Teaching and assessing for thinking at school-level: The Status Quo

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Aim of the presentation

To present the findings of a small scale research study that aimed to:

establish teacher perceptions regarding teaching and assessing for thinking : The status quo

Introduction

Why is it important to teach and assess for thinking?

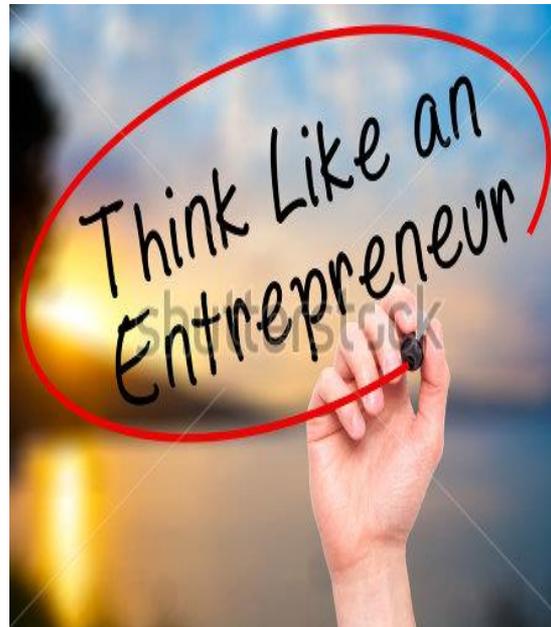To answer this question we need to look at two issues:

- What kinds of learners should schools be producing?

- What are the expectations for all learners?

What kinds of learners should schools be producing?

✓ Advanced performers
✓ Enterprising learners
✓ Global citizens

Learners who possess skills for learning, work and life

What are the expectations for all learners?

What kinds of characteristics do learners need if they are to be successful in school, the workplace and society?

Teaching should instil thinking skills/strategies as well as dispositions/attitudes in learners

- Character
- Citizenship
- Communication
- Critical thinking and problem solving
- Decision making
- Collaboration
- Creativity and imagination

What does Teaching for Thinking imply?

- Creating opportunities to explicitly develop the thinking skills and dispositions needed for effective thinking and learning
- Making learners aware of the thinking skills and dispositions that they need to be effective at thinking and learning.
- Applying teaching strategies that would promote inquiry: discussions, problem-based learning, open questioning etc.

Conceptual Framework: Teaching and Assessing for Thinking

What does Assessing for Thinking imply?

• Aligning assessment with instruction – the skills/dispositions that I teach should be reflected in my assessment

• Give assessment tasks that require thinking and not a mere repetition of facts: higher order questions

• Assessment for thinking is the ongoing process of gathering, analysing and reflecting on evidence to make informed and consistent judgements to improve future student learning.

• Learners work towards meeting criteria for clear, quality thinking
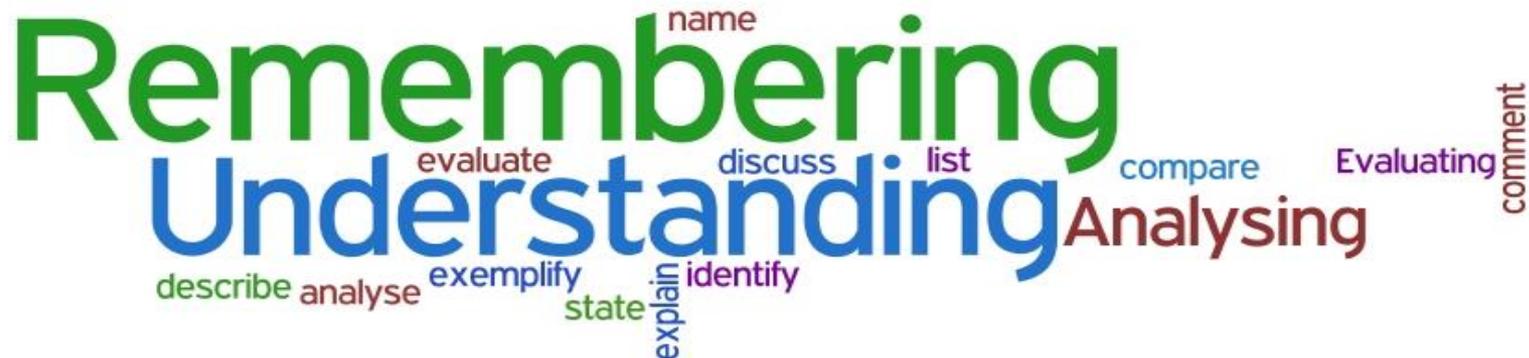
Research Methodology

Aim: To establish teacher perceptions regarding teaching and assessing for thinking : The status quo

Empirical research:

Research design/strategy of in-quiry and data collection:
Quantitative, descriptive survey Research
Questionnaire with open and Closed questions

Participant selection:

Convenient sampling, willing schools and teachers
254 questionnaires distributed
Only 44 received back
Sedibeng East and West Districts Gauteng

