energised by the ideals of forming part of a true movement that advocates for all children, in any situation. This idea she coined "Educateurs sans Frontières", established in 2009. Renilde was a Montessori trainer, and led AMI from 1995-2004, first as General Secretary, then as President of the organisation.

Read the full article at: https://www.ami-canada.com/documents/CommonSense_AMICAN.pdf
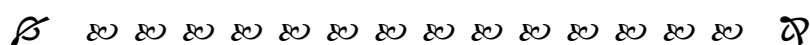
Montessori philosophy on leadership re-examined:
Data, findings, summary and framework for Montessori leadership [Final part #4]

By Sarah Beresford-Jones (2021)

[In fulfillment of sponsorship by Australian Government Research Training Program]

Keywords: *Montessori leadership, Montessori philosophy, quality, Montessori education*

Abstract

Maria Montessori's philosophy and education are over 100 years old. This thesis statement [segmented into 4 parts with this being the final one] explored the substance of Montessori's theory and how it has been embedded over time. In Australia, in 2021, there were in operation 264 Montessori settings affecting the potential of thousands of children (Australian Children's Education and Care Quality Authority (ACECQA, 2021), all guided by a variety of leadership styles, and having varied outcomes and successes. There is little empirical data-driven research has been completed in the Montessori leadership field and none within the Australian context.

The research highlighted what quality in Montessori education should look like, including *keystone* elements such as, Montessori trained and prepared educators and leaders; observations of the children in the classroom; multi-aged classes; uninterrupted work periods encouraging independence; specific developmentally designed materials supporting sensory learning and movement; individualised learning and following the child's interests through child directed work; partnership with parents and a prepared environment to remove obstacles from the child's development (Joosten, 1970; Lillard, 2005; Montessori, 1913/1965). These fundamental quality elements are underpinned by Montessori's theories of the human tendencies, the absorbent mind, planes of development and sensitive periods (Montessori, 1913/1965). Montessori was specific on what was required to open a Montessori School and it was completing the Montessori training (Standing, 1957).

Therefore, the study is a critical appraisal of Montessori's writings relevant to educational leadership, as well as an empirical study of leaders of Montessori settings who are influenced by, stakeholder's perspectives, Montessori organisations' advice, government legislation and requirements, and noticeably the leader's own perspective and experience. In addition, the study outlines some established educational leadership theories that may align with Montessori leadership themes, such as the need for altruism, humility, and patience. Moreover, understanding the importance of a leader's *individual intent*, which must include humility, patience, the rightness and wrongness of actions, fairness, tranquility, courage, patience, perseverance, altruism, curiosity,

creativity, love of learning, self-discipline, good manners, and respect. The outcome of the findings below has informed, expanded, and refined current and future Montessori leadership and quality in Montessori settings.

Participants in the study

The sampling process for the questionnaire utilised included a population of leaders and educators in Montessori settings in Australia. The main stakeholders of leaders were approached via email and were designated with forwarding the questionnaire onto educators in their setting. The sampling frame is drawn from ACECQA's list of 'Montessori' settings (ACECQA, 2021) to strike a balance between depth and breadth of data which will be manageable within the confines of the study. There were a very small proportion of participants the researcher has a pre-existing relationship with. To lessen this bias, therefore, all educators and leaders in all settings were included as participants and all identities were concealed from the researcher.

Through hearing from educators as well as the leader of the setting, a broader range of data was examined. The sample in this study was representative of the characteristics of the wider Montessori community and generalisability. Participants did not receive payment for their contribution however the participants knew they have contributed to informing Montessori research. The questionnaire was also posted on various Facebook Group sites, AtoI Professionals, 3-6 Montessori Group and 6-12 Alumni Group. In addition, an information form explaining the project was attached to the email to provide more information. The researcher when selecting cases for the study used two specific criteria. Firstly, the setting must be a named as a Montessori setting, and secondly, the setting was in Australia.

A pilot study had also been conducted (see //o.b5z.net/i/u/10252201/f/Montessori_Leadership_Study_2020__Beresford_Jones__S.pdf) to test the data collection and analysis protocol stated in this study. Alumni Montessorians assisted in testing the study process and design and helped in determining the projects feasibility. Furthermore, the pilot study gave the researcher an opportunity to practice and verify the instruments being utilised.

Data collection

The main type of data collected was scale measurements and narratives of stakeholder perspectives. Access to the data collected is limited to the researcher (questionnaire) and was unidentifiable. The questionnaire consisted of questions requesting participant information in addition

to the core questions to be answered. The questions were text entry (for participants to elaborate) and Likert scale. When writing questions for the study the aim was to keep the language simple, the questions short, avoiding double-barrelled or leading questions, and making sure that the questions mean the same to all participants (Robson, 2011). The questionnaire questions included collecting participant info on gender, age range, years of experience in Australia and educational background.

In the study the data analysis process identified how leadership is enacted in Montessori educational settings and what influences education quality. The participants were given two weeks to respond with a reminder email being sent at the end of the first week. The analysis searched for coding, patterns, consistent themes, and data reduction in the data collected. The process of locating key words and themes and developing a matrix clearly drew conclusions. The method of data analysis for the qualitative data followed Clarke & Braun's (2013) framework identifying the 'six phases of thematic analyses' for qualitative data patterns to be detected and analysed. Additionally, a data management plan was developed covering the areas of compliance, a description of the data and how data was gathered.

Findings

Over the three-week period the questionnaire was open to respondents, 10.3% participated in the study. A possible reason for the low participation rate is that it relied on the leader of each setting to forward the questionnaire to educators. No Montessori educators contact list existed in Australia at the time. The largest number of respondents had been in Montessori for either 20+ years or were new to Montessori with under five years of experience.

