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Johannesburg*



USING WORKING MEMORY MEASURES TO ASSESS LANGUAGE LEARNING IN SOUTH AFRICAN SCHOOL BEGINNERS FROM DIVERSE SOCIOECONOMIC AND LINGUISTIC BACKGROUNDS



**Kate Cockcroft
Department of Psychology
University of the
Witwatersrand
South Africa**



ASSESSING LANGUAGE LEARNING IN MULTICULTURAL, BILINGUAL SETTINGS

- Important for evaluating educational progress, determining whether support is required.
- Vocabulary tests: tap long-term learning and verbal exposure from the social environment.
- Difficulty distinguishing typical from atypical language development in school-beginners from poorer, non-Western backgrounds.



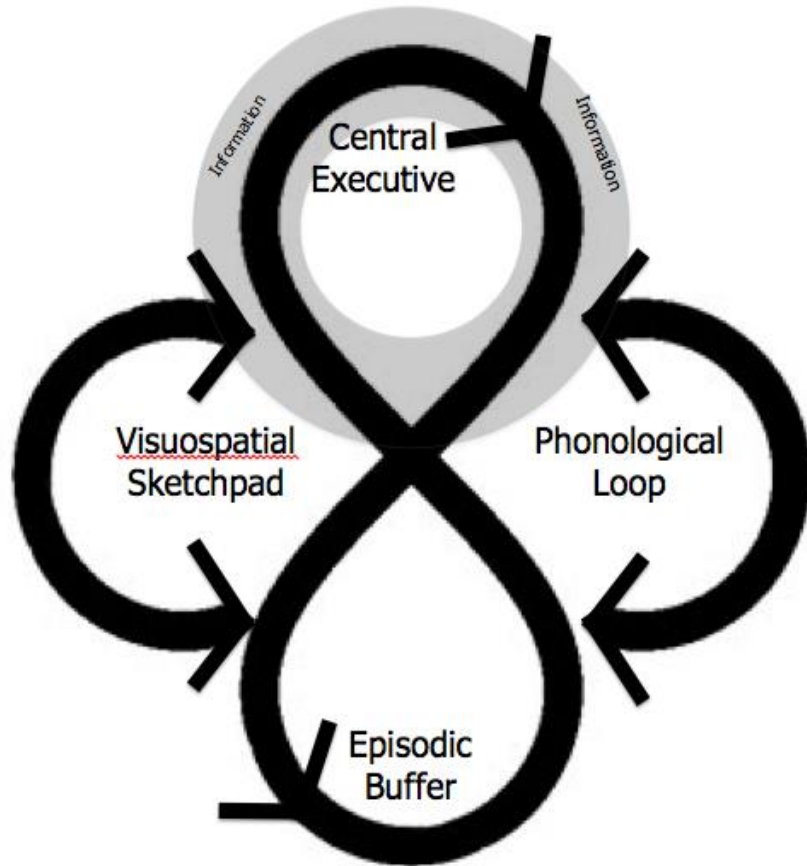
ASSESSING LANGUAGE LEARNING IN MULTICULTURAL, BILINGUAL SETTINGS

- Bilinguals receive less exposure to each language during development compared to monolinguals.
- Both languages are active and interact during speech, affecting word retrieval.
- Vocabulary tests unlikely to provide an accurate representation bilingual child's language learning.





WORKING MEMORY



- Fluid intelligence: verbal and nonverbal components
- Uninfluenced by environmental factors.
- Pure measure of learning potential



VERBAL WORKING MEMORY



- Phonological loop
- Implicated in vocabulary ability and new word learning
- Passive phonological store
- Active articulatory rehearsal mechanism.



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THE SOUTH AFRICAN CHALLENGE

- Fair and accurate assessment of bilingual language abilities in the absence of standardised tests.
- Highly varied ability in English.
- It becomes difficult to distinguish typical from atypical development .





STUDY METHOD

Hypothesis: SES will exert less influence on verbal working memory tests in comparison to vocabulary tests.

HIGH SES (n=59)		LOW SES (n=61)	
EL1=29	EL2=30	EL1=37	EL2=24
M=31	F=28	M=31	F=30
AGE			
MEAN	SD	MEAN	SD
6.68	.43	6.61	.76

STUDY METHOD

Materials

Nonverbal intelligence: Ravens Coloured

Progressive Matrices

Vocabulary

Receptive: The British Picture Vocabulary Scale (second edition) (BPVS-II)

Expressive: The Boston Naming Test (BNT)

Working memory

Automated Working Memory Assessment (AWMA):

2 processing-dependent: Counting Recall & Backward Digit Recall;

2 storage-dependent: Nonword Recall & Digit Recall.





RESULTS & DISCUSSION

1. High SES group significantly better on both vocabulary tests, & Nonword Recall (verbal WM span measure).
2. NS between SES groups on other 3 WM tests.
3. Home language and SES explained much variance in the vocabulary measures (52% and 42% respectively).
4. SES explained smaller amounts of variance in processing-dependent relative to the storage dependent working memory tests (Storage-dependent: 15% in Nonword Recall, 13% in Digit Recall; Processing-dependent: 5% in Counting Recall, 7% in Backward Digit Recall).



IMPLICATIONS

- Verbal working memory measures (Digit Recall, Counting Recall, Backward Digit Recall) appear to be less influenced by SES background than vocabulary tests.
- These tests may provide a fairer more realistic picture of verbal learning ability.





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kate.cockcroft@wits.ac.za