Data analysis and Interpretation: Biographical Information

Gender
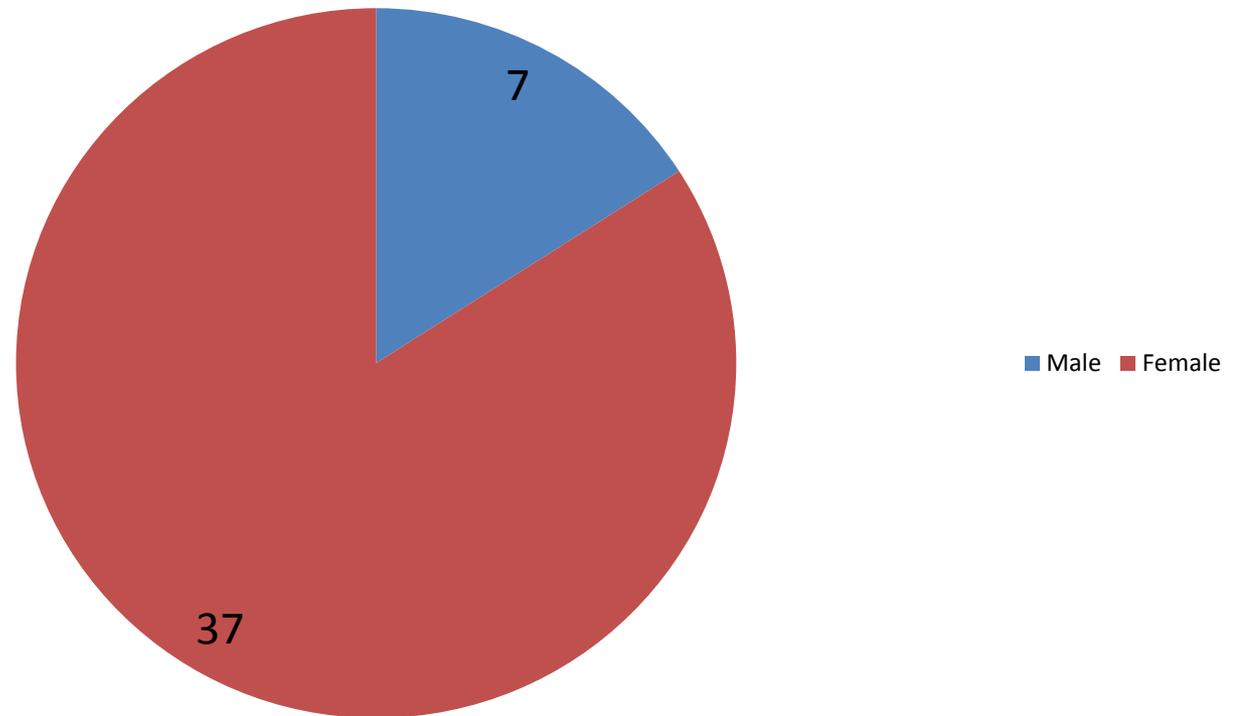
Data analysis and Interpretation: Biographical Information

Age
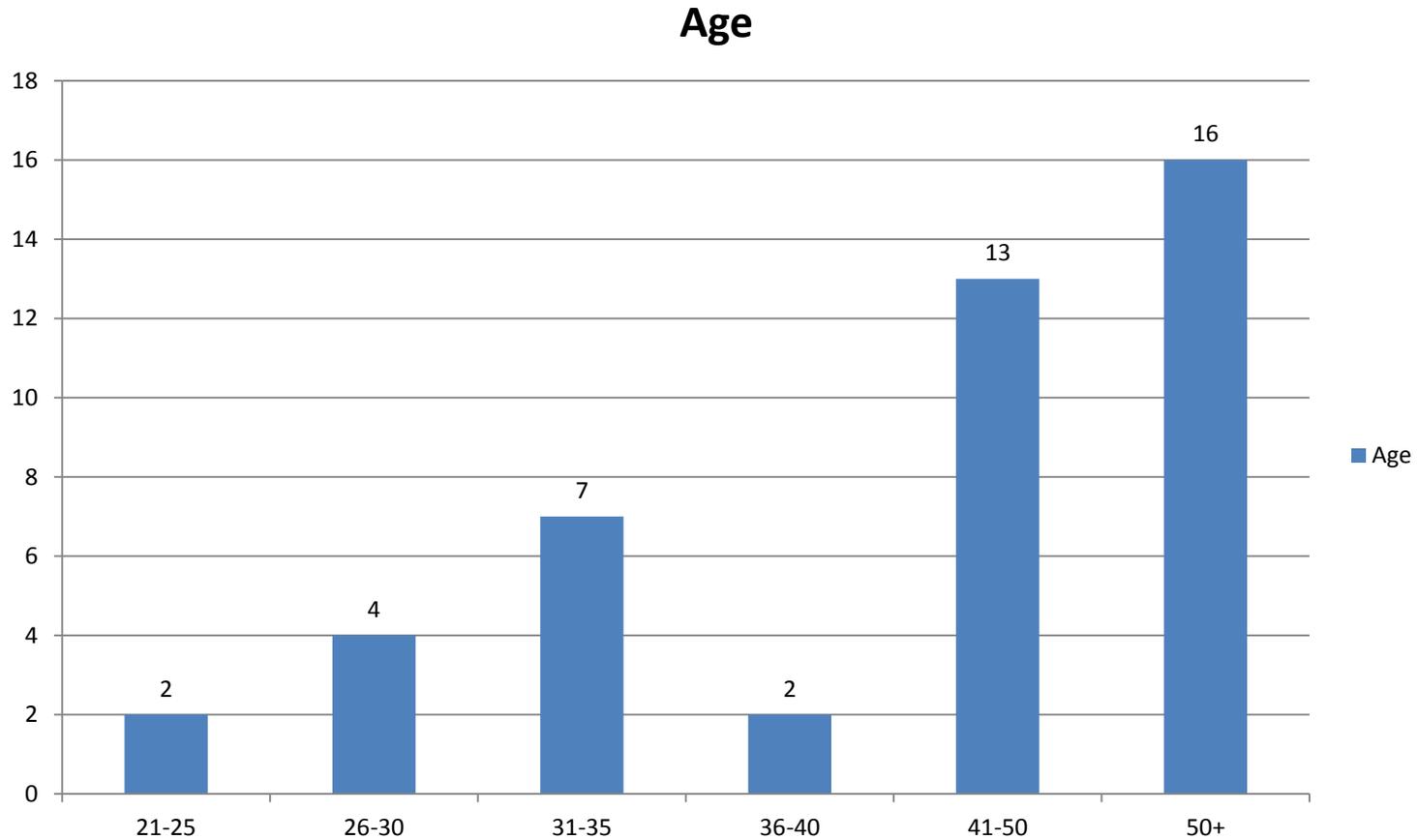
Data analysis and Interpretation: Biographical Information