RESPONDENTS TIME IN MONTESSORI

- 0 to 5 years 34%
- 5 to 10 years 3%
- 10 to 20 years 24%
- 20+ years 39%
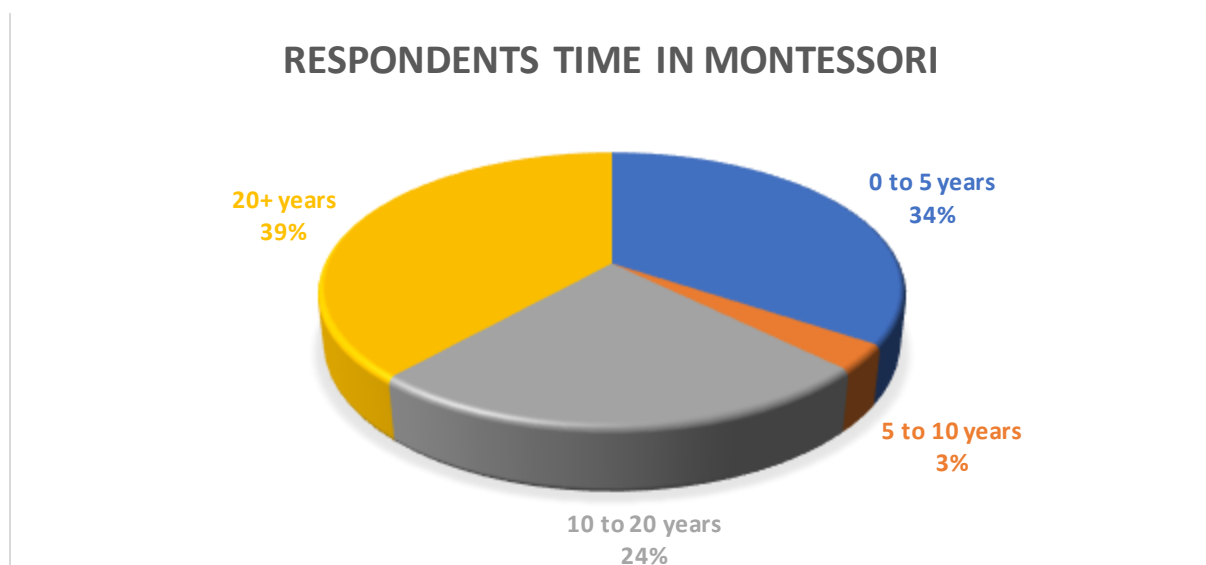
Figure 1: Participants experience in Montessori

The main age group that leaders were trained in was three to six (41%) with the next birth to three age group (24%).
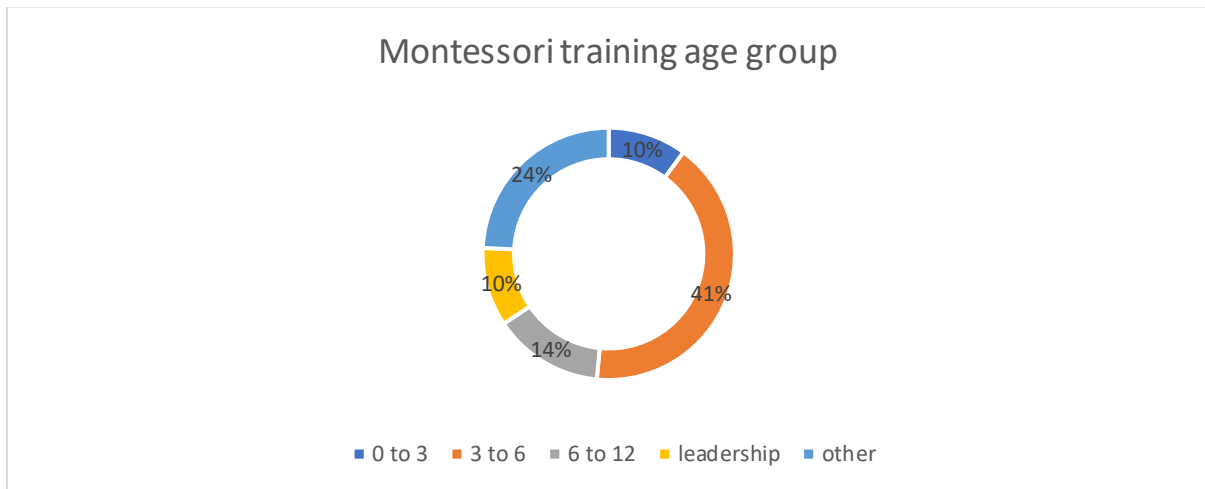

Figure 2: Participants Montessori qualifications

Participants held other qualifications including 67% of leaders holding a 'Master', trainers' 100%, coordinators/deputies' 28%. In addition, 44% of educators had gained a degree. Furthermore, 79% of respondents had previously been in a leadership position.

The study participants comprised of leaders, deputies, and coordinators (42%), educators (34%), trainers (7%) and consultants (7%).
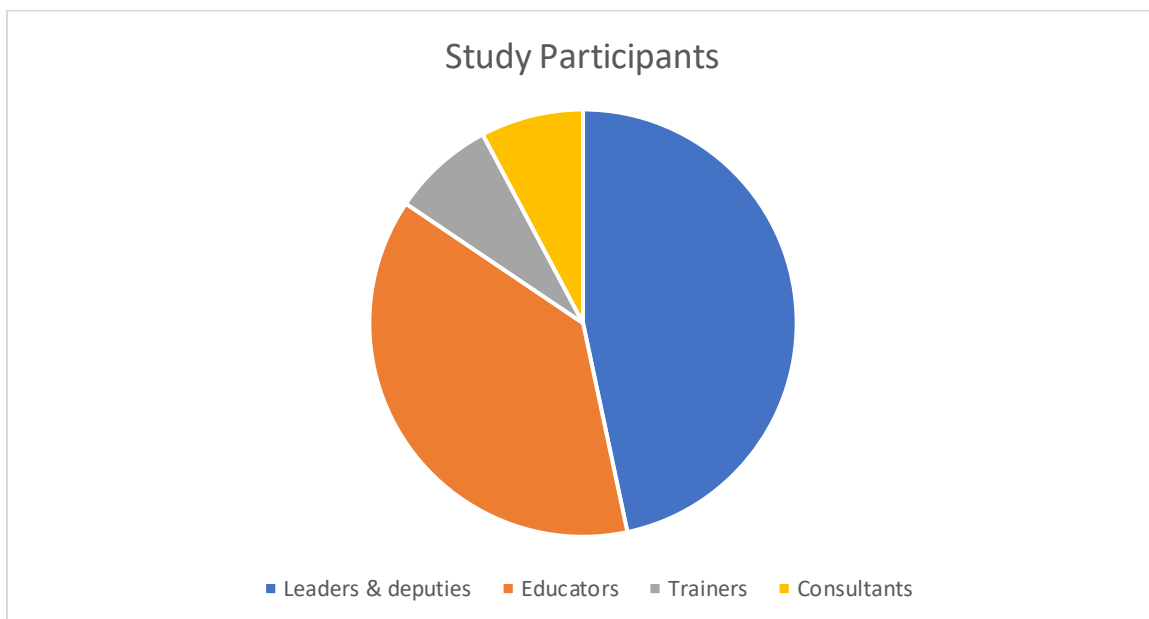

Figure 3: Participants by role

The participants were asked about how much quality Montessori education relies on aspects of Montessori philosophy and practice including the educators, the prepared environment, balanced mixed age groups, planning, reflecting, and assessing children. The responses reveal that:

	Educators	Prepared environment	Balanced mixed age groups	Plan, reflect & assess children
Leader	97%	94%	91%	94%
Educator	88%	81%	77%	88%
Coordinator/deputy	96%	96%	97%	98%
Trainer	95%	90%	90%	100%
Consultant/admin	100%	100%	100%	100%
Average	**95%**	**92%**	**91%**	**96%**

Table 1: Importance of aspects of Montessori philosophy and practice

Overall, from all participants planning, reflecting, and assessing children (96%), educators (95%), prepared environment (92%) and balanced mixed age groups rated the lowest (91%).

