

# ASSESSMENT OF VOWELS SUMMARY

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This article describes the assessment of vowels summary and provides a rationale for its development.

## Keywords:

speech assessment,  
vowel production

Anecdotal evidence would suggest that the percentage of children presenting with vowel production difficulties in a general caseload is small. However, for this group of children, assessment using the standard articulation tests present at most generalist clinics is often problematic. Most speech assessments do not assess the production of all vowel sounds and the vowels included in these assessments are usually present in monosyllabic words only. As mastery of vowel sounds in polysyllabic words has been reported to occur at a later stage than production in monosyllabic words (James, Van Dorn & McLeod, 2001), assessment of this aspect of vowel production is useful. Additionally, to comprehensively assess a sound, multiple exemplars of that sound in a variety of different sound environments are necessary. This is true with the production of vowel sounds as coarticulation effects can influence the ease of production of the sound (such as the production of /a/ in the word 'car', which is aided by the use of the open mouth posture for the /k/ sound).

The need for an individualised assessment of vowel sounds was evident after the presentation of a number of children with vowel difficulties to the author's clinic. Subsequently, it was decided to create a vowel assessment tool, which could be used as an extension test to assess the production of all vowel sounds (excepting triphthongs and /ʊə/) in mono- and polysyllabic words. Multiple opportunities to produce each sound were included in the assessment. Wherever possible, the test items chosen were words that young children would be able to produce without prompting so spontaneous utterances could be elicited. The pictures for the assessment were accessed from a computerised picture library but any picture resource could be used. The assessment was also duplicated in a computerised form and placed on PROPHet (Long, Fey & Channell, 2002), a computerised assessment tool which can be programmed with individualised assessments, available free from the internet on [www.computerizedprofiling.org](http://www.computerizedprofiling.org).

The assessment form was developed with ease of use in mind. There is plenty of space to write the child's production of each word and a summary section where the child's production of each vowel sound in both mono- and polysyllabic words can be noted. The examiner is prompted to calculate a percentage vowels correct (PVC) score (Shriberg & Kwiatkowski, 1982), which can be used as an overall indicator of progress on subsequent assessments. Australian norms for PVC (James et al., 2002) are also provided as a guide to evaluating age-appropriateness of the child's vowel production. Finally, a vowel chart is included on the assessment form. Vowels that were not produced correctly by

the child can be circled, providing an indicator of possible patterns of error sounds (e.g., difficulty articulating vowels produced in the back of the mouth).

In conclusion, the Vowels Summary is a comprehensive assessment of the production of vowel sounds that can be used with children from 3–6 years of age. More detailed assessment of vowel production will ideally aid in selection of treatment targets and the formulation of a management plan.

## References

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## Assessment of vowel production

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NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ DATE OF BIRTH: \_\_\_\_\_

### Vowels

- /i/ \_\_\_\_\_
- key /ki/ \_\_\_\_\_
- sheep /ʃi:p/ \_\_\_\_\_
- spaghetti /spəˈɡeti/ \_\_\_\_\_
- /ɪ/ \_\_\_\_\_
- fish /fɪʃ/ \_\_\_\_\_
- pig /pi:g/ \_\_\_\_\_
- caterpillar /kætəˈpɪlə/ \_\_\_\_\_
- /ɛ/ \_\_\_\_\_
- pen /pen/ \_\_\_\_\_
- bed /bed/ \_\_\_\_\_
- elephant /ɛləˈfənt/ \_\_\_\_\_
- /æ/ \_\_\_\_\_
- cat /kæt/ \_\_\_\_\_
- tap /tæp/ \_\_\_\_\_
- apple /æpəl/ \_\_\_\_\_
- /ɑ/ \_\_\_\_\_
- car /kɑ/ \_\_\_\_\_
- bath /bɑθ/ \_\_\_\_\_
- banana /bəˈnɑnə/ \_\_\_\_\_
- /ɒ/ \_\_\_\_\_
- sock /sɒk/ \_\_\_\_\_
- dog /dɒg/ \_\_\_\_\_
- helicopter /helɪˈkɒptə/ \_\_\_\_\_
- /ʌ/ \_\_\_\_\_
- cup /kʌp/ \_\_\_\_\_
- bus /bʌs/ \_\_\_\_\_
- butterfly /bʌtəˈflaɪ/ \_\_\_\_\_
- /ɔ/ \_\_\_\_\_
- door /dɔ/ \_\_\_\_\_
- horse /hɔ:s/ \_\_\_\_\_
- dinosaur /daɪnəsɔ:/ \_\_\_\_\_
- /ʊ/ \_\_\_\_\_
- foot /fʊt/ \_\_\_\_\_
- book /bʊk/ \_\_\_\_\_
- football /fʊtbɔ:l/ \_\_\_\_\_
- /u/ \_\_\_\_\_
- shoe /ʃu/ \_\_\_\_\_
- goose /gu:s/ \_\_\_\_\_
- computer /kəmˈpjʊtə/ \_\_\_\_\_
- /ɜ/ \_\_\_\_\_
- girl /gɜ:l/ \_\_\_\_\_
- bird /bɜ:d/ \_\_\_\_\_
- hamburger /hæmbɜ:ɡə/ \_\_\_\_\_