Ethnic Group
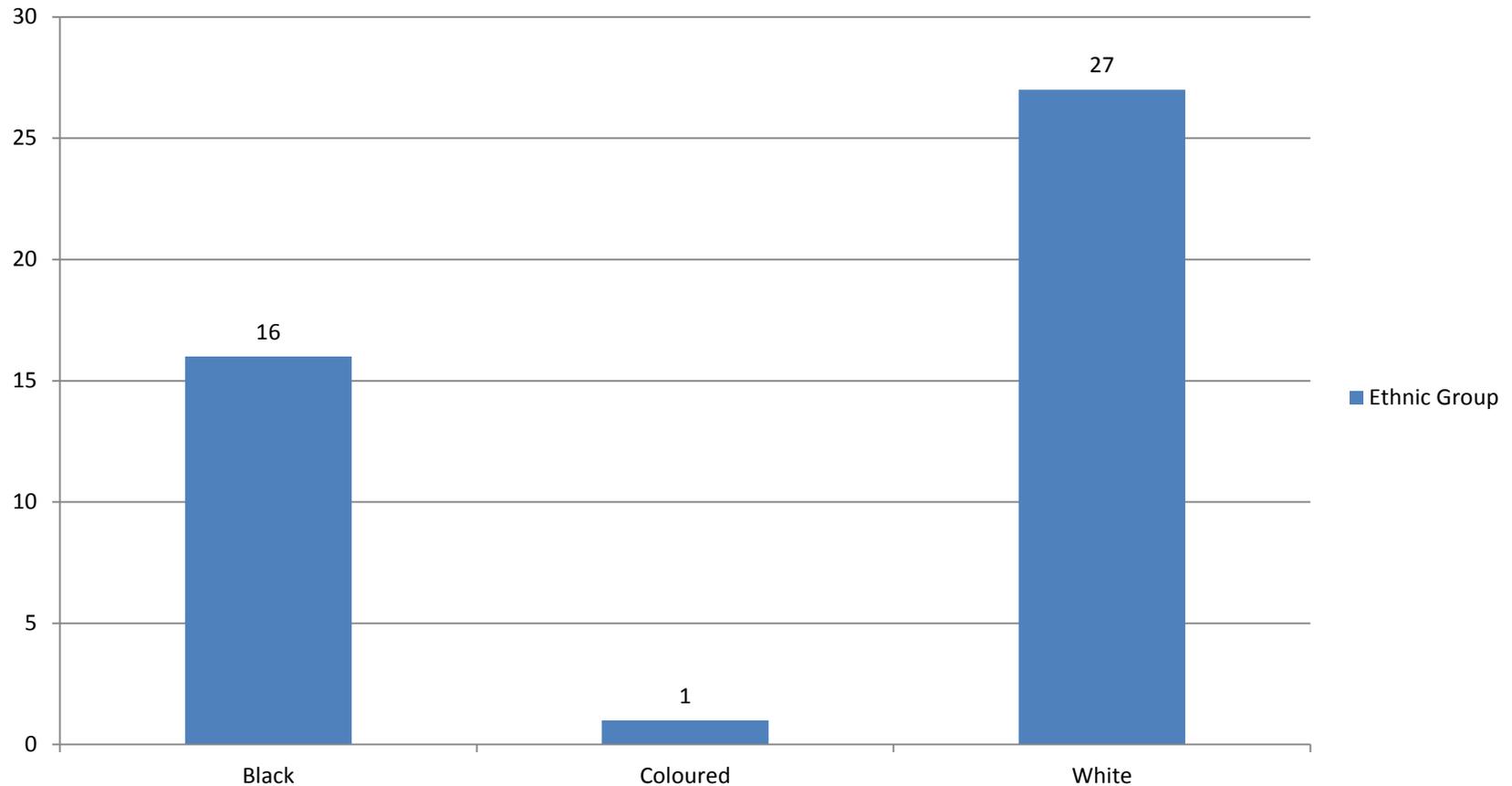
Data analysis and Interpretation: Biographical Information