Furthermore, how much government compliance affects Montessori leadership enactment in settings was answered by the participants.

	Government influencing leadership
Leader	44%
Educator	73%
Coordinator/deputy	65%
Trainer	69%
Consultant/admin	100%
Average	**70%**

Table 2: Government Compliance Influencing Montessori Leaders

Interestingly, when comparing consultants and administration staff there is a 66% difference in how much government compliance is perceived as affecting leaders, compared to leader's

perception of compliance issues. The average affect was rated at 70% influence by government regulations and compliance in Montessori settings.

To minimise bias and gauge transparency, the researcher utilised a questionnaire and triangulation. Triangulation is the collection of data from multiple sources (leaders, educators) to enhance the credibility of a study through cross referencing more than one source (Stringer, 2007). The researcher has been involved in Montessori for over 30 years bringing unique value and perspective to the study. The researcher aimed to use an evidence-based lens, keep responses truly confidential to mitigate social desirability bias effects, and develop balanced questions. In addition, the researcher has not applied for funding or is being influenced by organisations and all findings regardless of outcomes can be published. "Rigor refers to the extent in which researchers work to enhance the quality of their studies" (Heale & Twycross, 2015, p. 66). The research project has aimed to be credible by presenting a faithful description of the study in order that other researchers and those interested in the study can identify the research aim easily (Guba & Lincoln, 1989). Additionally, the study has aimed for dependability as comparable conclusions could be reached by another if they used a similar situation, data, and perspective (Koch, 2006).

The study is contextual with Montessori settings within Australia being contacted for their perceptions. The stakeholder's perceptions contribute to an understanding of the phenomenon of leadership in Montessori settings. The research design is logical, practical and through the experience of the researcher achieves the objectives of the thesis statements.

Ethical considerations

Guidelines of the National Statement on Ethical Conduct in Human Research and the Human Research Ethics Manual were enacted. Montessori did not use the term 'ethics' but she did stipulate the type of 'new teachers' that "must acquire a moral alertness which has not hitherto been demanded by any other system." (Montessori, 1913/1965, p. 151). Montessori also stated that adults should take the greatest care to be 'sincere'. The research design incorporates many of the questions in Australian ethics application for projects. The participants were informed of the study, the aims, methods and how the collected data will be used. The data collected has been secured, confidential and anonymous by removing identifiers and using pseudonyms. The participants were informed that they could decline to participate in the study or decline answering a specific question.

Ethical considerations for the research study are underpinned by:
- doing no harm and have respect for all participants,

- participation confidentiality,
- intellectual honesty and trust in undertaking and reporting research including transparency of any conflicts of interest,
- interactions are fair and collegial with sharing with other researchers any resources,
- data management plan is developed to ensure security, privacy, secure storage,
- following data protection laws.

February 2018 to December 2020: Development of proposal and study to be conducted. Critical feedback and peer review achieved which developed writing and presentation skills. Pilot study included examining the feasibility of the approach, recruitment, data collection and analysis procedures. Developing of ethical guidelines through researching and understanding the National Statement on Ethical Conduct in Human Research and the Human Research Ethics Manual was part of this process.

February 2021 to March 2021: Organise, develop, and distribute participants invites to the questionnaire, designed, and distributed through Google Forms and email.

March 2021 to June 2021: Transcribe and analyse questionnaire data, by reading and annotating the texts, conceptualise and segment the data and extend the literature review.

July 2021 to August 2021: Peer review and editing to produce final thesis statement and report on data. Drafting the final report, including main structure, research aims, research questions, the theoretical framework and research methods.

Reporting the Findings

"Those who direct others must themselves be transformed."
(Montessori, 1949/1984)

The findings of the study reveal the perspective of both contemporary educators and leaders in Australia through the lens of Montessori leadership and quality. Connections were shown between what different Montessori stakeholders (leaders, educators, deputies, coordinators, consultants, administration staff and trainers) perceived as quality and elements of leadership. Montessori's theory is well-defined from a psychological and pedagogical standpoint and Montessorians need to work to have her theory commonly referred to. Montessorians know that many of her principles and practices can be seen in every early childhood setting around the world.

Analysis and reflection demonstrate that most of the respondents had been in Montessori for either over 20 years or were new to Montessori, with the majority including leaders, deputies and coordinators and educators. Moreover, the three-to-six-year age group was the main one that most

leaders were trained in. Many of the leaders and all the trainers hold Masters' degrees, with under half the educators holding a degree. Furthermore, nearly all the respondents had previously been in a leadership position.

Government compliance does influence Montessori leadership enactment, yet leaders perceived this influence as much lower than all the other participants. Consultants and administration stated compliance has the largest influence on Montessori leadership. The average affect acknowledged by participants was rated at 70%.

The study argued that Montessori contends that adults in Montessori settings need Montessori training not just a brief background knowledge on the principles and practices. As can be seen from some quality assurance programs, including AMS, MANZ and AMI who refer to Montessori trained educators as essential but for leaders they only need orientation knowledge of Montessori. Montessori and ME UK both stipulate leaders and educators must both have Montessori training. The researcher would argue that this situation is more to do with lack of access to Montessori trained individuals who are able and desire to lead a setting than the organisations (AMS, MANZ, AMI) not seeing the need. Whether AMI's new 'Administrators Trainers' will provide a new generation of Montessori leaders who understand and support authentic Montessori implementation remains to be investigated by future studies. This study has revealed that work needs to continue on pathways for Montessori trained individuals to be developed into leadership.