- /ə/
- tiger /tɪgə/ \_\_\_\_\_
- paper /peɪpə/ \_\_\_\_\_
- kangaroo /kæŋgəru/ \_\_\_\_\_

### Diphthongs

- /aɪ/
- eye /aɪ/ \_\_\_\_\_
- bike /baɪk/ \_\_\_\_\_
- crocodile /krɒkədəɪl/ \_\_\_\_\_
- /eɪ/
- plate /pleɪt/ \_\_\_\_\_
- train /treɪn/ \_\_\_\_\_
- microwave /maɪkrəweɪv/ \_\_\_\_\_
- /ɔɪ/
- boy /bɔɪ/ \_\_\_\_\_
- toys /tɔɪz/ \_\_\_\_\_
- toilet /tɔɪlət/ \_\_\_\_\_
- /aʊ/
- cow /kaʊ/ \_\_\_\_\_
- house /haʊs/ \_\_\_\_\_
- shouting /ʃaʊtɪŋ/ \_\_\_\_\_
- /oʊ/
- nose /noʊz/ \_\_\_\_\_
- boat /boʊt/ \_\_\_\_\_
- tomato /təmatəʊ/ \_\_\_\_\_
- /ɪə/
- ear /ɪə/ \_\_\_\_\_
- deer /dɪə/ \_\_\_\_\_
- earrings /ɪərɪŋz/ \_\_\_\_\_
- /ɛə/
- chair /tʃɛə/ \_\_\_\_\_
- bear /beə/ \_\_\_\_\_
- aeroplane /ɛərəpleɪn/ \_\_\_\_\_

### Vowel productions

Vowels	Monosyllabic words	Polysyllabic words
/i/		
/ɪ/		
/ɛ/		
/æ/		
/ɒ/		
/ʌ/		
/ɔ/		
/ʊ/		
/ɜ/		
/ə/		

Diphthongs	Monosyllabic words	Polysyllabic words
/aɪ/		
/eɪ/		
/ɔɪ/		
/aʊ/		
/oʊ/		
/ɪə/		
/ɛə/		

### Percentage vowels correct

Place the number of highlighted vowels the child produced correctly in the underlined space. Divide by the total number of target vowels to compute the child's percentage vowels correct.

Monosyllabic words: \_\_\_ /36 x 100 = \_\_\_ %

Polysyllabic words: \_\_\_ /21 x 100 = \_\_\_ %

### Norms

Age range	Monosyllabic words	Polysyllabic words
3;0 – 3;11	95%	88%
4;0 – 4;11	95%	93%
5;00 – 5;11	95%	94%

Norms from: James, D., van Dorn, J. & McLeod, S. (2001). Vowel Production in mono-, di- and poly-syllabic words in children 3;0 – 7;11 years. In L. Wilson & S. Hewat (Eds.), *Proceedings of the Speech Pathology Australia Conference* (pp. 127–136). Melbourne: Speech Pathology Australia.

### Vowel chart

Circle the vowels the child did not produce