Type of school

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Type of school

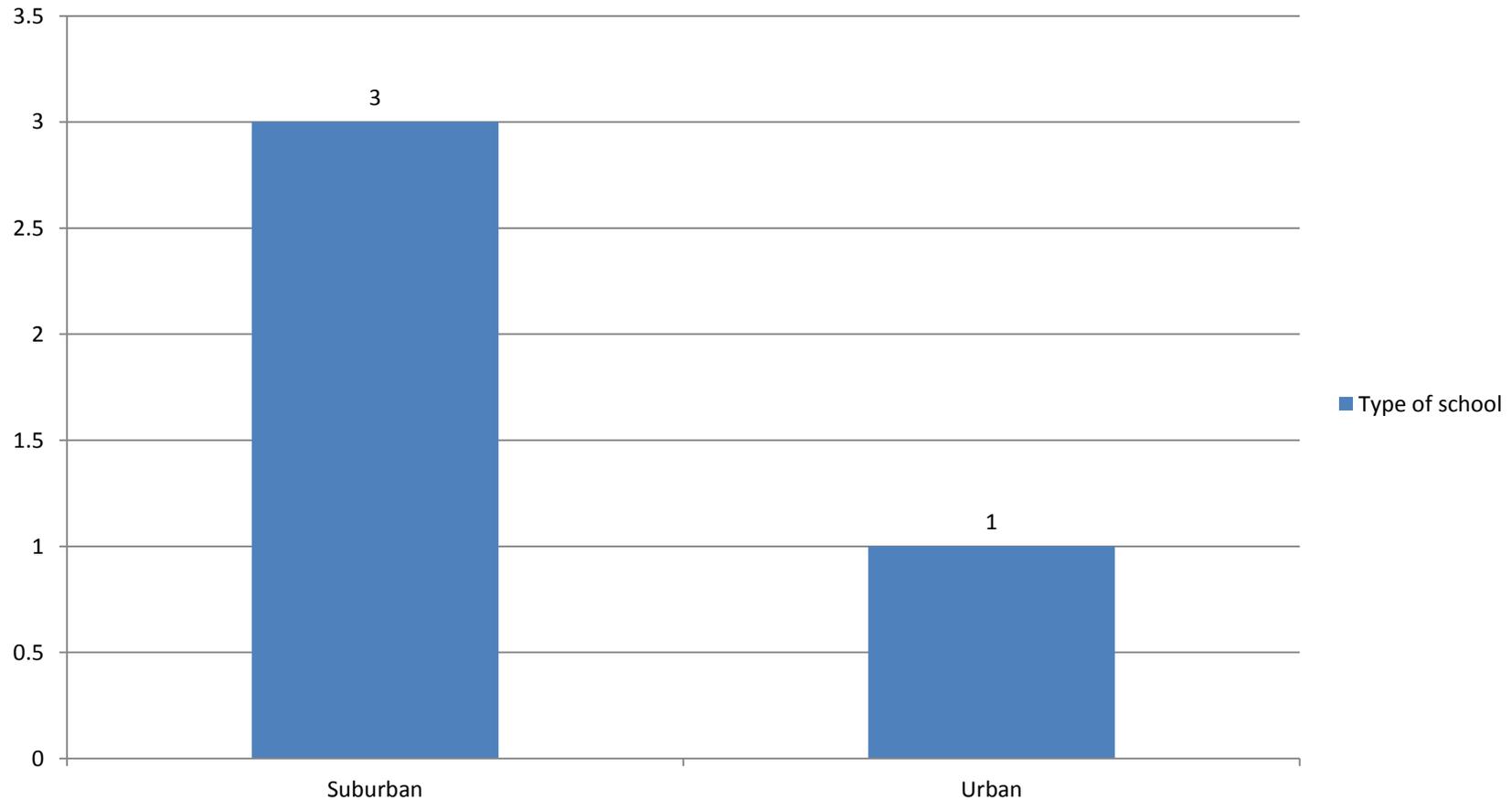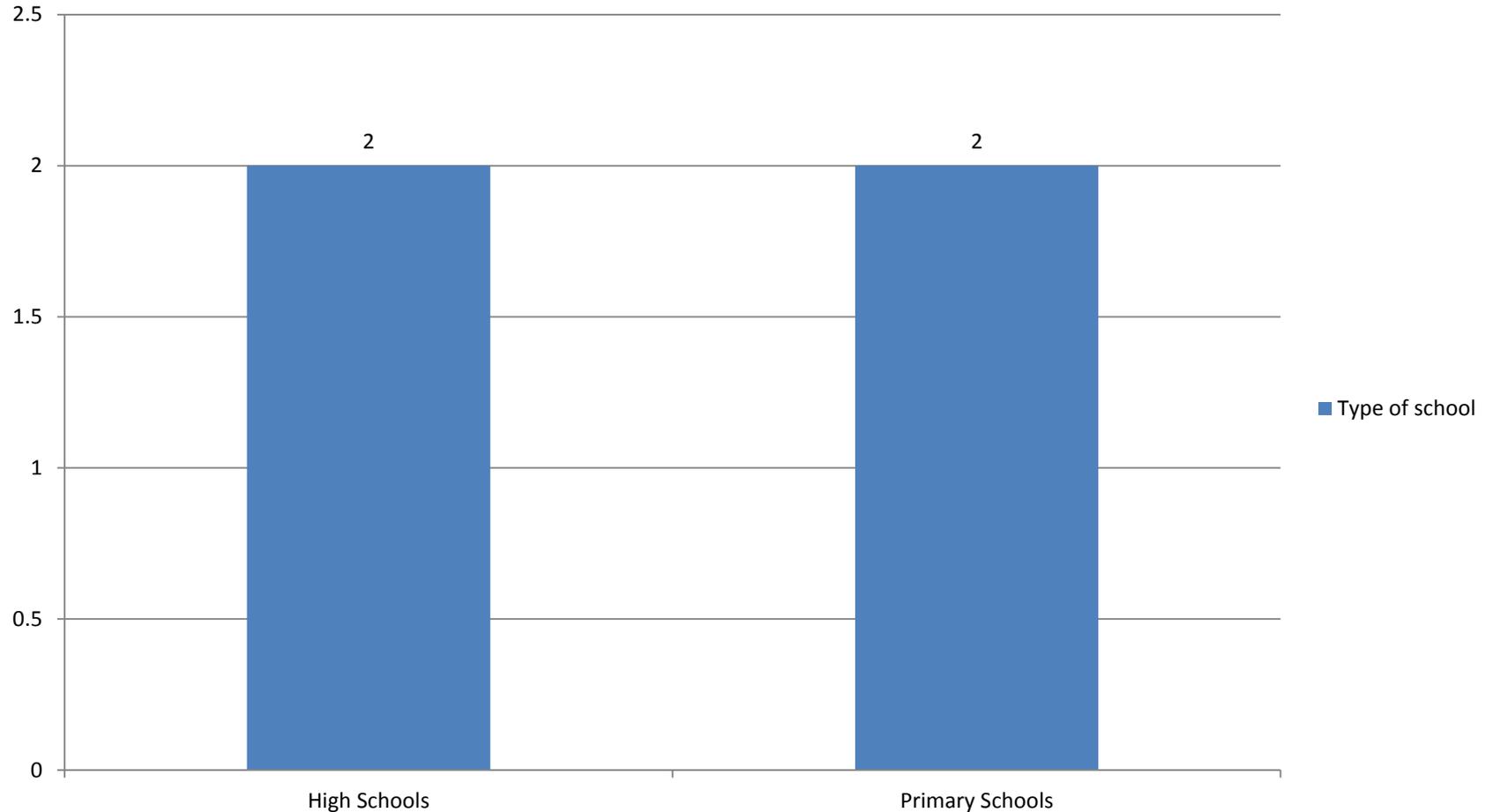# Data analysis and Interpretation: Biographical Information