All participants commented on quality in Montessori settings, leaders consider educators the most influential for quality and the lowest influence being balanced mixed age groups. Meanwhile educators perceived the highest quality education factor as both themselves and planning, reflecting, and assessing children, with the lowest impact on quality perceived as balanced mixed age groups. Montessori trainers, deputies and coordinators all identified planning, reflecting, and assessing children the highest and both a prepared environment and balanced mixed age groups slightly lower. Montessori consultants and admin staff rated all areas for quality as equally important.

Overall, the participants responded that the main areas that both leaders and educators contribute to quality education is through implementing Montessori philosophy and best practice with no "compromise or dilution" (Leader 6). Through using "observing, mixed aged classes, uninterrupted work time, maintenance of materials and prepared environment, encourage independence, remove obstacles and know child's interests" (Leader 1). Participants recommended that educators "take advantage of professional development opportunities" (Leader 3) as "educators are the first call for quality education and are responsible for learning standards and inclusion" (Educator 8), they provide quality by "parent education and protecting the work cycle"

(Coordinator/deputy 12). Whilst leaders "establish and maintain culture, strategic planning, continuous improvement and vision through resourcing of materials and staff" (Leader 28).

Leaders stated that educators contribute to quality through working with children with a loving attitude through an authentic Montessori delivery. Networking with colleagues and preparing the environment were seen as vital. Genuinely distributing the leadership of the setting was stated as having an impact on quality. Montessori training, communicating with families and using professional development opportunities also added to their contribution to quality. Additionally, leaders perceive that a list of quality indicators for educators is "students wellbeing, reflective practice, continuous professional development, collaborative collegial work, mentoring each other, and planning strategically through Montessori pedagogy" (Leader 23).

Coordinators and deputies perceived the quality educators could provide was through "preparing the environment, giving presentations, speaking with families and doing formal family education events. Also collaborating to further their own practice and to support individuals in their environments, they are responsible for training and guiding support staff" (Coordinator/ deputy 27). This group of participants additionally perceived educators instilling quality by "following Montessori principles and practice, gaining Montessori training, observing, implementing and maintaining mixed aged classes, uninterrupted work time, maintenance of materials and prepared environment, whilst encouraging independence, removing obstacles and knowing a child's interest" (Coordinator/deputy 1).

Consultants, administration, and trainers highlighted how educators developed programs in addition to "classroom and outdoor environment development and maintenance, classroom management, parent communication, community communication, standards and best practices, whilst being creators of joy" (Coordinator/deputy 5). Moreover, educator's quality is implemented via their "Montessori training, being a team player and gaining training in conventional qualifications too" (Trainer 9).

Educators themselves perceived they contributed to quality in Montessori settings by "planning and executing quality lessons, caring for the children and developing the children at their own pace" (Educator 24). Additionally, through "developing independence, facilitating self-directed learning, validating emotions of the children and supporting them to develop emotional well-being" (Educator 26). It was stated that "educators are the first call for quality education as they are responsible for learning standards, inclusion and team responsibility" (Educator 8).

Leaders contribute to quality by "employing trained Montessori educators and allowing those educators to implement Montessori authentically" (Coordinator/deputy 1). Leaders "set expectations and facilitate communication between staff and between staff and parents" (Leader 3). Leaders provide quality through "ongoing monitoring and mentoring of Montessori philosophy and teaching" (Leader 6). Additionally, leaders need to "network and be aware of contemporary educational research to know how to incorporate if needed without compromising quality of Montessori curriculum or culture of the setting" (Leader 6). They also give support for the "broader strokes of schools functioning" (Leader 7) and can "provide resources, support and opportunities for collaboration in pedagogical knowledge" (Leader 9). Another way quality is supported by leaders is by "leading by example and always being fair and honest in their communications" (Educator 8). Leaders also require "Montessori training in addition to conventional training" (Trainer 9) and "maintain Montessori values, conduct parent education and advocate for staff with the Board" (Coordinator/deputy 12).

Leaders say they contribute to quality (in order of highest mentions by participants) through mentoring, establishing, and maintaining culture, set expectations, reviews, goal setting and team building. Moreover, maintaining authentic Montessori delivery through training of educators and encouraging their professional development. Leader participants felt they contributed to quality by networking and continuous improvement. Through developing a vision and supporting staff by providing resources and class budgets and maintaining the stability of the school. It was also stated that leaders contributed to quality by being aware of contemporary research and its possible inclusion into authentic Montessori programs. Strategic planning, communication, and the child at the centre of all decisions were also highlighted by leaders. One leader stated that,

> "Quality Montessori training and delivery; teamwork; no dilution of Montessori; ongoing monitoring and mentoring with experience of Montessori philosophy and teaching. Regular staff reviews and Montessori goal setting, leaders need to network and be aware of contemporary educational research and how to incorporate if needed without compromising quality of Montessori curriculum or culture of the school" (Leader 6).

Another leader participant stated that,

> "Leaders support the broader strokes of schools functioning (admissions, placements, transitions, admin). They support teachers through open communication for self-reflection and growth. Providing resources, support, and opportunities for collaboration in pedagogical knowledge, skills, and meaningful relationships. Facilitating relationship building among the school community" (Leader 7).

Coordinators and deputies say leaders contribute to quality through "employing trained Montessori educators, allowing those educators to implement Montessori education authentically, and encouraging and supporting Montessori professional development whilst acting with an authentic Montessori approach to all leadership aspects" (Coordinator/deputy 1). Leaders need to,

> "O*bserve, give feedback for educator's professional growth. If a leader is not Montessori trained, they should be constantly looking to learn more through reading & observations. Leaders must listen to needs of staff and faculty and provide professional development opportunities or approve money to be spent for more training. Leaders also organise strategic planning to keep the school relevant and have an eye on the mission statement and values when making decisions so looking achieve the goals set out by our organisation.*" (Coordinator/deputy 27)

Educator's responses about leader's contribution to quality included their ability to plan lessons and support staff and team goals. Educators saw leaders as crucial to inspire and motivate, providing professional development opportunities and Montessori resources. They must "lead by example with high yet reasonable expectations for teachers. Inspire teachers to continue training and professional development. Being fair and honest in their communications" (Educator 8). Leaders instil quality through "compliance and dealing with parents" (Educator 13). Additionally, trainers and consultants perceived leaders must have both "Montessori training and conventional training, support educators, and must understand that support in Montessori settings looks different than support in a conventional school" (Trainer 9).

Conclusions

The research study findings will be beneficial to the development of the modern Montessori leader and the research maybe applied to other leaders in education and business. Dhari (2012) wrote about modelling a business after Montessori principles, for example to nurture employees and give them room to grow and motivating employees through intrinsic rewards by giving them interesting projects to work on. Additionally, the study's findings will be of interest to Montessori practitioners globally and it will contribute to Montessori leadership effectiveness. The findings can be incorporated into potential and established leaders training programs and day to day leadership through creating the 'Framework of a Researched Montessori Approach to Leadership' (FORMAL) based on Montessori's vision and contemporary leadership compliance.

Montessori Quality: prepared leaders

Montessori's educational approaches are consistent with research that identifies leaders working relentlessly solely for making a setting a better place and placing the child as central to decision making. Leaders are role models, demonstrating morals and respect, showing humility, whilst being fair and trustworthy and serving the child. Leaders are grounded in Montessori principles, driven by the heart and code of ethics and morals. They are guided by moral authority and possessing humility and drive, which leads their community to freely develop. Furthermore, they display altruistic behaviours and are the personification of quality and inspiration. Originally the person leading the setting would be living in the tenement building too and, "dedicates her time and her life to helping those about her" living under the eyes of the families (Montessori, 1913/1965, p. 62). Montessorians need to have virtues of "humility and patience" (Standing, 1957, p. 299) and morals, "the rightness and wrongness of actions" (p. 114).

Montessori Quality: prepared educators

The educators have undergone Montessori training and personal transformation, knowing that adults should interact with children with love and respect. They are encouraging, use initiative, are independent, self-reliant, creative and have self-control, encouraging independence. Montessori argued that the current educational approaches did not meet children's needs or respect their innate motivations to learn and develop and required a 'new' adult to support them (Kramer, 1976). "Anyone who wants to follow my method must understand that they should not honour me but follow the child as their leader" (Montessori, 1956/1970, p. 7).

Montessori Quality: prepared environment

The importance of the prepared environment was continually and consistently argued by Montessori for removing obstacles from the child's development and maintain the health of body, spirit, and intelligence, "the work of education is divided between the teacher and the environment" (Montessori, 1912/1967, p. 150) with the teacher as "'the catalyst' between a child…and the environment prepared for their education" (Montessori, 1912/1967, p. 32). Additionally, she stated,

> *"The intellect builds up its store of practical ideas through contact with, and exploration of its environment. Without such concepts the intellect would lack precision and inspiration in its abstract operations…. our sensorial materials and the exercises done with them…. detect functional defects in the senses at a time when much can be done to correct them."*
> (Montessori, 1912/1967, p. 101).

Montessori further states that the difficult behaviour of small children is,

> *"a manifestation of defence or of unconscious despair at not being able to 'function' during that period on which the whole future depends and every hour of which brings its progress. Difficult behaviour can also be a form of agitation caused by mental hunger when the child is deprived of the stimuli of the environment or by a sense of frustration experienced when he is prevented from acting in the environment."* (Montessori, 2005, p. 35).

Montessori advocated for an appropriate environment that guided the children's freedom "so that they could act according to their inner needs, rhythm and tempo" (Montessori, 2015 p. 12). She advised that "the prepared environment should bring the world at large, and thus the adult world, within reach of the child at whatever stage of development it is at any given moment (p. 18). The prepared environment "encourages respect for others and for materials" p. 23).

Montessori Quality: balanced mixed age groups
Montessori stated that it would be impossible to implement Montessori education if a class did not compromise of balanced mixed age groups. She argued,

> *"The number of children there should be in a class in order to give profitable results, 30 to 40. When there are fewer than 25 the standards become lower and in a class of 8 it is impossible to obtain good results. 25 is sufficient but 40 is the best."*
> (Montessori, 1946/1989, p. 61)

Montessori continued to explain how important mixed age groups were by saying,

> *"...30 children are mixed in ages of 3 to 6 years old. This fact makes such a difference, that if one were to put all the children of the same age together, there would be no success, and it would be impossible to apply our method...one of the great advantages of our method is this living together of the three ages, and it is one of the best ways for individual development."*
> (Montessori, 1946/1989, p. 65).

Montessori clarified cultural development as greatly influenced by different ages because a child,

> *"...learns from an older child; how patient the older child is with the difficulties of the younger. The younger child is material for the older child to work upon... as when you teach something the subject becomes clearer for you. There is nothing that makes you learn more than teaching someone else... you must understand that to have success you must have these different ages."* (Montessori, 1946/1989, p. 69).

Montessori further rationalised the logic for mixing the ages in classes by stating,

> "*In the same class there should be found children of three ages: the youngest are spontaneously interested in the work of the older children and learn from them and should be assisted by them.*" (Montessori, 1997, p. 329).

Montessori described "the older child does not arouse envy merely by being older… the younger child's attitude is one of admiration and devotion" (Montessori, 2005, p. 35). She encouraged Montessori settings to have a flow of children throughout settings, saying,

> "*…one of the secrets is open doors. In our schools there is no such thing as a closed door… the open door to the other rooms gives a freedom of circulation, between different grades, and this circulation is of the utmost importance for development of culture.*" (Montessori, 1946/1989, p. 65).

Montessori Quality: Montessori materials

Montessori explained that,

> "*…the materials and individual (based on free choice of the child) child's natural interest are equally important. Teacher must be able to inspire interest in the child and then know how to educate it. Materials must be just the right amount and no more sufficient for cultural development.*" (Montessori, 1946/1989, p. 61).

Montessori established that with one set of each type of material the classroom worked well but without that "disciplined is slackened". Materials, she stated, serve two main purposes,

> "*On the one hand, it furthers the inner development of the child: specifically, the indirect preparation that must precede the development of any new ego function. On the other, it helps the child to acquire new perspectives in its exploration of the objective world. It makes it aware of certain qualities of the objects, their interrelationships, existing principles of differentiation within a given category, organizational sequences, and special techniques for handling the objects. It challenges the intelligence of the child, who is first intrigued and later fully absorbed by the principle involved. If a spark is lit, a principle discovered, it awakens in the child an urge to exercise its newly acquired insight through endless repetitions of the action that led to it. When the child has fully mastered the principle involved, it spontaneously proceeds to apply it in handling all kinds of objects. The material does not, in the first place, teach children factual knowledge. Instead, it makes it possible for them to reorganize their knowledge according to new principles. This increases their capacity for learning. Because the material serves this function, Montessori referred to it as materialized abstractions.*" (Montessori, 2015, p. 18),

Montessori Quality: observations of the children and class

Trained adults observe and guide, rather than teach. Observing happens daily and is considered integral to recognising children's needs and supporting them to reach their full potential. Montessori herself states that the method is,

> "…*founded on the child themselves. Our study has its origins in the child. The method has been achieved by following the child and their psychology. It is objective, not subjective as all the others are. It is always based on our ability to interpret our observations of those phenomena which originate in the child themselves. A soundly objective method is based on observation, the observation of facts, which is why the Montessori Method is entirely different from all the other methods.*" (Montessori, 1946/1989, p. 7-12).