Qualification
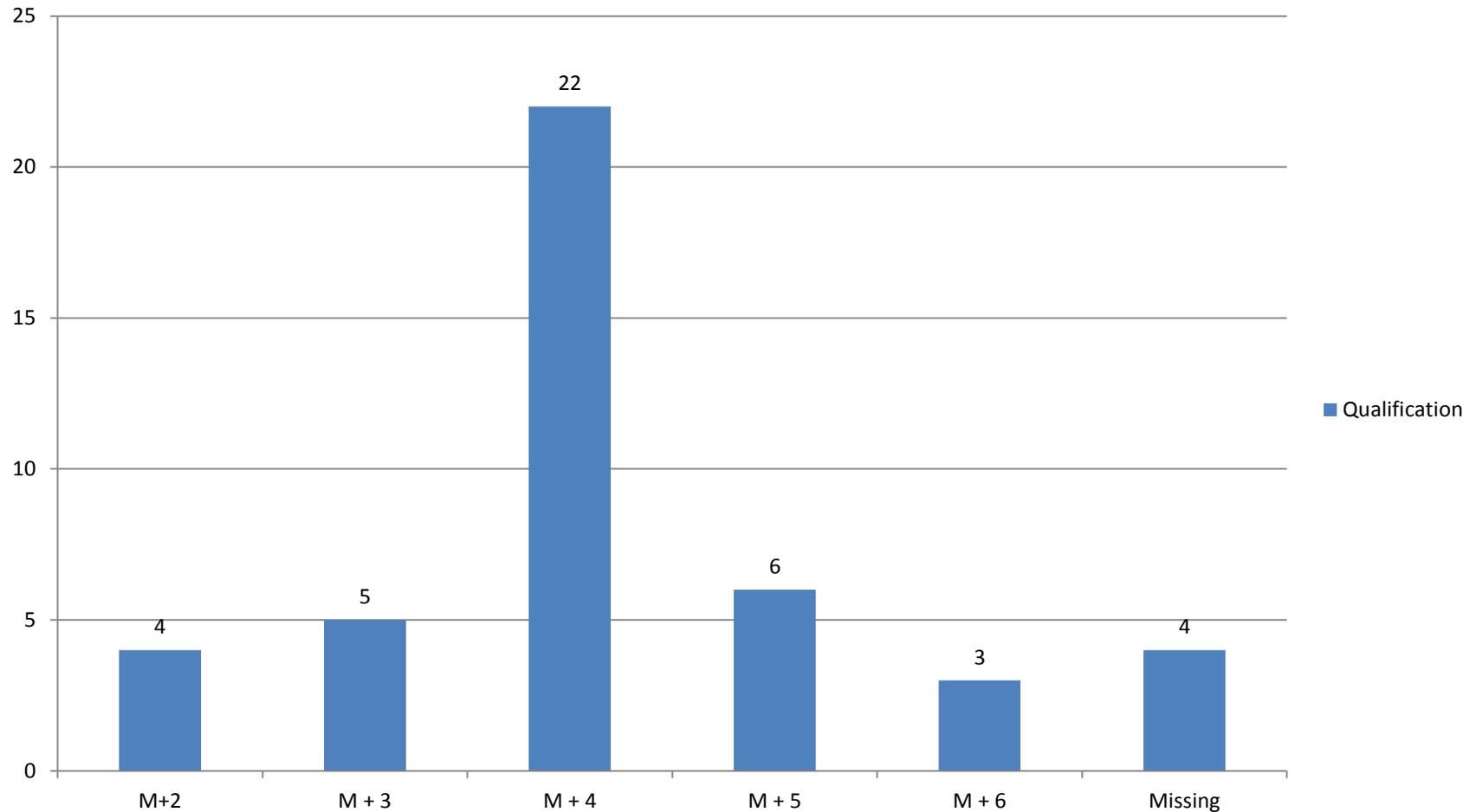
Data analysis and Interpretation: Biographical Information