Montessori Quality: uninterrupted work periods

The key to building focus, independence, and concentration. These need to last for several hours to be most effective. Only when required by the child do educators interrupt this cycle of work.

> "*The little child who persists in their exercises, concentrated and absorbed, is obviously elaborating the constant human, the human of character, they who will find in themselves all human values, crowning that unique fundamental manifestation: persistence in work*" (Montessori, 1913/1965, p.139).

Montessori found that when a child is interested in work, they do not feel tired but feel rested as they work, as the child is motivated from within.

> "…*when the cycle is completed, the child detaches themselves from their internal concentration; refreshed and satisfied, the experiences the higher social impulses, such as desiring to make confidences and hold intimate communion with other souls*" (Montessori, 1913/1965, p. 76).

Across her publications Montessori explained how important a long period of uninterrupted time was for the developing child,

> "*The child of this age sets out to do a certain task, perhaps an absurd one to adult reasoning, but this matters not at all; they must carry out the activity to its conclusion. There is a vital urge to completeness of action, and if the cycle of this urge is broken, it shows in deviations from normality and lack of purpose. Much importance attaches now to this cycle of activity, which is an indirect preparation for future life. All through life humans prepare for the future indirectly, and it is remarked of those who have done something great that there has been a previous period of something worked for, not necessarily on the same line as the final work, but along some line there has been an intense effort which has given the necessary preparation of the spirit, and such effort must be fully expanded - the cycle must be*

completed. Adults therefore should not interfere to stop any childish activity however absurd,
so long as it is not too dangerous to life and limb! The child must carry out their cycle of
activity." (Montessori, 1946/1989, p. 45).

Montessori Quality: individualised learning and following a child's interests.

Individual learning gives a sense of control to the child by catering to each child's rhythm, pace and challenges and helping develop a love of learning and friendliness with error. Montessori stated that,

> *"In their duty of guiding a child in using the material, a teacher must make a distinction between two different periods. In the first they put the child in contact with the material and initiates them in its use. In the second they intervene to enlighten a child who has already succeeded in distinguishing differences through their own spontaneous efforts. It is then that they can determine the ideas acquired by a child, if this is necessary, and provide them with words to describe the differences they have perceived."* (Montessori, 1913/1965, p. 153).

Individual learning occurs through child directed work, which aims to motivate and inspire intrinsic rewards for them, generating a desire to learn and a love of learning. Montessori stated that *"as soon as children find something that interests them, they lose their instability and learn to concentrate"* (Montessori, 1936/1983, p. 145). She pointed out that,

> *"…the task of teaching becomes easy, since we do not need to choose what we shall teach but should place all before them for the satisfaction of their mental appetite. They must have absolute freedom of choice, and then they require nothing but repeated experiences which will become increasingly marked by interest and serious attention, during their acquisition of some desired knowledge."* (Montessori, 2015, p. 5).

Montessori Quality: partnerships with families

Families decide if their child will attend a Montessori setting. Consequently, it is essential that families gain an understanding of how Montessori education can support their child. Montessori urged all adults to take their lead from the child, she stated that,

> *"…the environment itself will teach the child, if every error they make is manifest to them, without the intervention of a parent or teacher, who should remain a quiet observer of all that happens."* (Montessori, 1956/1970, p.28).

> *"The spontaneous urge towards development, which is within the child, dictates its own pace. It is the part of a wise and loving parent to stand by, to watch the little one's activities, to observe their growth rather than to try to force it."* (Montessori, 1931/2017, p. 28).

Keys of Montessori Approach to Leadership

The fundamental basis of the Montessori approach are adults demonstrating their embedded virtues and morals. Positioning the child front and centre in all areas for all decisions, exhibiting deep love for the child. Montessori stated that "human work…must be based upon these three laws… love, know and serve" (Montessori, 1946/1989, p. 86).

Additionally, it is what *individual intent* each person brings to their role in the setting, for example, the embedded morals and virtues of the individual, which other researchers also echo in their studies. These include humility, patience, the rightness and wrongness of actions, fairness, tranquility, courage, patience, perseverance, altruism, curiosity, creativity, love of learning, self-discipline, good manners, and respect. (AITSL, 2021; Cuban, 1992; Duigan, 2012; Jurkiewicz & Giacalone, 2017; Montessori, 1942/1970; 1967; 1998; 2005; Mario Montessori, 1976; Standing, 1957). As Montessori said, "to think and to wish is not enough. It is action which counts" (Montessori, 1913/1965, p. 171).

Framework of Researched Montessori Approach to Leadership (FORMAL).

The FORMAL framework includes the *keystone* elements of Montessori (prepared leaders, educators and environment, observations, following the child's interest, individual learning, uninterrupted work periods, materials, and mixed age groups) which develop into the arch of leadership. The arch's foundations are the planes of development, absorbent mind, sensitive periods and human tendencies. These principles underpin implementing a Montessori approach. The *keystone* elements produce the main arch with interrelating elements continue the building techniques and strong structure of Roman Arch (Figure 3).

By utilising their *individual intent*, motivation, values, humility and patience, virtues, morals and partnerships with families, leaders can continue to strengthen their Montessori approach to leadership. The other keys include supporting a love of learning, sense of control, intrinsic rewards, good manners, creativity, respect, meaningful contexts, movement, self-discipline, perseverance, curiosity, courage, fairness, tranquility, charity, love, facilitate and support children's ability to judge.

love of learning

meaningful contexts   intrinsic rewards

sense of control   good manners   creativity

movement   self-discipline   perseverance   curiosity

courage   fairness   tranquility   charity   love

charity (altruism)   child's ability to judge   *individual intent*   respect   humility

values   virtues   materials   CHILD   mixed ages   morals   patience

motivation   observation   work periods   prepared environment

follow child's interests   absorbent mind   individual learning

prepared educators   prepared leaders

partnerships with families   sensitive periods   human tendencies

planes of development

Figure 3: Montessori Keystone Elements Building the Arch of Leadership

(Beresford-Jones, 2021)

Summary of the study

Montessori herself stated that once participants in Montessori training courses received their diploma it "entitled the holder to open a school" (Standing, 1957, p. 73). Montessori placed great importance on the development of leaders and conducted lectures on school management in 1906 at the University of Rome (Trabalzini, 2011). Montessori's theory of child development established in the early 1900s was highlighted.

Montessori intended her educational approach to be as authentic to her original vision as possible. Montessori saw adults as leaders, as well as children as future leaders. Montessori children are brought up in an interrelated way of understanding that we are all part of one world. The children develop abilities to question ideologies, judging the positive and negative features themselves, not following blindly (Montessori, Mario, 1956). The adult's *individual intent* and motivation play a key role in building trust, role modelling their moral character and placing the children front and centre.

Leading a Montessori learning community requires more than an understanding of school management (Wolff, Eanes & Kamistein, 2005). It calls for the ability to stay focused on the principles, priorities, systems, and strategies that can produce an authentic and sustainable Montessori program. Being identified as a potential leader was a major contributor to their development (Barber, Whelan & Clark, 2010). Female leadership research demonstrate that female leaders appear to be superior to male principals in leadership adaptability and prioritise relationships with all stakeholders and utilise their humanistic and collaborative leadership. Females experience higher visibility and scrutiny than male leaders but are more open and promote diversity in their colleagues.

A person's motivation to lead a Montessori setting - their *individual intent* and being altruistic, humbly playing their part, genuine, self-aware, courageous, and vulnerable (Beresford-Jones, 2021; Brown, 2017; 2019; Collins, 2007). The factors that influence leaders and quality education include the umbrella organisations effecting Montessori settings. Government departments, Montessori organisations, such as MSCA, Montessori training associations, such as SMTC, and some also required a board to oversee the educational organisation. Montessori trained educators are vital to a quality Montessori setting so training becomes a priority for leaders however, from 2015 to 2018 Montessori training conducted in Australia by AMI resulted in 113 educators and no leaders receiving training compared with MWEI training 833 educators and 20 leaders.

Montessori leaders must support the qualified Montessori educators, promote a culture of commitment, not just compliance, the children's developmental needs are their priority. Models of leadership drawn from the literature clarify which ones a Montessori leader would utilise, including servant, distributed, ethical, transformational, and instructional.

The training and characteristics of leaders are revealed with Montessori leaders differing from other leaders through the need for a greater emphasis on morals, respect, humility, altruism, serving the child, role modelling and a good understanding of Montessori education.

The research question, 'Montessori leadership philosophy re-examined and its influence on education quality as embodied in contemporary Montessori settings' was studied through a mixed-

methods approach to gain perspectives from stakeholders, leaders, and educators through a questionnaire. The research problem occurs through leaders' inconsistent approaches in Montessori settings, fluctuating quality and not supporting and implementing Montessori philosophy and practice. The researcher's answered the research questions through comparing the perspectives of each group with *keystone* elements of Montessori philosophy and practice.

The findings were outlined revealed:
- Largest number of respondents had been in Montessori for either 20+ years or were new to Montessori with under five years of experience.
- Main age group that leaders were trained in was three to six (41%) and next were trained in birth to three age group (24%).
- Qualifications held –

    Master –   Leaders 67%

    Trainers' 100%

    Coordinators/ deputies' 28%.

    Degree -   Educators 44%.

    Additionally, 79% of respondents had previously been in a leadership position.
- Participants were leaders/deputies/coordinators (42%), educators (34%), trainers/ consultants (14%).
- Highest factor for quality education:

    Leaders consider educators (97%).

    Educators see themselves and planning/reflecting/assessing children (88%).

    Coordinators/deputy leaders stated planning/reflecting/assessing (98%)

    Montessori trainers identified planning/reflecting/assessing highest (100%)

    Montessori consultants/administration staff rated all areas for quality as equally important (100%).
- Overall, from all participants planning/reflecting/assessing (96%), educators (95%), prepared environment (92%) and balanced mixed age groups rated the lowest (91%).
- Government compliance effect on Montessori leadership enactment depended on your role in the educational setting:

    Leaders 44%

    Educators 73%

    Coordinators/deputies 65%.

    Consultants/administration 100%.

    Trainers 69%.

In addition, the study demonstrates that quality in Montessori revolves around having elements in situ. These include distinctive Montessori preparation for leaders and educators. Furthermore, preparing the environments through balanced mixed age groups, Montessori materials, uninterrupted work periods, observations by the adult of the children and class as a whole, individualised learning, following a child's interest and partnerships with families. Moreover, the keys to a Montessori approach to leadership with the fundamental basis being the leader's embedded virtues and morals and positioning the child front and centre in all areas for all decisions and exhibiting deep love for the child. This is revealed through the leader's *individual intent* demonstrated such as, humility, patience, the rightness and wrongness of actions, fairness, tranquility, courage, patience, perseverance, altruism, curiosity, creativity, love of learning, self-discipline, good manners, and respect. (AITSL, 2021; Cuban, 1992; Duigan, 2012; Jurkiewicz & Giacalone, 2017; Montessori, 1942/1970; 1967; 1998; 2005; Mario Montessori, 1976; Standing, 1957).

Moreover, the creation and development of the 'Framework of a Researched Montessori Approach to Leadership' (FORMAL) based on Montessori's vision and contemporary leadership researchers. The arch's foundations are the planes of development, the absorbent mind, the sensitive periods, and the human tendencies underpinning the implementation of the Montessori approach.

The research contributed to an approach that supports and understands the complex key issues facing leaders of Montessori schools and centres in Australia today. The potential sphere of influence of the study could impact the establishing of leadership roles; the development of Montessori leadership training opportunities, including mentoring; elevating the quality in Montessori settings by highlighting mainstream excellence; and establishing support for both new and experienced leaders.

The problem statement answered the main question of how Montessori's philosophy is being implement by leaders of contemporary Montessori's settings. The emergent themes from the findings in this qualitative research's data highlighted stakeholder's perceptions of key Montessori principles and practices as much lower in importance than Montessori herself advocated. These perceptions have large implications within the wider leadership diagnostic framework envisaged. These emerging themes as the basic building blocks of an inductive approach were found through the process of coding.

The study may act as a springboard for other researchers to further development in the areas of Montessori around leadership, quality assurance, developing leaders with Montessori training, mentoring and leader's professional development in particular. Montessori (1967/1992) said the adults,

> "…*must acquire a moral alertness which has not hitherto been demanded by any other system, and this is revealed in their tranquillity, patience, charity and humility. Not words but virtues are the main qualifications.*" Montessori (1967/1992, p. 151).