Experience
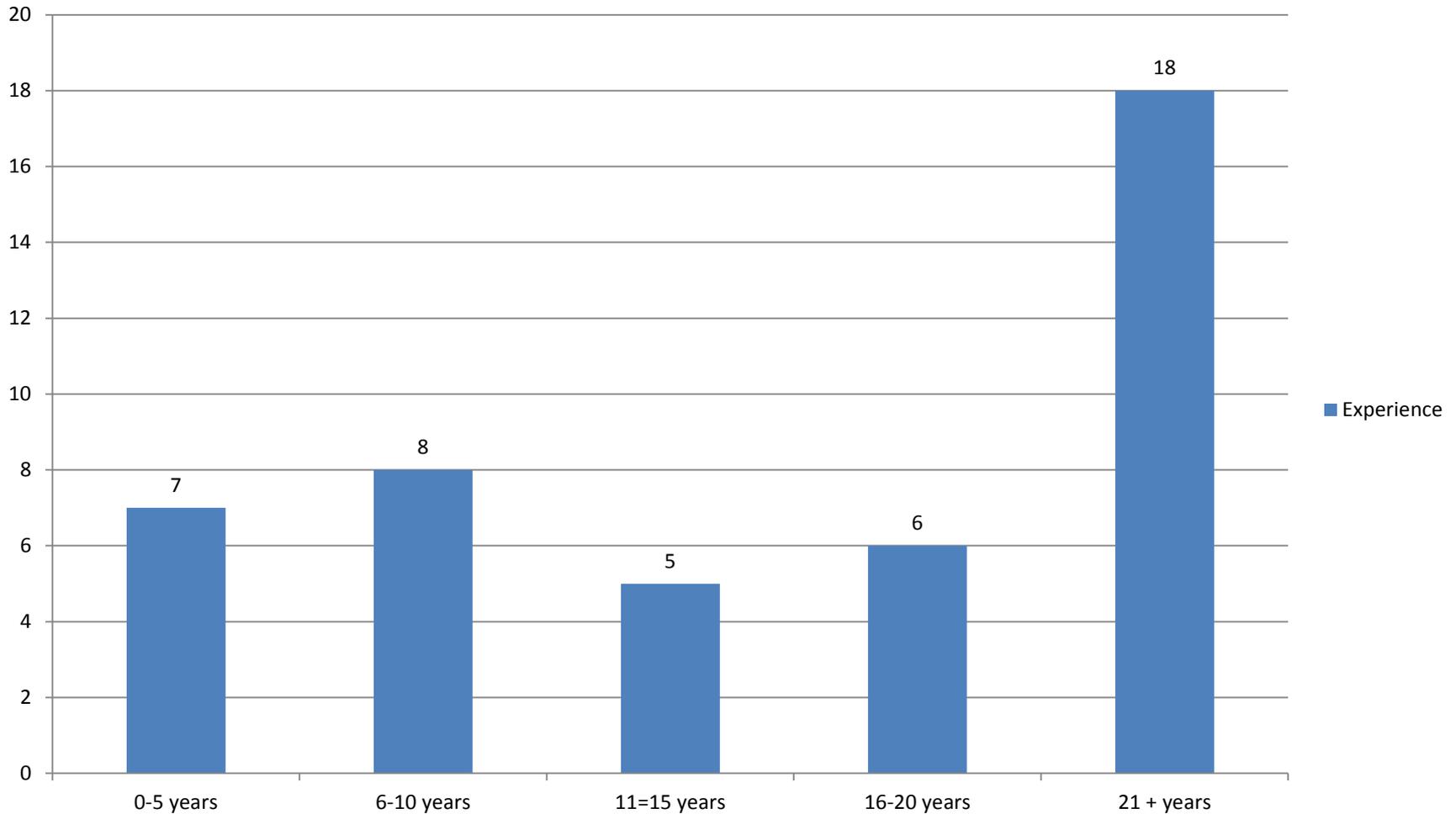
Data analysis and Interpretation: Open Questions

Question 1

Explain in your own words your understanding of the explicit teaching of thinking to learners.

Teaching thinking skills	Lack of understanding	Vague understanding	Ignorant responses
Express opinions	Relaxation	Not spoon feeding	What is this?
Think creatively and critically	Meditation	Not only remembering info	Opposite of implicit
Thinking out of the box	Memory		
Analyse and make conclusions	Play		
Thought processes	Using music		
Problem solving			
Formulate own questions			

Data analysis and Interpretation: Open Questions

Question 2 — What would you regard, as important thinking skills that learners need to possess to cope with their academic work?

Higher order thinking skills	Lower order thinking skills	Lack of understanding
Reflection	Memory/remembering/recalling facts	Positive attitudes
Comparison	Language to solve problems and answer questions, vocabulary	Study hard
Hypothesizing	Concentration	Decisiveness
Reasoning	Listening (4)	Time management
Identify problems	Reading (6)	
Revision	Writing	
Solve problems	Spelling	
Creative thinking		
Understanding		
Analysis		
Brainstorming		
Critical thinking/evaluation		
Investigation		
Application of knowledge		

Data analysis and Interpretation: Open Questions

Question 3   What would you regard, as important thinking strategies that learners need to possess to cope with their academic work?

Thinking strategies	Lack of understanding	Ignorant responses
Thinking Maps	Identifying important information	Understanding (6)
Debates	Making associations	To sit and study
Explanation	Creativity (2)	Memory
Demonstration	Critical thinking (2)	Active participation
Thinking Hats	Problem solving	Reading (11)
Simulation	Synthesis	Defining
Planning		Group work (2)
Brainstorming		Self-discipline
Habits of Mind		Rehearsing
Bloom's Taxonomy		Curiosity
Critical thinking		Focus
		Answering questions
		Writing

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Data analysis and Interpretation: Open Questions

Question 4

What would you regard, as important attitudes/dispositions that learners need to possess to cope with their academic work?

Thinking flexibly	Questioning and Posing Problems	Persisting	Managing Impulsivity	Remaining Open to Continuous Learning
Open mindedness (4)	Understanding questions	Being positive regardless of challenges/obstacles (12)	Self-discipline (5)	Learn from mistakes
Thinking out of the box	Curious/inquisitive	Intrinsic motivation (3)	Promptness	Ask for help
		Dedication (3)	Routine	Culture of learning
		Never give up	Respect/self-respect (6)	
		Self-encouragement		
		Believing in yourself		

Question 5: **How important do you think it is to teach thinking explicitly to learners?**

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Data analysis and Interpretation: Open Questions

Question 5

How important do you think it is to teach thinking explicitly to learners? Please motivate your answer.

Cognitive factors	Motivational factors	Performance factors
To acquire knowledge (3)	Build confidence (3)	focus should be on completing curriculum
To enhance memory	Discover yourself	It is the central goal of education
Become critical and creative thinkers	Benefit learning	Prepare for future careers (4)
To do research	Promote independence (6)	Prepare for life and making decisions (5)
Solving problems (7)		Influence behavior
Encourage broader thinking		

Data analysis and Interpretation: Open Questions

Question 6

How do you go about explicitly teaching thinking in your classroom? Provide some practical examples of the teaching strategies and activities that you use during teaching.

Practical examples	
Brainstorming	Experiments
Mind Maps (3)	Problem solving in groups
Videos (3)	Debates (3)
Thinking Maps (3)	Case Studies
Questions at different levels of difficulty (16)	Summaries in own words
Discovery learning (2)	Posters
Leading the class in problem solving	Voicing opinions
Discussion (4)	Motivating answers
Comparisons	

Data analysis and Interpretation: Open Questions

Question 7   How do you build in opportunities for learners to apply thinking at different levels of difficulty in your homework, assignments tests and exams assess for thinking in your homework, tests and exams?

Examples of lower-order type questions received
Mainly "what", " how" and "who" questions.
One answer questions
Providing definitions
List/name questions
Sentence completion questions
True/False questions – not asking learners to correct statements that are false
Identify questions
Matching columns

Data analysis and Interpretation: Open Questions

Question 8

How challenging do you find it to teach learners to think at different levels of difficulty? Please make a cross on the semantic scale below that would indicate your view (1= not challenging, 7 = very challenging)

How challenging do you find it to teach learners to think at different levels of difficulty?

Category	Value
Not challenging	1
Less challenging	0
Slightly challenging	2
Somewhat challenging	8
Fairly challenging	9
Quite challenging	10
Very challenging	12
No response	2

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Data analysis and Interpretation: Open Questions

Question 9

Do you think it is possible to teach thinking skills/strategies, attitudes to students, who do not possess any skills/strategies and attitudes to help them to cope with their academic work? Please motivate your answer

- Yes it is possible
- No/maybe
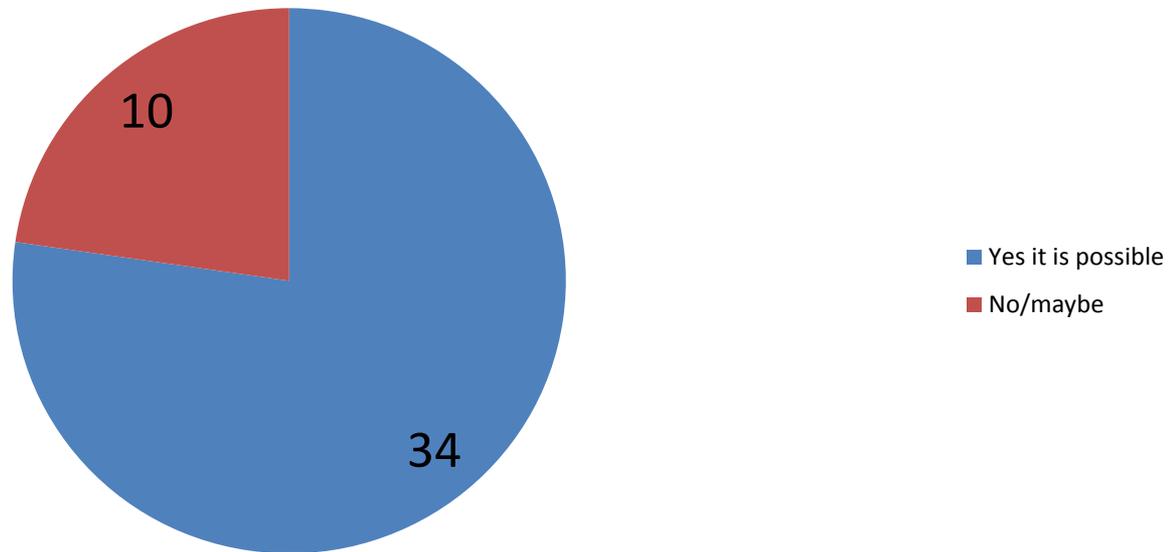
Data analysis and Interpretation: Open Questions

Question 9

Do you think it is possible to teach thinking skills/strategies, attitudes to students, who do not possess any skills/strategies and attitudes to help them to cope with their academic work? Please motivate your answer

Attitudinal barriers	Time barriers	Performance barriers	Age barriers	Language barriers
Learners must have the right attitude	Takes a long time	You cannot teach attitude	Little success if learners are older	Too many language barriers can obstruct the development of thinking
Learner willingness important (4)	Needs extra time	Only the gifted ones will benefit	Must start at a young age with smaller classes as individual support is needed (5)	
Teachers to encourage learners		Too difficult – task of the parents		
		Needs individual teaching and motivating learners		
		Will not be easy but possible with support		
		Drill work needed		