Montessori leadership is grounded in Montessori principles, driven by the heart and code of ethics and morals. Mario Montessori (1956, p. 17) eloquently stated our task as Montessorians to support the child through implementing our comprehensive and all-encompassing training knowledge to ensure that each child can think for themselves and others, "when they have reached adulthood… then no matter what ideology would come thereafter, they would have a basis of judging its positive and negative facets." Montessori spoke of supporting the child's spirit too, "we have to help the child to act, will and think for themselves. This is the art of serving the spirit…." (Montessori, 1995, p. 257)

The researcher believes now more than ever that the message to the wider educational community is clear - stop denying Montessori's theory and start understanding how the world will improve by implementing the principles and practices especially around respect, humility, and charity. An Australian television current affair program (Insight, 2017) is just one example of where Montessori principles are spoken about without recognition. Adult traditional school graduates were asked how teachers had changed their lives and one young man explained that it was because the principal 'asked' him what was happening and 'talked to him as an individual not a student'. Additionally, he was 'given and learnt to accept responsibility for his work and actions', and the principal acted as a 'guide', to 'build me into a man'.

Further questions arise over Australia's ability to gather data on Montessori trained educators and leaders which greatly effects any research. As with this study there is no access to individual educators to invite them to participate in the study, which led to a slightly lower participation rate. The researcher was informed by many individual educators that the leader had not forwarded on the questionnaire to staff in their setting. Moreover, further research is desperately needed into a genuine process to gauge quality in Montessori settings in Australia. The quality assurance must be based on Montessori's stipulations, but additionally include government and state regulations and requirements.

References can be found at:

//o.b5z.net/i/u/10252201/f/Montessori_Leadership_and_Education_Quality_Thesis_Statement_2021.pdf

About the Author:

Sarah is fully committed to the values and concepts underpinning inclusive education with over 30 years involvement in Montessori education. She holds Montessori diplomas from birth to 12 years, Masters of inclusive education and leadership, Montessori philosophy research studies and early childhood leadership. She has worked as class educator, school leadership roles, inclusion coordinator, and Montessori researcher (establishing Montessori Research Australia in 2021).

Keeping up-to-date and informed about best practice, she has studied education philosophies, including Montessori's Theory, in great depth. Her employment has included as an intervention specialist for 5 to 18 years old; University of Sydney Indigenous tutorial assistance tutor; Montessori deputy; Montessori classroom director/guide; Montessori inclusion coordinator/ head of department; Montessori professional developer of various initiatives. Published children's Montessori author. Sarah is currently conducting a research study on reading ability with 40 children in a public school through the use of the Moveable Alphabet and three period lessons to support the progression of children with challenges.

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What you may have missed so far with Montessori Keystones publications:

Spring 2021
- Educator's strategies: Ensuring an inclusive environment for children with autism spectrum disorder in the Montessori 3 to 6-year environment, by Kathleen Leonard
- Australian research on autism
  MRA Guide: Strategies to support a child with autism.
  MRA Guide: Supporting children with autism spectrum disorder in 0 to 6-year environment.
  MRA Guide: Initiatives to retain children throughout their primary Montessori education.
- Montessori Australian longitudinal study: Graduates' reflections on a Montessori education
- Some of Montessori's thoughts on transitions by Maria Montessori

Summer 2022
- Word strategies children can utilise to support an inclusive classroom in a Montessori 3 to 6-year environment, by Jennifer Wills
- MRA Guide: Montessori Children's Foundation: Empowering indigenous families
- Montessori family: Graduates & families' perspectives/reality of transitioning to high school
- Some thoughts on how we document (assess) a child's progression, by Maria Montessori

Autumn 2022
- Allowing children to move freely between the inside and outside of two Montessori 3 to 6-year environments, by Jacqui Gard
- MRA Guide: Montessori's Theory of Child Development
  MRA Guide: The Role of the Prepared Adult
- Finland and Montessori education: Comparison of these two educational systems.

Winter 2022
- Montessori approach: Communication development for children with English as a second language, by Jingjing Jang
- MRA Guide: Birth to 3 - language development
  MRA Guide: EYLF update project
- Montessori educators' perspectives on using the EYLF in Montessori early childhood environments, by Rachael Stevens

Spring 2022
- Montessori approach: Supporting a child to self-regulate their emotions, by Nadia Greeff
- MRA Guide: National Report on Schooling in Australia 2020
  MRA Guide: Montessori Leadership Research Brief
  MRA Guide: The Alice Springs (Mparntwe) Education Declaration
- Montessori philosophy on leadership: How leaders influence delivery of quality education P1

Summer 2023
- Recent Australian Research Snapshots
  Montessori education in Australian schools: Charting a path (Eacott, Rivera, Wainer & Raad)
  Steiner: The curation of contemporary education (Eacott & Rivera)
  Reading intervention: how do children progress when working through the Agility with Sound Program? [Possible intervention strategies in Montessori classrooms]
- Montessori philosophy on leadership: How leaders influence delivery of quality education P2

Autumn 2023
- Aotearoa NZ Research Snapshots:
  Montessori Education in Aotearoa-NZ: Peace and Social Justice by Nicola Chisnall.
  Quality early childhood education for under-two-year-olds – report to NZ Ministry of Ed
  Research in WA: public health findings on smoking during pregnancy; breastfeeding benefits; links between asthma, allergies, and immune system function (Rainer Study, WA)
- Inspiration Place: *Lynne Lawrence speech to Australian Montessori Summit 2023*
- Montessori philosophy on leadership: Leadership theories & characteristics leaders require P3

Montessori Keystones: 2023 Winter

Montessori said

*"What I want now is
a body of colleagues,
research workers,
who will examine what I have already done,
apply my principles as far as I have gone,
not in a spirit of opposition or conviction,
but as a matter of pure experiment."*

(Kramer, 1976, p. 262*)*

Australian Research Snapshots:

2022 NAPLAN results for Montessori students
ACARA via My School website & Sarah Beresford-Jones

NAPLAN to stop reporting students' progress. Geoff Masters

NAPLAN: a systematic review after the first decade
Rose, Low-Choya, Singh, & Vascob.

Writing development: a decade of NAPLAN data
Jackson, Lu, Knapp, & Yin Wan.

Australian students who are behind in primary school can catch up by high school
Larsen, S

Inspiration Place:

Renilde Montessori - The common sense of Montessori pedagogy

Montessori philosophy on leadership reexamined:

Data, findings, summary, and framework for Montessori leadership [Final part #4]

Montessori Progress 2023