Data analysis and Interpretation: Open Questions

Question 10

Do you think that learners have fixed potential/abilities, or is it possible to nurture potential and develop additional abilities among learners that were not previously present or accessible? Please motivate your answer.
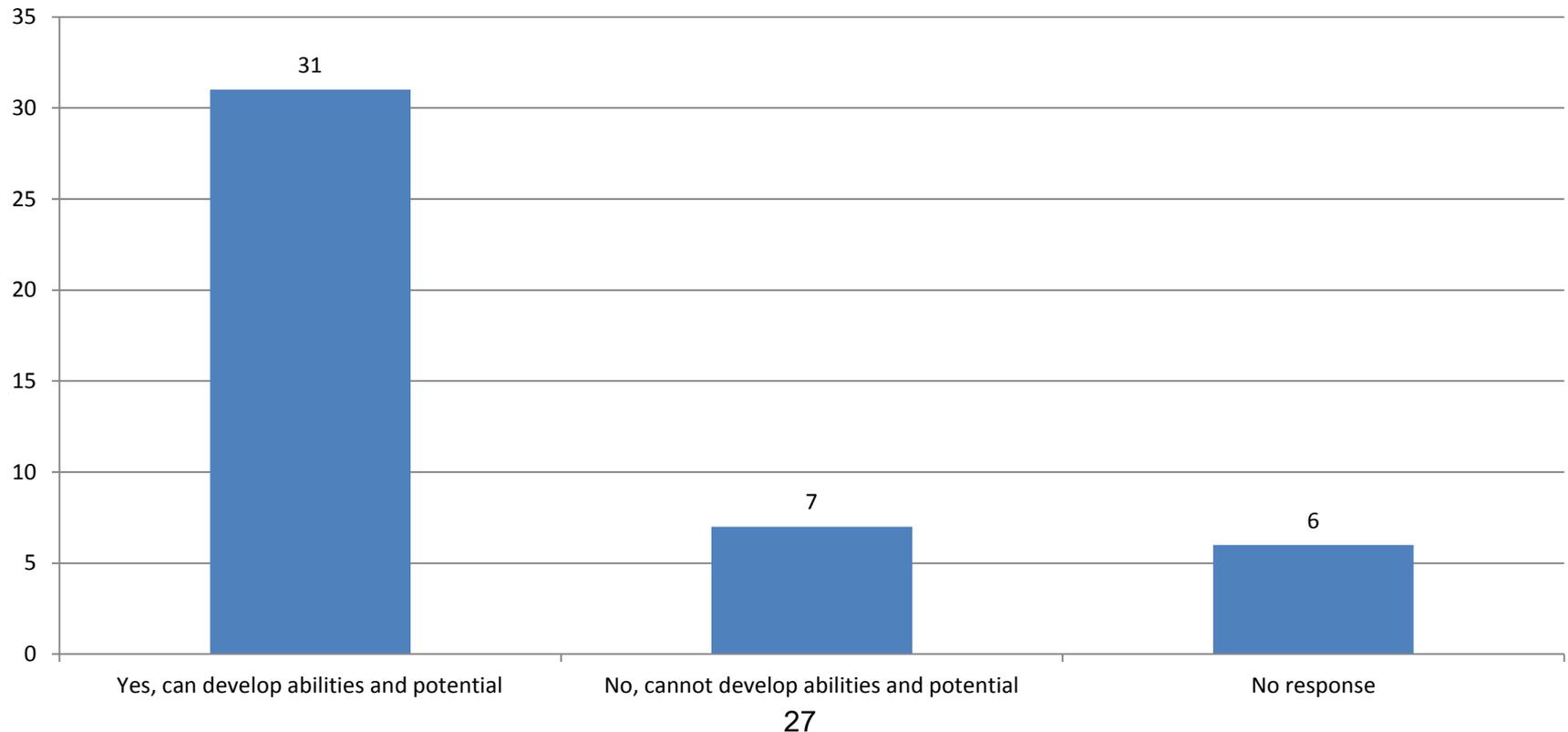
Data analysis and Interpretation: Open Questions

Question 10

Do you think that learners have fixed potential/abilities, or is it possible to nurture potential and develop additional abilities among learners that were not previously present or accessible? Please motivate your answer.

Teachers to develop thinking	Curriculum as barrier to development	Mental disabilities as barrier to development	Culture as barrier to development	Age as barrier to development
Can develop with practice	Must be infused in the curriculum	Learners with mental disabilities	Too many cultural differences	Must be done at a young age
Stimulating activities needed	Curriculum does not allow for this	Only successful with some – learners are too lazy		
Extra work and individual attention needed	Time needed	Potential is not fixed		
Teachers need to drive the process				
Dedication and patience needed				

Perceptions regarding the effect of the explicit teaching of thinking

The explicit teaching of thinking….	Strongly agree	Agree	Disagree	Strongly disagree
1 Improves academic achievement	1	2	3	4
	32	4	6	2
C2 Promotes task completion	1	2	3	4
	19	5	16	4
C3 Promotes dealing with challenging academic work	1	2	3	4
	25	8	6	5
C4 Promotes in-depth thinking about the work	1	2	3	4
	20	8	8	8
C5 Promotes self-regulated learning	1	2	3	4
	28	4	6	6
C6 Promotes involvement in learning	1	2	3	4
	12	16	8	8
C7 Promotes independent learning	1	2	3	4
	29 32	5	5	2

Data analysis and Interpretation: Closed questions

Perceptions regarding the effect of the explicit teaching of thinking

The explicit teaching of thinking….		Strongly agree	Agree	Disagree	Strongly disagree
C8	Promotes systematic working ways	1	2	3	4
		12	20	8	4
C9	Promotes the formulation of questions by learners	1	2	3	4
		15	12	7	10
C10	Promotes persistence despite challenges	1	2	3	4
		12	20	4	8
C11	Encourages curiosity	1	2	3	4
		10	15	10	9
C12	Promotes listening skills	1	2	3	4
		26	10	4	4
C13	Promotes working together with others	1	2	3	4
		11	14	10	9
C14	Improves self-efficacy among learners	1	2	3	4
		12	16	6	10
C15	Promotes understanding of academic work	30 $_1$	2	3	4

Findings and Conclusions

- The majority of teachers who took part in the study seem to lack knowledge about what the teaching and assessing of thinking imply.

- Apparent lack of understanding regarding what thinking skills are: many teachers referred to thinking skills as "listening" and "reading".

- There appears to be a lack of interest to reflect on teaching practice- quality of answers were sometimes very poor and incomplete: this is disconcerting given the importance of reflection to improve on practice.

- A number of teachers seem to have a fixed mind-set and do not believe that deficient or fragile thinking skills and dispositions can be reversed and developed.

The Way Forward

The developing of good thinking skills and dispositions stand central to the CAPS curriculum therefore the following is important:

1. Training teachers to understand why teaching and assessing for teaching is necessary, and what it implies.
2. Training and practice in applying teaching strategies that would explicit nurture thinking, is important.
3. Training and supporting teachers how to align the teaching of thinking with assessing thinking.

Final word

Constructive involvement by teachers teaching and assessing for thinking draws on the interests and concerns of their learners.

In multi – level learning environments, teaching and assessing for thinking effectiveness calls for a flexible curriculum and collaboration among teachers for quality education.

Perhaps just strive more for just a quality education? We as educators cannot claim ignorance ("Don't know") on teaching and assessing for thinking due to a lack of knowledge or interest. If we as educators don't practice upon it we are not robbing ourselves, but robbing something more important: the learners.